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CONTENTS

OPTIMIZATION APPROACHES ON SMOOTH MANIFOLDS

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ABSTRACT
This paper deals with fully explore properties of the self-concordant function in Euclidean space and develop gradient-based algorithms for optimization of such function. Define the self-concordant function on Riemannian manifolds, explore its properties and devise corresponding optimization algorithms and generalize a quasi-Newton method on smooth manifolds without the Riemannian structure.
We first review the classical Riemannian approaches and then the relatively recent non-Riemannian approaches.

1- RIEMANNIAN APPROACH
1.1 -Steepest descent method on manifolds:
The steepest descent method is the simplest method for the optimization on Riemannian manifolds and it has good convergence properties but slow linear convergence rate. This method was first introduced to manifolds by Luenberger [48, 49] and Gabay [25]. In the early nineties, this method was carried out to problems in systems and control theory by Brockett [13], Helmke and Moore [34], Smith [66] and Mahony [51].

1.2 -Newton method on manifolds:
Compared against the steepest descent method, the Newton method has a faster (quadratic) local convergence rate. In 1982, Gabay extended the Newton method to a Riemannian sub-manifold of Rn by updating iterations along a geodesic. Other independent work has been developed to extend the Newton method on Riemannian manifolds by Smith [67] and Mahony [51, 52] restricting to the compact Lie group, and by Udriste [70] restricting to convex optimization problems on Riemannian manifolds. Edelman, Arias and Smith [19] also introduced a Newton method for the optimization on orthogonality constraints – the Stiefel and Grassmann manifolds. There is also a recent paper by Dedieu, Priouret and Malajovich [18] which studied the Newton method to find zero of a vector field on general Riemannian manifolds.

1.3-Quasi-Newton method on manifolds:
Even though the Newton's method has faster quadratic convergence rate, it requires computing the inverse of a symmetric matrix, called the Hessian consisting of the second order local information of the cost function. Therefore, it increases the computational cost. In order to avoid this problem, the quasi-Newton method in Euclidean space was presented by Davidon [17] in late 1950s. This method uses only the first order information of the cost function to approximate the Hessian inverse and has a super-linear local convergence rate. Since then, various quasi-Newton methods have been introduced. However, among them, the most popular methods are the Davidon-Fletcher-Powell (DFP) [22] method andthe Broyden [15, 16] Fletcher [21] Goldfarb [28] Shanno [65] (BFGS) method.
In the early eighties, Gabay [65] firstly generalized the BFGS method to a Riemannian manifold. However, he did not give the complete proof of the convergence of his method. Recently, Brace and Manton [12] developed an improved BFGS method on the Grassmann manifold and achieved a lower computational complexity compared to Gabay's method

1.4-Conjugate gradient method on manifolds:
While considering the large scale optimization problems with sparse Hessian matrices, the quasi-Newton methods encounter difficulties. Due to avoiding computing the inverse of the Hessian, the conjugate gradient method can be used for solving such problems.

This method was originally developed by Hestenes and Stiefel [38] in the 1950s to solve large scale systems of linear equations. Then in the mid 1960s, Fletcher and Reeves [24] popularized this method to solve unconstrained optimization problems. In 1994, Smith [67] extended this method to Riemannian manifolds and later Edelman, Arias and Smith [19] applied his method specifically on the Stiefel and Grassmann manifolds.

2-SELF-CONCORDANT FUNCTIONS ON RIEMANNIAN MANIFOLDS:
Self-concordant functions play an important role in developing interior point algorithms for solving certain convex constrained optimization problems including linear programming. It is therefore natural to attempt to extend the definition of self-concordance to functions on Riemannian manifolds, and then exploit this definition to derive novel optimization algorithms on Riemannian manifolds. In fact, the self-concordant concept has been extended to Riemannian manifolds .

In that work, we can considered the convex programming problem
$$\min f_0(p) \; s.t. \; f_i(p) \leq 0 \;, \; i = 1, \ldots, m; p \in M \ldots \ldots \ldots \ldots \ldots (i)$$

Where M is a complete n-dimensional Riemannian manifold and developed a logarithmic barrier interior point method for solving it. Recall that in the Euclidean space, one approach for solving

(i)   Is the barrier interior point method which uses the barrier function to enforce the constraint; this barrier function is chosen to be self-concordant. In order to extend this idea to Riemannian manifolds, it is necessary to extend the concept of self-concordant functions to Riemannian manifolds.

(ii)   To this end, the concept of a self-concordant function was defined on Riemannian manifolds and some of its properties alos. Moreover, a Newton method with a step-size choice rule was proposed to keep the iterates inside the constraint and guarantee the convergence.

In this chapter, we give a precise definition of a self-concordant function on a Riemannian manifold and derive properties of self-concordant functions which will be used to develop optimization algorithms; first a damped Newton method in this chapter, then a damped conjugate gradient method. Convergence proofs of the damped Newton method are also given.

3-CONCEPTS OF RIEMANNIAN MANIFOLDS
In this section, some fundamental concepts from differential geometry are introduced. However, we do not intend to present self-contained and complete exposure, and most of the proofs are omitted.

Let an n-dimensional smooth manifold be denoted as M which is an embedded manifold in $\mathbb{R}^N$ The differential structure of M is a set of local charts covering M. Each local chart is a pair of a neighborhood and a smooth mapping from this neighborhood to an open set in Euclidean space. The tangent space of M at a point p can be denoted as T_pM:

It is the set of linear mappings from all smooth functions passing through the point p to real numbers, satisfying the derivative condition. For n-dimensional manifolds, the tangent space at every point is an n-dimensional vector space with origin at this point of tangency.

The normal space is the orthogonal complement of the tangent space in the ambient space. A smooth manifold M is called Riemannian manifold if it is endowed with a metric structure.

In Euclidean space, a vector can be moved parallel to itself by just moving the base of the arrow. For the manifold if a tangent vector is moved to another point on the manifold parallel to itself in its ambient space, it is generally not a tangent vector to the new point.

However, we can transport tangent vectors along paths on the manifold by infinitesimally removing the component of the transported vector in the normal space.

Assume that we want to move a tangent vector Δ along the curve $\gamma(t)$ on the manifold. Then in every infinitesimal step, we first move Δ parallel to itself in the ambient Euclidean space and then remove the normal component.

Let M denote a smooth n-dimensional geodesically complete Riemannian manifold. Recall that C^k smooth means derivatives of the order k exist and are continuous. For convenience, by smooth, we mean C^∞ that is, derivatives of all orders exist.

Let T_pM denote the tangent space at the point $p \in M$. Since M is a Riemannian manifold, it comes with an inner product $<.,.>_p$ on T_pM for each $p \in M$. This induces the norm $\| \,.\, \|_p$ given by

$$\| \ X \ \|_p = \ < X, X >^{\frac{1}{2}}_p \ \text{for} \ X \in T_pM.$$

There is a natural way (precisely, the Levi-Civita connection) of defining acceleration on a Riemannian manifold which is consistent with the metric structure. A curve with zero acceleration at every point is called a geodesic. Since M is geodesically complete, given a point $p \in M$ and a tangent vector $X \in T_pM$, there exists a unique geodesic $\gamma X: \mathbb{R} \to M$ such that

$$\gamma X(0) = p \ \text{and} \ \gamma X(0) = X.$$

We therefore define an exponential map

$$\text{Exp}_p: T_pM \to M \ \text{by}$$

$$\text{Exp}_p(X) = \gamma X(1)$$

for all $X \in T_pM$. Note that $\text{Exp}_p tX$ is the geodesic emanating from p in the direction X. Another consequence of M being geodesically complete is that any two points on M can be joined by a geodesic of shortest length. The distance $d(p , q)$ between two points $p , q \in M$ is defined to be the length of this minimizing geodesic.
Since the length of the curve

$$\gamma : [0 , 1] \to M, \gamma(t) = Exp_p tX, is \ \| X \|_p$$

it follows that if $q = \text{Exp}_p X$ then

$$d(p , \ q) \leq \| \ X \ \|_p$$

where the inequality is possible if there exists a shorter geodesic connecting p and q.
If $\gamma : [0 , 1] \to M$ is a smooth curve from $p = \gamma (0)$ to $q = \gamma(1)$, there is an associated linear isomorphism
$$T_{pq}: T_pM \to T_qM$$

called parallel transport. One of its properties is that lengths of vectors and angles between vectors are preserved, i.e.
$$\forall X, \ Y \in T_pM, < \gamma_{pq}X , \gamma_{pq}Y>_p <X , \ Y>_p.$$

For a point $p \in M$ and a tangent vector $X \in TpM$, we use $\gamma p \ \text{Exp}_p(tX)$ to denote the parallel transport from the

point p to the point $\text{Exp}_p tX$ along the geodesic emanating from p in the direction X.

Let N be an open subset of M. Consider the function $f: N \to \mathbb{R}$. Given

$p \in N$ and

$X \in TpN$, the first, second and third covariant derivatives of f are defined as follows:

$$\nabla_x f(p) = \frac{d}{dt}|_{t=0} \{f(Exp_p tX)\} \dots \dots. (2)$$

$$\nabla^2{}_x f(p) = \frac{d^2}{dt^2}|_{t=0} \{f(Exp_p tX)\} \dots \dots. (3)$$

$$\nabla^3{}_x f(p) = \frac{d^3}{dt^3}|_{t=0} \{f(Exp_p tX)\} \dots \dots. (4)$$

The gradient of f at $p \in N$, denoted by $\text{grad}_p f$, is defined as the unique tangent vector in T_pN such that

$$\nabla_x f(p) = \langle \text{grad}_p f, X \rangle$$

for all $X \in T_pN$.

The Hessian of f at $p \in N$ is the unique symmetric bilinear form $\text{Hess}_p f$ defined by the property

$$\text{Hess}_p f(X, X) = \nabla^2{}_x f(p), X \in T_pN \dots (5)$$

Note that (5) fully defines $\text{Hess}_p f$ since

$$\text{Hess}_p f(X, Y) = \frac{\text{Hess}_p f(X + Y, \ X + Y) - \text{Hess}_p f(X, X) - \text{Hess}_p f(Y, Y)}{2} \dots \dots \dots (6)$$

$$X, Y \in T_pN$$

4-SELF-CONCORDANT FUNCTIONS

The definition of self-concordance to Riemannian manifolds requires carefully defining the convex set. Intuitively, the convex set on Riemannian manifolds can be determined by the geodesics connecting two points. However, there could be more than one geodesic connecting two points on Riemannian manifolds. For instance, for any two different points on the sphere, there exist two geodesics joining them. Therefore, there is no single best definition of convexity of selected subset .

The definition of convexity is concerned with all geodesics of the whole Riemannian manifolds connecting two points. On the other hand, this definition limits the definition of convex functions since in most cases, the cost functions defined on Riemannian manifolds are locally convex.

To be more general, our definition goes as follows. We say a subset N of M is convex if for any p , $q \in N$, out of all the geodesics connecting p and q, there is precisely one which is contained in N.

Then, a function $f : N \subset M \to \mathbb{R}$ is said to be convex if N is a convex set and for any geodesic $\gamma : [0,1] \to N$, the function $f o \gamma : [0,1] \to \mathbb{R}$ satisfies the usual definition of convexity, namely

$$f(\gamma(t) \leq (1 - t)f(\gamma(0)) + t f(\gamma(1)), \qquad t \in [0,1]$$

If $f : N \to \mathbb{R}$ is C^∞ smooth and N is convex, then f is convex if and only if

$$\nabla^2{}_x f(p) \geq 0, 0$$

For all $p \in N$ and $X \in T_pN$.

The epigraph epi(f) of f is defined by

$$\text{epi}(f) = \{f(p , t) \in N \, x \, \mathbb{R} \ / f(p \leq t \} \qquad (8)$$

A function f is said to be closed convex if its epigraph epi(f) is both convex and a closed subset of $M \ x \ \mathbb{R}$.

Definition : 4.1 Let M be a smooth n-dimensional geodesically complete Riemannian manifold.

Let $f : N \subset M \to \mathbb{R}$ be a C^3-smooth closed function. Then f is self-concordant if

1. N is an open convex subset of M;

2. f is convex on N;

3. there exists a constant $M_f > 0$ such that the inequality

$$|\nabla^3{}_x f(p)| \leq M_f\left(\nabla^2{}_x f(p)\right)^{\frac{3}{2}} \dots \dots \dots \dots (9)$$

holds for all p ∈ N and X ∈ T_pN.

The reason why *f* is required to be closed in Definition 2 is to ensure that *f* behaves nicely on the boundary of

N; this is shown in the following proposition.

4.2 -Proposition :

Let *f*: N → R be self-concordant. Let ∂(N) denote the boundary of N.Then for any p̄ ∈ ∂(N) and any sequence

of points p_k∈ N converging to p̄ we have *f*(p$_k$)→ ∞.

Proof: first of all we choose for $k = 2, 3, \ldots$, define $X_k \in T_{p1}N$ to be such that $p_k := \mathrm{Exp}_{p1}X_k$ and $p_k \in N$. Since *f* is

convex, In view of equation (7)we have

$$f\left(Exp_{p1}t\, X_k\right) \leq (1 - t)\, f(p_1) + t f(p_k) \qquad (10)$$

where $0 \leq t \leq 1$.

It follows from equation (10) that if $0 < t \leq 1$ then

$$f(p_1) + \frac{f\left(Exp_{p1}t\, X_k\right) - f(p_1)}{t} \leq f(p_k) \dots \dots .. (11)$$

$$As\ t \to 0\ from\ equation\ (11)we\ have$$

$$f(p_1) + \lim_{t\to 0} \frac{f\left(Exp_{p1}t\, X_k\right) - f(p_1)}{t} = f(p_1) + \nabla X_k f(p_1)$$

$$= f(p_1) + <grad_{p1}f, X_k>$$

$$\leq f(p_k) \dots \dots \dots \dots .. (12)$$

Therefore the sequence $\{f(p_k)\}$ is bounded below by

$$f(p_k) \geq f(p_1) + <grad_{p1}f, X_k> \cdots \dots \dots \dots \dots . (13)$$

where we recall that $X_k \in T_{p1}N$ is such that $p_k := \mathrm{Exp}_{p1}X_k$.

Assume to the contrary that the sequence $\{f(p_k), k \geq 1\}$ is bounded from above. Then it has a limit point $\bar{f}$. By

considering a subsequence if necessary, we can regard it as a unique limit point of the sequence.

Let $z_k = \left(p_k, f(p_k)\right)$. Then we have

$$z_k = \left(p_k, f(p_k)\right) \to \bar{z} = \left(\bar{p}\bar{f}\right) \dots \dots \dots .. (14)$$

By definition, $z_k \in$ epi(f). However, we have $\bar{z} \notin$ epi(f) since $\bar{p} \notin N$. That is a contradiction since f is closed.

Proposition- 4.3.

Let $f_i: N \subset M \to R$ be self-concordant with constants M_{fi}, $i = 1$, 2 and

let α, $\beta > 0$. Then the function $f(x) = \alpha f_1(x) + \beta f_2(x)$ is self-concordant with the constant

$$M_f = \max\left\{\frac{1}{\sqrt{\alpha}}M_{f1}, \frac{1}{\sqrt{\beta}}M_{f2}\right\} \dots \dots \dots (15)$$

Proof: let f_i; $i = 1$, 2 are closed convex on N, f is closed convex on N, which can be easily write for any fixed

$p \in N$ and $X \in T_pN$, we have

$$|\nabla^3{}_x f_i(p)| \le M_{fi}\left(\nabla^2{}_x f_i(p)\right)^{\frac{3}{2}}, i = 1,2 \dots (16)$$

Now, consider two cases.

Case One: $\alpha\nabla^2{}_x f_1(p) + \beta\nabla^2{}_x f_2(p) = 0$

Since f_1 and f_2 are both self-concordant, we have

$$\nabla^2{}_x f_1(p) \ge 0 \dots \dots (17)$$

$$\nabla^2{}_x f_2(p) \ge 0 \dots \dots (18)$$

Therefore from the assumption, we obtain

$$\nabla^2{}_x f_1(p) = 0 \dots \dots (19)$$

$$\nabla^2{}_x f_2(p) = 0 \dots \dots (20)$$

By the definition of self-concordance, it follows from (19) and (20) that

$$\nabla^3{}_x f_1(p) = 0 \dots \dots (21)$$

$$\nabla^3{}_x f_2(p) = 0 \dots \dots (22)$$

Hence it follows that

$$|\nabla^3{}_x f(p)| \le M_f\left(\nabla^2{}_x f(p)\right)^{\frac{3}{2}} \dots \dots (23)$$

$$where\ M_f = \max\left\{\frac{1}{\sqrt{\alpha}}M_{f1}, \frac{1}{\sqrt{\beta}}M_{f2}\right\}$$

Case One: $\alpha\nabla^2{}_x f_1(p) + \beta\nabla^2{}_x f_2(p) \ne 0$

Denote $\omega_i = \nabla^2{}_x f_1(p)$ $Since\ \omega_i > 0, i = 1,2 \dots by\ the\ assumption, we\ have$

$$\frac{|\nabla^3{}_x f(p)|}{\left(\nabla^2{}_x f(p)\right)^{\frac{3}{2}}} \leq \frac{|\alpha\nabla^3{}_x f_1(p)| + |\beta\nabla^3{}_x f_2(p)|}{|\alpha\nabla^2{}_x f_1(p)| + |\beta\nabla^2{}_x f_2(p)|^{\frac{3}{2}}}$$

$$\leq \frac{\alpha M_{f1}\omega_2^{\frac{3}{2}}}{[\alpha\omega_1 + \beta\omega_2]^{\frac{3}{2}}} \dots\dots (24)$$

Note that the last inequality is not changing when we replace (ω_1, ω_2) by $(t\omega_1, t\omega_2)$ with $t > 0$. Consequently,

we can assume that $\alpha\omega_1 + \beta\omega_2 = 1$. Let $\xi = \alpha\omega_1$. Then the right hand side of (24) becomes

$$\frac{M_{f1}}{\sqrt{\alpha}}\xi^{3/2} + \frac{M_{f2}}{\sqrt{\beta}}(1-\xi)^{3/2} \dots\dots (25)$$

Now, consider (25) as a function in $\xi \in [0,1]$.
As a result, its maximum is either $\xi = 0$ or $\xi = 1$.
This completes the proof. If a function f is self-concordant with the constant M_f; then the function $M_f^{-2} f$ is self-concordant with the constant 1 as can be directly checked by a simple computation. As such, we assume $M_f = 2$ for the rest of this chapter. Such functions are called standard self-concordant.

Proposition -4.3. $\forall p \in N, Q(p,1) \subseteq N$
This property gives a safe bound for the line search along geodesics for optimization problems so that the search will always be in the admissible domain. We need the following lemma to prove it.

Lemma 6. Let f : N → ℝ in (26) be a standard self-concordant function satisfying Assumption

2. For a point p ∈ N and a non-zero tangent vector X ∈ T$_p$N, recall the definitions of Exp$_p$t X and τ_pExp$_p$(tX) in

Section 4.2.

Let

$$U = \{t \in \mathbb{R} \,|\, \text{Exp}_p tX \in N\}$$

Define a function

$\emptyset : U \to \mathbb{R}$ as follows

$$\emptyset(t) := \left[\nabla^2{}_{\tau_p \text{Exp}_p t(x)}x f(\text{Exp}_p tX)\right]^{-\frac{1}{2}} \dots\dots (26)$$

Then, the following results hold:

1. $|\emptyset'(t)| \leq 1$;

2. If $\emptyset(0) > 0$ then $, (-\emptyset(0), \emptyset(0)) \subseteq U$

Proof:

It can be calculated that

$$\emptyset'(t) = -\frac{\frac{d}{dt}\left[\nabla^2{}_{\tau_p Exp_p t(x)^X} f(Exp_p tX)\right]}{2\left[\nabla^2{}_{\tau_p Exp_p t(x)^X} f(Exp_p tX)\right]^{\frac{3}{2}}}$$

$$= -\frac{\left[\nabla^3{}_{\tau_p Exp_p t(x)^X} f(Exp_p tX)\right]}{2\left[\nabla^2{}_{\tau_p Exp_p t(x)^X} f(Exp_p tX)\right]^{\frac{3}{2}}}$$

The claim 1 follows directly from the definition of self-concordant function.
we have $f(Exp_p tX)$ goes to ∞ as $Exp_p tX$ approaches the boundary of N. It implies that the function $\nabla^2{}_{\tau_p Exp_p t(x)^X} f(Exp_p tX)$ cannot be bounded.

Therefore, we have

$$\emptyset(t) \to \infty \text{ as } Exp_p tX \to \partial N \ldots \ldots \ldots (27)$$

Since the function f satisfies Assumption 2, by (27), we obtain

$$U \equiv \{t|\emptyset(t) > 0\} \ldots \ldots \ldots \ldots \ldots (28)$$

By the claim 1, we have

$$\emptyset(t) \geq \emptyset(0) - |t| \ldots \ldots (29)$$

Combining (28) and (29), it follows that

$$\left(-\emptyset(0), \emptyset(0)\right) \subseteq U \ldots \ldots \ldots \ldots (30)$$

In the following, two groups of properties will be given to reveal the relationship between two different points on a geodesic. They are delicate characteristics of self-concordant functions.
In fact, they are the foundation for the polynomial complexity of self-concordant functions.

Proposition :4.4. For any $p \in N$ and $X_p \in T_p N$; such that for $t \in [0, 1]$ the geodesic $Exp_p tX_p$ is contained in N.
Let $q = Exp_p X_p$ If $f : N \to \mathbb{R}$ in equation (26) is a self-concordant function, the Following results hold:

$$\left[\nabla^2{}_{\tau_{pq} X_p} f(q)\right]^{\frac{1}{2}} \geq \frac{\left[\nabla^2{}_{X_p} f(p)\right]^{1/2}}{1 + \left[\nabla^2{}_{X_p} f(p)\right]^{1/2}} \ldots \ldots (31)$$

$$\nabla_{\tau_{pq} X_p} f(q) - \nabla_{X_p} f(p) \geq \frac{\nabla^2{}_{X_p} f(p)}{1 + \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}} \ldots \ldots \ldots (32)$$

$$f(q) \geq f(p) + \nabla_{X_p} f(p) + \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}} - \ln\left(1 + \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right) \dots \dots (33)$$

where τpq is the parallel transport from p to q along the geodesic $\mathrm{Exp}_p t X_p$.

Proof. Let $\emptyset(t)$ be the same function defined in Lemma 6, where one can see that $\emptyset(1) \leq \emptyset(0) + 1$.

This is equivalent to equation 31 taking into account that

$$\emptyset(0) = \left[\nabla^2{}_{X_p} f(p)\right]^{-1/2}$$

$$\emptyset(1) = \left[\nabla^2{}_{\tau pq X_p} f(q)\right]^{-\frac{1}{2}}$$

Furthermore,

$$\nabla_{\tau pq X_p} f(q) - \nabla_{X_p} f(p)$$

$$= \int_0^1 \nabla^2{}_{\tau p Exp_p t\, X_p X_p} f(Exp_p t\, X_p) dt$$

$$= \int_0^1 \frac{1}{t^2} \nabla^2{}_{\tau p Exp_p t\, X_p X_p} f(Exp_p t\, X_p) dt \dots \dots (34)$$

Which leads to equation (32) using the inequality (31).
For the inequality equation (33), notice that :

$$f(q) - f(p) - \nabla_{X_p} f(p)$$

$$= \int_0^1 \{\nabla_{\tau p Exp_p t\, X_p X_p} f(Exp_p t\, X_p) - \nabla_{X_p} f(p)\} dt$$

$$= \int_0^1 \frac{1}{t} \left\{\nabla_{\tau p Exp_p t\, X_p X_p} f(Exp_p t\, X_p) - \nabla_{t X_p} f(p)\right\} dt$$

$$\geq \frac{\left[\nabla^2{}_{t X_p} f(p)\right]^{\frac{1}{2}}}{t\left(1 + \left[\nabla^2{}_{t X_p} f(p)\right]^{\frac{1}{2}}\right)} dt$$

$$let\ r = \left[\nabla^2{}_{t X_p} f(p)\right]^{1/2}.\ the\ last\ integral\ becomes$$

$$\int_0^1 \frac{t r^2}{1 + t r} dt = 6 - \ln(1 + r)$$

which leads to the inequality equation (33) by replacing *r* with its original form.

Proposition :4.5. For any $p \in N$ and $X_p \in W(p, 1)$, let $q = Exp_p X_p$.

If $f : N \to \mathbb{R}$ in equation (26)

is a self-concordant function, then there holds:

$$\left(1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right)^2 \nabla^2{}_{X_p} f(p) \leq \nabla^2{}_{\tau pq}{}^{X_p} f(q)$$

$$\leq \frac{\nabla^2{}_{X_p} f(p)}{\left(1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right)^2} \dots . (35)$$

$$\nabla_{\tau pq}{}^{X_p} f(q) - \nabla_{X_p} f(p) \leq \frac{\nabla^2{}_{X_p} f(p)}{\left(1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right)^2} \dots \dots (36)$$

$$f(q) \leq f(p) + \nabla_{X_p} f(p) - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}} - \ln\left(1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right) \dots \dots (37)$$

where τpq is the parallel transport from p to q along the geodesic $Exp_p tX_p$.

Proof:

Let $\varphi(t)$ be a function defined in the following form:

$$\varphi(t) = \frac{d^2}{dt^2} f\left(Exp_p tX_p\right) \dots \dots \dots \dots . (38)$$

where $t \in [0, 1]$.

Since $Xp \in W(p, 1)$, we have $Exp_p tX_p \in N$ for all $t \in [0, 1]$.

Taking the first order derivative of φ, we obtain

$$\left|\varphi'^{(t)}\right| = \left|\frac{d^3}{dt^3} f\left(Exp_p tX_p\right)\right|$$

$$= \left|\nabla^3{}_{\tau p Exp_p(t X_p)}{}^{X_p} f\left(Exp_p(t X_p)\right)\right|$$

$$\leq 2 \, (\nabla^2{}_{\tau p Exp_p(tXp)} f\left(Exp_p\left(t \, X_p\right)\right))^{\frac{1}{2}} (\nabla^2{}_{\tau p Exp_p(tXp)} f\left(Exp_p\left(t \, X_p\right)\right))$$

$$= 2 \, \left(\nabla^2{}_{\tau p Exp_p(tXp)} f\left(Exp_p\left(t \, X_p\right)\right)\right)^{\frac{1}{2}} \varphi(t)$$

$$= \frac{2}{t}\left(\nabla^2{}_{t\tau p Exp_p(tXp)} f\left(Exp_p\left(t \, X_p\right)\right)\right)^{\frac{1}{2}} \varphi(t)$$

$$\leq \frac{2}{t} \frac{t\left[\nabla^2{}_{X_p} f(p)\right]^{1/2}}{1 - t\left[\nabla^2{}_{X_p} f(p)\right]^{1/2}} \varphi(t) \ldots \ldots \ldots (39)$$

Integrating both sides of the inequality (39) from 0 to 1, we have

$$\left(1 - \left[\nabla_{X_p} f(p)\right]^{1/2}\right)^2 \leq \frac{\varphi(1)}{\varphi(0)} \leq \frac{1}{\left(1 - \left[\nabla_{X_p} f(p)\right]^{1/2}\right)^2} \ldots \ldots (40)$$

which is equivalent to the inequality (35).

Combining the inequality (35) and the formula (34), one obtains

$$\nabla_{\tau pq} {}^{x_p} f(q) - \nabla_{X_p} f(p) \leq \int_0^1 \frac{1}{t^2} \frac{\nabla^2{}_{tX_p} f(p)}{\left(1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}\right)^2} dt$$

$$= \frac{\nabla^2{}_{tX_p} f(p)}{1 - \left[\nabla^2{}_{X_p} f(p)\right]^{\frac{1}{2}}}$$

which proves the inequality (36).

Combining this result and using the same technique as that used in the proof of the last property, there holds:

$$f(q) - f(p) - \nabla_{X_p} f(p) = \int_0^1 \nabla_{\tau p Exp_p(tXp)} X_p f\left(Exp_p t \, X_p\right) dt - \nabla_{X_p} f(p)$$

$$= \int_0^1 \left\{\frac{1}{t}\left[\nabla_{\tau p Exp_p(tXp)} X_p f\left(Exp_p t \, X_p\right) dt\right] - \nabla_{X_p} f(p)\right\} dt$$

$$\leq \int_0^1 \frac{\nabla^2{}_{tX_p}f(p)}{t\left(1 - \left[\nabla^2{}_{X_p}f(p)\right]^{\frac{1}{2}}\right)}\, dt$$

$$= -\left[\nabla^2{}_{X_p(p)}f(p)\right]^{\frac{1}{2}} - \ln(1 - \left[\nabla^2{}_{X_p}f(p)\right]^{\frac{1}{2}})$$

As such, the inequality (37) is obtained by a simple transformation of this inequality.

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SARD'S THEOREM AND ITS APPLICATIONS

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ABSTRACT
The aim of this paper is to provide an introduction to Regular Value Theorem and Sard's Theorem on manifolds and some applications. A critical point of a smooth map is a point of the domain at which the derivative does not have full rank. Our goal, then, is to discuss critical points of smooth maps and some applications on topology.
First of all, we will define the terms and prove some of their basic proper-ties, in order to provide the necessary background to help reader understand the content we will talk about later. By smooth, we mean differentiable to all orders. By manifold, we mean a subset of Euclidean space. We will also illustrate examples and discuss diffeomorphisms.

1. CONCEPT OF SMOOTH MAPS

$\mathbb{R}^n$ denotes the n-dimensional euclidean space, and for x $\in \mathbb{R}^n$, we obtain

x = (x_1, x_2,..., x_n), such that x_1,x_2,..., $x_n \in \mathbb{R}^n$ which is the real numbers.

Then we will define what is a smooth map.

Definition :1.1.

Let U $\subset \mathbb{R}^n$ and V $\subset \mathbb{R}^k$ be open sets. A mapping f fromU to V written as

f : U → V is a smooth map if all of the partial derivatives exist and are continuous.

More generally, we have the following.

Definition :1.2.

Let X $\subset \mathbb{R}^n$ and Y $\subset \mathbb{R}^k$ be arbitrary subsets, and a map f : X → Y is called smooth map if for every x $\in$ X there

exist an open set O $\subset \mathbb{R}^n$ that x $\in$ O and a smooth mapping F : O → $\mathbb{R}^k$ that coincides with f throughout O ∩ X.

Definition :1.3.

Let U $\subset \mathbb{R}^n$ and V $\subset \mathbb{R}^n$ be open sets. For any smooth map f : U → V , the derivative df_x : $\mathbb{R}^n$ → $\mathbb{R}^k$ is defined by

the formula

$$df_x(h) = \lim_{t \to 0}(f(x + th) - f(x))/t$$

for $x \in U$, $h \in \mathbb{R}^n$. Clearly $df_x(h)$ is a linear function of h.

Definition :1.4.

A map : $U \to V$ is called a diffeomorphism if f carries X onto Y and also both f and f^{-1} are smooth. Moreover, a smooth map $f : X \to Y$ of subsets of two euclidean spaces is a diffeomorphism if it is one-to-one and onto, and if the inverse map $f^{-1} : Y \to X$ is also a smooth map.

Note that diffeomorphisms are between two manifolds of the same dimension only.

Definition :1.5:

A diffeomorphism $\emptyset: U \to V$ is called a parametrization of the neighborhood V

Consider some examples.

Example :1.6. Let $X \subset \mathbb{R}^n$, $Y \subset \mathbb{R}^m$ and $Z \subset \mathbb{R}^l$, and let $f : X \to Y$ and $g : Y \to Z$ be smooth maps. If f and g are diffeomorphism, so is $g \circ f$.

Proof. If f and g are diffeomorphisms, then $g \circ f$ is bijective and smooth, being a composition of smooth maps. Moreover, we have that

$(g \circ f)^{-1} = f^{-1} \circ g^{-1}$

is also a composition of smooth maps, and therefore is smooth. Thus $g \circ f$ is also be a diffeomorphism.

The Inverse Function Theorem will provide the keys to understanding the local structure of a smooth map.

Theorem :1.7 (Inverse Function Theorem) Let U, V be open sets of $\mathbb{R}^n$.If

$f : U \to V$ **is a smooth map and at a point p the jacobian matrix d f_p is invertible, then there is a**

neighborhood U of p on which : $U \to f(U)$ is a diffeomorphism.

Definition :1.8

A subset $M \subset \mathbb{R}^k$ is called a smooth manifold of dimension k if each $x \in M$ has a neighborhood $W \cap M$ that is diffeomorphic to an open subset $V \subset \mathbb{R}^k$.

Example :1.9 The following are examples of smooth manifolds:

- Open subsets of smooth manifolds.

- The set of all matrices. Moreover, the set of invertible matrices, since it is an open subset of the set of all matrices.

- Products of smooth manifolds.

2- REGULAR VALUE

As we will introduce Sard's theorem later, we need to give definitions of some important terms that we will use in Sard's theorem in order to make the theorem will be easier to follow and understand.

Definition :2.1.

Let : U → V be a smooth map between same dimensional manifolds. We denote that x ∈ U is a regular point if the derivative is nonsingular.

Definition :2.2

For another case, if the derivative is singular, then x is called a critical point. We also say y ∈ V is a critical value if y is not a regular value.

Definition :2.3

Let : U → V be a smooth map between same dimensional manifolds. For y ∈ V is called a regular value if $f^{-1}(y)$ contains only regular points. Moreover, we can have that y ∈ V is called a regular value if

$$df_x : T_x(U) \to Ty(V)$$

is onto at x such that f(x) = y.

Note that the image of the set of critical points is the set of critical values. The set of regular values is the subset of image of the set of regular points.

Theorem :2.4 (Pre image Theorem) If y is a regular value of : X → Y then the pre image $f^{-1}(y)$ is a sub manifold of X with dim

$f^{-1}(y) = $ **dim X - dim Y .**

Theorem :2.5 (Implicit Function Theorem) If $f_1,\dots,f_m$ are smooth maps on $\mathbb{R}^n$ and the matrix of partial derivatives has rank m for all points p on the zero set

$$Z = \{x \in \mathbb{R}^n | f_1(x) = 0, \dots, f_m(x) = 0\}$$

then Z is a smooth manifold of dimension n - m.

3- MEASURE ZERO

Since we also need to know about measure zero sets for Sard's theorem, we will give some definitions and examples. We say that a set $A \subset \mathbb{R}^k$ is measure zero if it can be covered by a countable number of rectangulars that have small total volume.

Definition :3.1

A subset $A \subset \mathbb{R}^k$ is called measure zero if for any $\in > 0$, there exists a countable union of open sets $U_i \in \mathbb{R}^k$ such that $A \subset \bigcup_i u_i$ and total volume is small such that

$$\sum_i volume \; u_i < \in$$

Theorems:3.2

In this section, we will introduce some theorems that we will use in the future chapters. For proving the Sard's theorem, we need to know Fubini theorem and Taylor theorem, and also in order to show that S^2 is simply connected, we need to know Weierstrass approximation theorem and the Van Kampen theorem.

For the proof of Sard's theorem, we will need the measure zero form of Fubini's theorem. Suppose that $n = k + l$ and $\mathbb{R}^n = \mathbb{R}^k \times \mathbb{R}^l$. For each $c \in \mathbb{R}^k$, let V_c be the vertical slice $\{c\} \times \mathbb{R}^l$.

Theorem :3.3 (Fubini theorem) Let A be a closed subset of $\mathbb{R}^n$ such that $A \cap V_c$ has measure zero in V_c for all $c \in \mathbb{R}^k$. Then A has measure zero in $\mathbb{R}^n$.

Proof. Since A may be written as a countable union of compacts. Assume A is compact, and by induction on k, it suffices to prove the theorem for $k = 1$ and $l = n - 1$. Since A is compact, and we have an interval $I = [a \; b]$ such that $A \subset V_I$. For each $c \in I$, choose a covering of $A \cap V_c$ by $n - 1$ dimension a_i rectangular solids $S_1(c), \ldots ,$ $S_{Nc}(c)$ having a total volume less than $\in$. Choose an interval $J(c)$ in R so that the rectangular solids $J(c) \times S_i(c)$ cover $A \cap V_J$. The $J(c)$'s cover $[ab]$, and therefore we replace them with a finite collection of subintervals J'_j with total length less than $2(b - a)$.

Thus each J'_j is contained in some interval $J(c_j)$, so the solids $J'_j \times S_i(c_j)$ cover A, and also they have total volume less than $2\in(b - a)$.

Theorem :3.4 (Taylor Theorem) Assume that f is n + 1 times differentiable, and P_n is the degree n Taylor

approximation of f with center c. Then if x is any other value, there exists some value b between c and x such that

$$f(x) = p_n(x) + \frac{f^{(n+1)}(b)}{(n+1)!}(x-c)^{n+1}$$

$$where \; p_n(x) = f(c) + f'(c)(x-c) + \frac{f''(c)}{2!}(x-c)^2 + \cdots + \frac{f^n(c)}{n!}(x-c)^n$$

Theorem :3.5 (Weierstrass approximation theorem) Let f ∈ C[a b]. Given any ∈> 0 there exists a polynomial

p_n of sufficiently high degree n for which

$$| f(x)- p_n(x) |≤∈$$

for all x ∈ [a b].

Theorem :3.6 (Van Kampen Theorem) If X = U_1 ∪ U_2 with U_i open and path-connected, and U1 ∩U2 path-

connected and simply connected, then the induced homomorphism

$$\emptyset : \pi_1(U_1) x \pi_1(U_2) \to \pi_1(X)$$

 is an isomorphism.

Immersions and Submersions:

Using the differential, we classify maps having maximal rank at a point into immersions and submersions at the

point, depending on whether the differential is injective or surjective there.

4- IMMERSIONS

Definition :4.1.

If : X → Y carries x to y, and its derivative d f_x :$T_x(X)$ → $T_y(Y)$ is injective, then f is an immersion at x. If f is an

immersion at every point, it is called an immersion.

Example :4.2 The map : $\mathbb{R}^n \to \mathbb{R}^m$ given by

$$(x_1,\dots , x_n) \to (x_1,\dots , x_n, 0,\dots,0),$$

which is assuming n ≤ m, is a immersion. We call this the standard linear immersion.

Lemma :4.3

Let : X → Y be a smooth map between smooth manifolds. If f is an immersion at p ∈ X, then f is an injective

immersion in a neighborhood of p.

Lemma :4.4

Let $: X \to Y$ be a smooth map of manifolds. If f is an immersion at any point then dim $X \le$ dim Y .

This lemma suggests the logic behind the names immersion and submersion. The immersion places a smaller manifold into a larger one while the submersion smoothly packs a larger manifold into a smaller one. In fact ,most of the work of this is related to the Inverse Function Theorem.

Definition :4.5

Two spaces X and Y are locally equivalent if every point of X has a neighborhood which is equivalent to a neighborhood of Y . For instance, the sphere and the plane are locally equivalent.

Lemma :4.6 (Immersion Lemma)

Let $: X \to Y$ be a smooth map of manifolds. Suppose f is an immersion at a point $p \in X$. Then f is locally equivalent to the map

$$(x_1,\ldots,x_n) \to (x_1,\ldots,x_n, 0, \ldots, 0)$$

at p.

Proof. Since f is a immersion at p, and we assume

$$f : \mathbb{R}^n \to \mathbb{R}^n \times \mathbb{R}^l$$

where $l = m - n$. Then df_p has rank n. Therefore there exist n linearly independent rows of df_p. Without loss of generality we assume the first n rows are linearly independent.

Let$\tilde{f}: \mathbb{R}^n \to \mathbb{R}^n$ by$\tilde{f} = (f_1, \ldots, f_n)$,and there fore $\det(d\tilde{f})_p \ne 0$. Then we have

$$F : \mathbb{R}^n \times \mathbb{R}^l \to \mathbb{R}^n \times \mathbb{R}^l$$

by

$$F(x, y) = f(x)+(0, y).$$

Therefore

$$dF_p = \begin{bmatrix} d\tilde{f}_p & 0 \\ * & I \end{bmatrix}$$

and $\det (d\tilde{f})_p \ne 0$. By the Inverse Function Theorem, F has a inverse W near p. On a neighborhood of p, we have

$$W . f(x) = W .F(x, 0) = (x, 0).$$

Hence, f is locally equivalent to the map $(x_1,\ldots,x_n) \to (x_1,\ldots,x_n, 0, \ldots, 0)$ at p.

5-SUBMERSIONS

Definition :5.1 If : X →Y carries x to y, and its derivative d f_x :$T_x(X) \to T_y(Y)$ is surjective, f is called a submersion at x. A map that is a submersion at every point is called a submersion.

Example :5.2

The projection p : $\mathbb{R}^n \to \mathbb{R}^n$ onto the first m coordinates,which is assuming m ≤ n, is a submersion. We call this the standard linear submersion.

Lemma :5.3

Let : X → Y be a smooth map of manifolds. If f is a submersion at any point then dimX ≥dimY .

Example :5.4

The map : ℝ x (2 , 3) → $\mathbb{R}^2$ given by f(x; y) = y(cos x; sin x) is neither injective nor surjective since f maps the infinite horizontal strip

ℝ x (2 , 3) onto the open annulus $\{z \in \mathbb{R}^2 : 2 < |z| < 3\}$. Also the Jacobian of f at (x; y) is

$$\begin{bmatrix} -ysinx & cosx \\ ycosx & sinx \end{bmatrix}$$

, which is invertible. Hence f is both an immersion and a submersion.

Lemma :5.5

Let : X -Y be a smooth map between smooth manifolds. If f is a submersion at p ∈ X, then f is a submersion and open map in a neighborhood of p.

Moreover, f is an immersion and a submersion if and only if f is a local diffeomorphism. This is the content of the inverse function theorem.

Lemma :5.6

(Submersion Lemma) Let : X →Y be a smooth map of manifolds. Suppose f is an Submersion at a point p ∈ X.

Then f is locally equivalent to the map

$$(x_1,\ldots,x_n) \to (x_1,\ldots,x_m)$$

at p.

Proof. Since f is a Submersion at p, and we assume : $\mathbb{R}^m \times \mathbb{R}^l \to \mathbb{R}^m$ where l = n - m. Then d f_p has rank m.

Therefore there exist n linearly independent rows of d f_p. Without loss of generality we assume the first m columns are linearly independent.

Let $\tilde{f}: \mathbb{R}^m \to \mathbb{R}^m$ by f(x_1, …. ,x_m)=f(x_1, …. ,x_m, 0, ….,0) so det(d $\tilde{f}$)$_p \neq$ 0. Then we have

$$F : \mathbb{R}^m \times \mathbb{R}^l \to \mathbb{R}^m \times \mathbb{R}^l$$

by

$$F(x , y) = (f(x,y),y)$$

Therefore

$$dF_p = \begin{bmatrix} d\tilde{f}_p & 0 \\ * & I \end{bmatrix}$$

, and det(d F)$_p \neq$ 0. By the Inverse Function Theorem, F is a diffeomorphism near p. Let g be the projection onto $\mathbb{R}^m$ .Then on a neighborhood of p, we have

$$g.F(x , y) = g(f(x,y),y)= f x,y)$$

Hence, f is locally equivalent to the map

$$(x_1,\ldots,x_n) \to (x_1,\ldots,x_m)$$

at p.

This lemma is important for Regular Value Theorem.

Theorem :5.7 (Regular Value Theorem) If y $\in$ Y is a regular value of

$f : X \to Y$ **then** f^{-1}(y) **is a manifold of dimension n-m, since**

$$\dim(X) = n \quad \text{and} \quad \dim(Y) = m.$$

Proof. Let y be a regular value of f and suppose that x $\in f^{-1}$(y) .By the submersion lemma, there exist local coordinates around x and y such that

$$f(x_1,\ldots,x_n) = (x_1,\ldots,x_m)$$

Therefore, in a neighborhood around x, f^{-1}(y)is the set of points (0; _ _ _ ; 0; x m+1; _ _ _ ; xn). Thus, in a small neighborhood of x, we can parameterize f^{-1}(y) by

$$(x_{m+1}, \ldots, x_n) \to (0,\ldots,0, x_{m+1},\ldots,x_n).$$

Hence f^{-1}(y) is a n - m dimensional manifold.

Our main goal in this chapter is to present Sard's theorem, a statement about the measure of the set of critical values of a smooth map between two manifolds, that the set of critical values of a smooth function f from one manifold to another and it has measure zero. First we must know what it means for a set to have measure zero in a manifold.

6 -EASIER CASES OF SARD'S THEOREM:

Recall: Let : U → V be a smooth map between same dimensional manifolds. We denote that x ∈ U is a regular point if the derivative is nonsingular.For another case, if the derivative is singular, then x is called a critical point.

Recall: A special case of Fubinis theorem. If n = $k + l$, A ⊂ $\mathbb{R}^n = \mathbb{R}^k$ x $\mathbb{R}^l$, A is closed, and all the l-dimensional cross-sections of A have measure zero in $\mathbb{R}^l$, then A has measure zero in $\mathbb{R}^n$.

Note that smooth maps of same dimension take measure zero to measure zero.

Theorem :6.1(Mini-Sard) : Let U ⊂ $\mathbb{R}^n$ be open and let f : U → $\mathbb{R}^m$ be a smooth map. Then if m > n, f(U) has measure zero in $\mathbb{R}^n$.

Proof. We define F : U x → $\mathbb{R}^m$ by F(u , x) = f(u). Map F is smooth since f is smooth. We know that $\mathbb{R}^n$x {0} has measure zero in $\mathbb{R}^m$ because m > n, and therefore its subset U x {0} is also a set of measure zero inU x$\mathbb{R}^{m-n}$. Thus F(U x {0}) has measure zero in $\mathbb{R}^m$.

Since F(U x {0}) =f(U), f(U) has measure zero in $\mathbb{R}^n$.

Theorem :6.2 (Sard's Theorem)

Let : X → Y be a smooth map of manifolds, and let C be the set of critical points of f in X. Then f(C) has measure zero in Y .

Remark The theorem does not claim that the set of critical points in X is a measure zero subset. In fact, if we consider a constant map, then any point in X is a critical point. However, f(X) is still a measure zero set, since any point not in f(X) is a regular value.

We begin with the easiest case in order to prove Sard's Theorem, maps of

$f : \mathbb{R}^1 \to \mathbb{R}^1$.

Theorem :6.3 Let U be an open set in $\mathbb{R}^1$, and f : U → $\mathbb{R}^1$ a continuously differentiable map. Let C be the set of critical points of f such that

$$C = \{x \in U : f'(x) = 0\}$$

Then f(C) has measure zero in $\mathbb{R}^1$.

Proof. Let I be a closed interval inside U, and we define a function

F : Ix I → $\mathbb{R}^1$ by

$$F(x,y) = \frac{(f(y) - f(x) - f'(x)(y-x))}{|y-x|}$$

if x ≠ y, and F(x; y) = 0

if x = y. Since f is continuously differentiable, the map F is uniformly continuous, and therefore F(x , y) can be made arbitrarily close to zero by making x and y sufficiently close to one another. Given any $\in > 0$, we can divide the interval I into n equal subintervals, each of length $\frac{L}{n}$ so that

$$| F(x; y)| < \in.$$

Then we focus on any one of these subintervals which contains a critical point x of , so that $f'(x) = 0$. Then for any other point y in that subinterval,

we have

$$|f(y) - f(x) - f'(x)(y-x)| = |f(y) - f(x)| < \in |y - x| \le \in \frac{L}{n}$$

Thus,

we have

$$|f(y_1) - f(y_2)| \le 2 \in \frac{L}{n}$$

hence f contained in an interval with length $2 \in \frac{L}{n}$

There are at most n such subintervals, so the image under f of the critical points which lie in the interval I is contained in a union of intervals of total length $2 \in L$, for $\in > 0$, and therefore has measure zero.

Since the open set U is a countable union of such intervals I, it follows that the image under f of all the critical points also has measure zero. Hence $f(C)$ has measure zero in $\mathbb{R}^1$.

Then we have the next case.

Theorem :6.4 Let U be an open set in $\mathbb{R}^2$, and $f : U \to \mathbb{R}^1$ is a smooth map. Let C be the set of critical points of f. Then $f(C)$ has measure zero in $\mathbb{R}^1$.

Proof. Since C is the set of critical points of f , let $C_i \subset C$ be the set of points x $\in$ U where all partial derivatives of f of order $\leq$ i are zero. Then

we have C $\supset C_1 \supset C_2$. We will prove it in three steps:

step 1. The image $f(C - C_1)$ has measure zero.

step 2. The image $f(C_1 - C_2)$ has measure zero.

step 3. The image $f(C_2)$ has measure zero.

proof of step 1.

Since we have C $\supset C_1 \supset C_2$, and therefore C - C1 is singular but non-zero Jacobian. Hence the image $f(C - C1)$ has

measure zero, completing step 1.

proof of step 2.

For each point x* in $C_1 - C_2$, there is $\frac{\partial^2 f}{\partial x_i \partial x_j}$ which is not zero at x*. Therefore the function g(x) = $\frac{\partial f}{\partial x_j}$ vanishes at x*. but

$\frac{\partial g}{\partial x_i} = \frac{\partial^2 f}{\partial x_i \partial x_j}$ does not. Without lose of generality, we assume i = 1, and we define a map

$$h : U \to \mathbb{R}^2 \text{ by } h(x) = (g(x) , x_2).$$

The Jacobean matrix dh is nonsingular, so h carries some neighborhood V of x* diffeomorphically onto an open set

V' in $\mathbb{R}^2$.

h carries $C_1 \cap$ V into 0x $\mathbb{R}^1$, and now we consider the function

$$w = f \text{ o } h^{-1} : V' \to \mathbb{R}^1,$$

and let

$$w^*:(0 \text{ x} \mathbb{R}^1) \cap V' \to \mathbb{R}^1.$$

Hence, the set of critical values of w* has measure zero in $\mathbb{R}^1$.

But each point in $h(C_1 \cap$ V) is certainly a critical point of w* , since all first order derivatives vanish at such points.

Therefore

$$w^* \text{oh}(C_1 \cap V) = f(C_1 \cap V)$$

has measure zero. Since $C_1 - C_2$ is covered by countable many such sets V ,it follows that $f(C_1 - C_2)$ has measure zero, completing step 2.

proof of step 3. (This is similar to the proof for $\mathbb{R}^1$)

Let I be a closed square inside U with edge length L. We will show that $f(C_1 \cap U)$ has measure zero. By Taylors Theorem, the compactness of I, we have that

$$f(x + h) = f(x) + R(x; h)$$

with $|R(x; h)| \leq a|h|^3$

for $x \in C_1 \cap I$ and $x + h \in I$, where the constant a depends only on f and I. Then we subdivide I into n^2 sub squares, each of side length $\frac{L}{n}$. Let S be a square of this subdivision which contains a point of C_k.

Then any point of S can be written as $x + h$, with $|h| \leq \frac{\sqrt{2}L}{n}$,Therefore it follows that $f(S)$ must lie in an interval of length $2a \left(\frac{\sqrt{2}L}{n}\right)^3$ centered at f(x). There are at most n^2 such sub squares S, hence $f(C_2 \cap I)$ is contained in a union of intervals of total length at most $n^2 2a \left(\frac{\sqrt{2}L}{n}\right)^3 = b/n$, for some constant b.

This total length tends to 0 as $n \to 1$, so $f(C_2 \cap I)$ have measure zero. Since U can be covered with countable many such squares, this shows that $f(C_2)$ has measure zero, completing step 3.

Hence, $f(C)$ has measure zero in $\mathbb{R}^1$.

7- PROOF OF SARD'S THEOREM

Theorem :7.1. (Sard's theorem) Let U be an open set in $\mathbb{R}^n$, and

$f : U \to \mathbb{R}^p$ is a smooth map. Let C be the set of critical points of f. Then f(C) has measure zero in $\mathbb{R}^p$.

The theorem is certainly true for $n = 0$. We will proceed to prove that the theorem is true for n assuming that it is true for n - 1.

Denote $C_1 := \{x \in U : (df)_x = 0\}$ and for $i \geq 1$, we have

$$C_1 := \{x \in U : \text{all partial derivatives of f of order } \leq i \text{ vanish at x}\}$$

Notice that each C_i is built by taking a finite intersection of sets, and each C_i is closed, so we have a descending sequence of closed sets $C \supset C_1 \supset C_2\ldots$. We then proceed by induction and prove three lemmas.

we will divide the proof into three steps:

step 1. $f(C_k)$ has measure zero for k ≥ n/p - 1.

step 2. $f(C_k- C_{k+1})$ has measure zero.

step 3. $f(C - C_1)$ has measure zero.

steps 2 and 3 give that $f(C - C_1)$ and $f(C_k - C_{k+1})$ have measure zero. These two steps use the inductive hypothesis and the fact that $\mathbb{R}^n$ is second countable, which means if $\{U_\alpha\}$ is set of open sets in $\mathbb{R}^n$, there there is a countable sub collection $\{U_{\alpha k}\}$ so that $\cup_\alpha U_\alpha = \cup_k U_{\alpha k}$. Step 1 uses Taylor'sTheorem to show that if k is sufficiently big, then f(C_k) has measure zero, and step 3 makes use of Fubini's Theorem. These steps combine to give Sard's Theorem by additives of measure zero.

Note that a countable union of sets of measure zero also has measure zero.

Lemma :7.2

For$k \geq \frac{n}{p-1}$, the image f(C_k) has measure zero in $\mathbb{R}^p$.

Proof. Fix such a k. Let S ⊂ U be a cube whose sides are of length δ We will prove that for $k \geq \frac{n}{p-1}$,f($C_k \cap$ S) has measure zero. Since C_k can be covered by countably many such cubes, this implies f(C_k) has measure zero. From Taylors theorem, the compactness of S and the definition of C_k,

we see that

f(x + h) = f(x) + R(x; h) where

$$R(x,h) = hf'(x) + \frac{h^2}{2}f''(x) + \cdots + \frac{h^n}{n!}f^n(x + \lambda h) \; for \; \lambda \in [0,1]$$

$$|R(x,h)| < a|h|^{k+1} \; for \; x \in \; C_k \cap S, x + h \; \in S$$

Here we see a is a constant that depends only on f and S. Now subdivide S into M^n cubes whose sides are of length $\frac{\delta}{M}$. Let S_1 be a cube of the subdivision that contains a point x of C_k. Then any point of S_1 can be written as x + h with

$$|h| < \sqrt{n}\frac{\delta}{M}$$

if $x + h \in S_1$, then It follows that $f(S_1)$ lies in a cube with sides of length$\frac{b}{M^{k+1}}$centered about $f(x)$, where $b = 2a(\sqrt{n}\delta)^{k+1}$is a constant. It follows that $f(C_k \cap S)$ is contained in the union of at most M^n cubes having total volume

$$\leq M^n (\frac{b}{M^{k+1}})^p = b^p M^{n-(k+1)p}$$

. Since $k > \frac{n}{p} - 1$we see total volume$\to 0$as $M \to \infty$.

Thus $f(C_k \cap S)$ is of measure zero, which implies $f(C_k)$has measure zero, completing step 1.

So we have some l such that $f(C\,l)$ has measure zero.

Lemma : 7.3 For $k \geq 1$, the image $f(C_k - C_{k+1})$ has measure zero in $\mathbb{R}^p$.

Proof. This is a similar argument. For each $x \in C_k - C_{k+1}$, one can find some k-th partial derivative of f, denoted by w, that vanishes on C_k but has a first derivative, $\frac{\partial w}{\partial x_1}$, that is not zero at x. Again,

we have a map $h : U \to \mathbb{R}^n$, and $h(x) = (w(x), x_2, \dots , x_n)$ maps a neighborhood V of x diffeomorphically onto an open set V'. By construction, h carries $C_k \cap V$ into the hyper plane $\{0\} \times \mathbb{R}^{n-1}$.

Again we consider the map $g = f \circ h^{-1}$.Then the critical points of g of type C_k are all in the hyper plane $\{0\} \times \mathbb{R}^n$

Let

$$\bar{g} : (\{0\} \times \mathbb{R}^{n-1}) \cap V' \to \mathbb{R}^n$$

be the restriction of g. By induction, the set of critical values of g is of measure zero in $\mathbb{R}^p$. Moreover the critical points of g of type C_k are critical points of $\bar{g}$. It follows that the image of these critical points of g is of measure zero.

Therefore, $f(C_k \cap V)$ is of measure zero. Since$C_k - C_{k+1}$ can be covered by countable many sets V , then $f(C_k - C_{k+1})$ is of measure zero. This shows that $f(C_k - C_{k+1})$ has measure zero, completing step 2.

Thus, $f(C_1)$ has measure zero by $f(C_k - C_{k+1})$ has measure zero.

Example :7.4

If X is a manifold, then the identity mapping : X → X has no critical points, and therefore the set of non regular

values has measure zero.

Example :7.5

Let : $\mathbb{R}^2 \to \mathbb{R}$, and $f(x; y) = x^2 + y^2$ is given. We have the derivative zero only at the origin, and $f(0, 0)$ is just a

single point, which has measure zero in $\mathbb{R}$.

8-APPLICATIONS OF SARD'S THEOREM

This chapter we will discuss the applications of Sard's Theorem, such as applications to the Whitney Embedding and

Immersion Theorems, the existence of Morse functions, and Brouwer's fixed point theorem.

Sard's Theorem: Let f : X → Y be a smooth map of manifolds, and let C be the set of critical points of f in X. Then

f(C) has measure zero in Y .

Regular Value Theorem: If y is a regular value of f : X → Y , then the pre image   f⁻¹(y) is a sub manifold of X,

with dim f⁻¹(y) = dim X - dim Y .

Sard's theorem is important, since combining the Pre image Theorem with Sard's Theorem, we know that since

almost all values of a mapping are regular, the pre image of a mapping is almost always a manifold. There are many

other useful results which rely on Sard's Theorem, such as the Whitney Embedding Theorem, the Whitney

Immersion Theorem, the existence of Morse functions, and the Brouwer's fixed point theorem.

Before solving Whitney's Embedding Theorem , we have to show some corollary , lemma and Whiotney's First

Embedding Theorem .

Corollary: 8.1

If $f: N^n \to M^m$ is a smooth math of manifolds of degree n and m respectively, and if n < m the $f(N^n)$ has measure

zero in Mᵐ.

Lemma: 8.2

Let M (p , n) denote the set of all real p x n matrices with the product topology $\mathbb{R}^{np}$

and

$$M_k (p , n) \subset M (p , n)$$

denote the subset of matrices with rank k. Then $M_k (p , n)$ has dimension k (p + n - k) as a sub manifold.

9-WHITNEY'S FIRST EMBEDDING THEOREM

Every n-dimensional differentiable manifold can be embedded in $\mathbb{R}^{2n+1}$ as a closed subset.

To prove this theorem, we will first establish some sort of a hierarchy of maps. We will show that under certain conditions any smooth function between two manifolds can be arbitrarily approximated by an immersion, which in turn can be arbitrarily approximated by an injective immersion. The latter, then can be approximated by embedding. We begin by the following theorem,

Theorem: 9.1

Let $f: U \subset \mathbb{R}^n \to \mathbb{R}^p$ be a smooth map with 2n ≤ p. Then for any ∈> 0 there exists a p x n matrix A =

(aᵢⱼ)

such that

1. $|a_{ij}| <\in$

2. The map $g: U \subset \mathbb{R}^n \to \mathbb{R}^p$ defined by g (x) = f (x) + A x is an immersion.

Proof. We need to show that there exists a matrix A such that $|a_{ij}| <\in$ and

rank (Dg (x)) = rank (Df (x) + A) = n

Given any ∈> 0, let Λ= {Aₚₓₙ : $|a_{ij}| <\in$. Then the measure m(Λ) > 0 .

since m((-∈ , ∈)) = 2∈> 0 and thus

m(Λ) = (2∈)ᵖˣⁿ> 0.

$$g (x) = f (x) + Ax \Rightarrow Dg (x) = Df (x) + A.$$

Consider the subset Ω ⊂ Λsuch that

$$\Omega = \{f \in \Lambda : A = B - Df (x) : \text{rank} (B) < n\}$$

We will show that has measure zero which will then imply the existence of the desired matrix A. To do so,

We consider the

$$F_k : M_k (p , n) \text{ x } U \to M (p , n) ; F_k (B , x) = B - Df (x)$$

where rank (B) < n. Notice that dim (Mₖ (p , n) x U) = k (p + n - k) + n.

If we let Ø (k) = k (p + n - k) + n,

then Ø' (k) = -2k + p + n > 0 since 2k < 2n ≤ p. So Ø is increasing. Then

$$k \leq n - 1 \Longrightarrow k\,(p + n - k) \leq (n - 1)\,(p + n - (n - 1))$$

$$= (2n - p) + pn - 1$$

$$< pn$$

$$= \dim(M\,(p\,,\,n))$$

By corollary,

$$m(F_k\,(M_k\,(p\,,\ n)\,\text{x}\,U)) = 0.$$

The existence of the matrix A follows.

We can restate the preceding theorem using the notion of δ −approximations which we define as follows:

Definition: 9.2

Let X be a topological space and (Y , d) be a metric space with metric d. We say that a function g : X → (Y , d) is a

δ −approximation of a function

$$f : X \rightarrow (Y\,,\,d)$$

if for any $\in > 0$, there exists a function $\delta : X \rightarrow (0\,,\,\in)$ such that

$$d\,(f\,(x)\,,\,g\,(s)) < \delta\,(x)\ \forall x \in X$$

Then the previous theorem states that for any n-dimensional manifold M and a smooth function $f : M \rightarrow \mathbb{R}^p$

where 2n $\leq$p, we can find an immersion $g : M \rightarrow \mathbb{R}^p$ which is a δ −approximation to f. In fact, more can besaid. If

rank (f) = n on some closed subset N $\subset$ M, then g can be chosen to be homotopic to f relative to N.

10-WHITNEY EMBEDDING THEOREM

Let M be a smooth manifold of dimension n. A natural question is: which manifolds can be embedded into $\mathbb{R}^m$ as

smooth submanifolds? We proceed to our first application.

Theorem :10.1 Any smooth manifold $M_n \subset \mathbb{R}^m$ has an injective immersion into $\mathbb{R}^{2n+1}$.

Proof. Suppose i : M→ $\mathbb{R}^m$ embedding $\pi_a o\ i : M \rightarrow V_{a^\top} \cong \mathbb{R}^{m-1}$. If m = 2n + 1, we are done, so we assume m > 2n

+ 1. For $a \in \mathbb{R}^m$ such thata ≠ 0, the projection

$$proj_{a^\top} v = v - \left(\frac{v.\,a}{a.\,a}\right) a.$$

Let π_a be the projection of $\mathbb{R}^m$ to the normal, and it suffices to show that

$$\pi_a|_\text{M} : \text{M} \to \mathbb{R}^{m\text{-}1}$$

is an injective immersion for at least one a. We will use Sard's Theorem to show that it is true.

Define g : M x M x$\mathbb{R} \to \mathbb{R}^m$, and g(x , y , t) = t(x - y), also define

h : TM $\to \mathbb{R}^m$ with h(p , v) = (di)$_\text{p}$(v), where (p; v) $\in$ TM represents the tangent vector v $\in \mathbb{R}^m$ at the point p $\in$ M,

and

$$\text{di}_\text{p} : \text{TM}_\text{p} \to \text{T}\mathbb{R}^m_{i(p)} = \mathbb{R}^m.$$

Ifπ_a : M $\to \mathbb{R}^{m-1}$ is not injective, then we have some x , y $\in$ M, s $\in \mathbb{R}$ such thatx $\neq$ y and x - y = sa. Therefore,

$$g\left(x, y, \frac{1}{s}\right) = \frac{1}{s}(x - y) = \frac{1}{s}(sa) = a$$

Further more, if π_a is not an immersion, then $d(\pi_a oi)_p v = 0 = \pi_a o di_p(v)$

where π_a is the projection of $\mathbb{R}^m$ and $di_p(v)$ is a vector in $\mathbb{R}^m$, and thus there is some (p , v) $\in$ TM such that $di_p(v)$

= s.a for some a. Since M is immersed into $\mathbb{R}^m$, we must have s $\neq$ 0, so h(v/s) = a. Now it is clear that if a is in

neither the range of g nor the range of h, then π_a is the injective immersion.

Since the dimensions of the domains of g and h are 2n+1 and 2n respectively, and m > 2n+1, every point in the

range of these functions is a critical value. Thus we can pick almost any a $\in \mathbb{R}^m$ and get that π_a : $M \to \mathbb{R}^{m-1}$is an

injective immersion.

Note that if M is compact, then an injective immersion is an embedding, so this theorem comes very close to the

weak Whitney Embedding Theorem, every manifold M$^\text{n}$ can be embedded into $\mathbb{R}^{2n}$.

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PRIORITY ANALYSIS OF DISTRICT ROAD DEVELOPMENT IN SOUTH NIAS REGENCY DEVELOPMENT

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ABSTRACT

This study aims to analyze the priority scale determination for road handling in the sub-district of Teluk Dalam, South Nias Regency. Study on the analysis of district road development priorities in the regional development of the South Nias Regency was carried out in the South Nias Regency, North Sumatra Province. In this study, the method of analysis is descriptive, using 8 key informants. The results showed that the main priority for road improvement was the Walo-Jalan Yos Sudarso road. This is based on field observations that the section of the road is in damaged condition and the construction is late in handling, although its function is very significant in moving community activities.

KEYWORDS: *Road Network, Teluk Dalam Sub-district, Road Handling Priority*

1. INTRODUCTION

South Nias Regency is one of the regencies in North Sumatra Province and one of the expansion areas in the Nias Islands. One of the efforts to develop the South Nias Regency is by providing impulse transportation infrastructure as the best entry-point for the growth of economic activity in this region.

District road construction based on South Nias Regent Decree No. 140 of 2012 concerning the Establishment of the Status of the Road Network as a Road in South Nias Regency and Decree of the South Nias Regent No. 04.3.27 of 2018 concerning the Establishment of the Status of the Road Network as District roads in the South Nias Regency.

Table. 1
South Nias District road Infrastructure Development Budget

No.	Fiscal year	Budget Ceiling	Description
1	2017	47.965.491.885,-	Regional Revenue and Expenditure Budget, and Review
2	2018	71.835.279.119,-	Regional Revenue and Expenditure Budget, and Review
3	2019	72.122.548.142,55	Regional Revenue and Expenditure Budget, and Review
4	2020	61.007.332.037,-	Regional Revenue and Expenditure Budget, and Review

The rationale for the study on road improvement in the South Nias Regency is:

1. Regional development imbalances in South Nias Regency as identified by: a). The concentration of productive economic activities b). Population concentration c). Availability of special road network infrastructure d). Availability of service facilities on a regional scale
2. To improve the South Nias Regency region through policies and development of productive economic activities , in particular economic activities that take advantage of the South Nias Regency 's potential;
3. To simplify and accelerate the collection-distribution between operation nodes, in particular between production centers and related markets, efforts to increase road segments to accelerate economic development in the South Nias Regency.

2. RESEARCH METHODOLOGY

This research, with a qualitative approach, is descriptive. The study was conducted in the sub-district of Teluk Dalam, with the research objective being to examine the priorities of road construction in regional development in the South Nias Regency. The collection of respondents was carried out by purposive with expert sampling, where a survey of individuals considered to have knowledge or skills in a specific field, is the approach used. This sample is also known as a panel of experts. This study used eight respondents, where these people are at the level of decision-makers, and part of the organizational structure of 2 (two) Regional Apparatus Organizations (OPD) and the others are community leaders, namely: (1) Head of the Regional Development Planning Agency (BAPPEDA), (2) Head of Public Works and Spatial Planning (PUPR) Office, (3) Secretary of the PUPR Office, (4) Head of the Highways Division of the PUPR Office, (5) Head of the Facilities and Infrastructure Division of the BAPPEDA, (6) 3 (three) community leaders.

3. LITERATURE REVIEW

Planning is essentially a conscious, organized and continuous effort to choose the best alternatives from some alternatives to achieve certain goals (Conyers in Safi'i, 2007). According to Safi'i (2007) planning is a process to prepare systematically with an awareness of the use of limited resources but oriented to achieve goals effectively and efficiently, where to achieve goals requires accurate policy formulation.

The concept of planning prioritizing the future, especially in a plan, is wellbeing, social justice, equity (Rasyid, 2015). Etzioni in Safi'i (2007) in planning theory, there are several typologies, including the rational planning model; incremental planning model; and strategic planning model.

Tarigan (2006) defines regional planning as planning the use of regional space and planning activities in the area's space. Sirojuzilam and Mahalli (2010) state that regional planning involves two main aspects, namely something related to space and activities above that space.

Generally, transportation can be seen as a system with three main components that influence each other. The three components are:

1) Land use subsystem. This subsystem observes the use of land where community activities are carried out, such as the type, structure, and size of the intensity of social and economic activities (in the form of population, labor, industrial output).
2) Supply transportation subsystem. This subsystem is the provision of a physical link between land use and human actors in the community. This provision covers various modes of transportation such as roads, railways, bus routes, and states the operational characteristics of these modes,

such as travel time, cost, frequency of service.

3) Traffic is a direct result of the interaction between land use and supply transportation

in the form of the movement of goods and services.
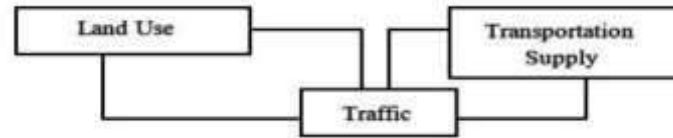
Figure 1. Land Use Interaction - Transportation

Farahani, et al, (2013) that in community activities, transportation is very important. The population is growing, so transportation demand is also rising. The extent of urbanization has an effect on growing population density, which directly or indirectly decreases regional transport competition (Susantoro and Parikesit, 2004).

Article 1 paragraph 3 of the Government Regulation of the Republic of Indonesia Number 34 of 2006 concerning Road states that roads are land transportation infrastructure covering all parts of the road, including complementary buildings and equipment intended for traffic, which are on the ground level, above the ground surface, below ground level and/or water, as well as above water level, except railroad, lorry, and cable road. Regulation of the Minister of Transportation No: KM 14 of 2006 concerning the Management and Engineering of Traffic on the Road, has determined

the Service Level Standards for Secondary Arterial Roads and Secondary Collectors.

According to Asariansyah, et al (2013) there are several main benefits of road infrastructure for the community, such as (1) opening up the isolation of regions and regions, (2) Increasing activities and supporting the smooth running and wheels of the regional economy, (3) Gaining access to technology and utilization social facilities, such as education, health, the government plans to relocate the regency capital and others.

Foly in Jayadinata (1992) states that urban planning can be done with two approaches, namely (1) unitary approach is to make a picture of the physical environment pattern aimed at a community and to promote development and to ensure that society will be able to develop in the future. , (2) adaptive approach is a complex interweaving of various functionally dependent parts.
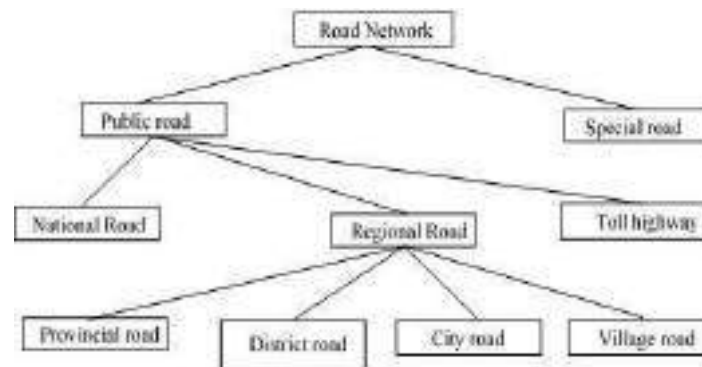
Sumber: PP No. 34 Tahun 2006 Tentang Jalan

Figure 2. Pengelompokan Jalan, Pelimpahan dan Penyerahan Kewenangan

Regency/Municipal Roads: namely roads which, based on their level of importance, are assigned the authority to guide them to the City / Regency Government. Roads that fall into this classification are (1) Primary Collector Roads that are not included in either national roads or provincial roads, (2) Primary Local Roads, (3) Secondary roads that are not included in either national roads or roads

province, (4) Other roads that have strategic value towards the interests of the city or regency

Based on studies that have been carried out in improving road segments and under the conditions of the study area in South Nias Regency, several criteria are often used to determine priority for road improvement, namely: (a) Capacity criteria, namely volume capacity ratio (VCR), (b) Generation and

attraction criteria, (c) Speed criteria, (d) Population density criteria

Regions have natural and human resources as well as a geographical position that can be managed and utilized efficiently and effectively through comprehensive planning (Miraza, 2005). Regional development means an increase in the value of the benefits of the area for the people of a certain area being able to accommodate more residents, with an average level of community welfare that has a lot of facilities / infrastructure, goods or services available and increased community business activities, both in meaning of type, intensity, service and quality (Sirojuzilam, 2005). Mulyanto (2008) defines regional development as any government action that will be carried out together with the actors to achieve

a goal that is beneficial for the region itself and for the administrative unit in which the area is part of it.

4. RESULT
Overview of South Nias Regency

The administrative area of South Nias Regency is currently divided into Sub-districts and 459 Villages, and 2 Kelurahan. Geographically, South Nias Regency has an area of 6,902,505 Km2, with details of a land area of 2,452,100 Km2 and an area of sea / waters 4,450,405 Km2. The boundaries of South Nias Regency are in the north, it is bordered by Nias Regency and West Nias Regency. To the south is bordered by the Indonesian Ocean and the Mentawai Islands of West Sumatra. In the east is bordered by the Indonesian Ocean, Mursala Island, Central Tapanuli Regency and Mandailing Natal Regency. The west is bordered by the Indian Ocean.
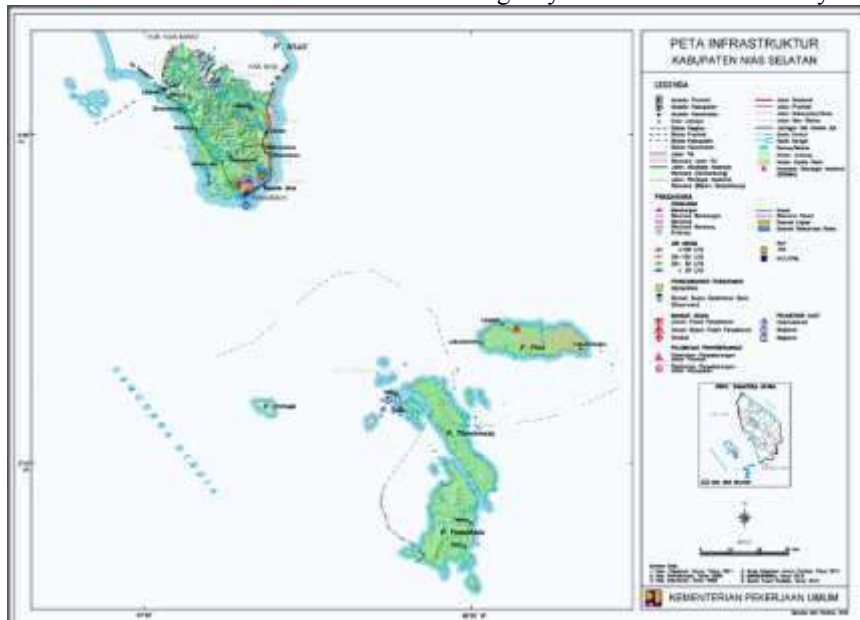
Figure 3. Infrastructure Map of South Nias Regency

Astronomically, Nias Selatan Regency is located at 0 ° 33 '25 "south latitude - 1 ° 4' 5" north latitude and 97 ° 25 '59 "- 98 ° 48' 29" east longitude. The geographic location of South Nias Regency is in the

west of Sumatra Island with a distance of ± 92 nautical miles from Sibolga City or Central Tapanuli Regency to Teluk Dalam.

Table 2
Selection Parameter

Criteria	Very important	Important	Not important	Total Score	Total Questionnaire	Mean Score
VCR (Volume, Capacity, and Ratio)	3	4	1	18	8	2.25
Generation of traction	4	3	1	19	8	2,38
Speed	3	4	1	18	8	2.25
Population density	1	2	5	12	8	1,50

Source: Primary data, processed (2020)

The density must be excluded from the model parameters from the results of the cut-off value since the mean score is less than two and the density parameter is considered to be less influential in deciding the priority of road development in Teluk Dalam Sub-district, South Nias Regency, so that the model criteria are capacity (VCR), speed, traction generation

Table 3
Teluk Dalam Subdistrict, South Nias District road Conditions Require Repair

Section Name	Criteria	Lane Width in meter	Roadside Width in meter	Pavement Type	Pavement Conditions	Side Barriers	Road Segment Function
Hilimondre geraya Street	Pendidikan – Desa Hilimondregeraya Roads	3	1	Macadam Penetration Layer (LAPEN)	Heavy Damage	- Slow driving - To enter or exit a driveway, vehicle drive on a sidewalk	Public service
DI Panjaitan Street	Kueni Road – Yos Sudarso Road	4	1	Hotmix	Heavy Damage	- Vehicle parking/stop - Vehicle drive on a sidewalk - Slow driving - Pedestrian	City Road
Siwa Sanuwu Sihono Street	Walo Road –Yos Sudarso Road	8	1	Hotmix	Not finished	- Slow driving	City Road
Lower ring road	Nasional Street Km 3 – Ikhuhele	6	1	LAPEM	Not finished	- Pedestrian - Slow driving	City Road
Pasir Putih Street	Nasional street – Pantai Walo	3	1	Hotmix	Heavy Damage and Not finished	- Pedestrian - Vehicle parking/stop - Vehicle drive on a sidewalk - Slow driving	City Road
Inner lower ring road	Lower ring road– Lower ring road	10	1	LAPEM	Not finished	- Pedestrian - Slow driving	Tourism
Hilifusi Street	Nasional street Km2 – Pantai Hilifusi	4	1	LAPEM	Not finished	- Pedestrian - Slow driving	Tourism
Kawasan Terpadu Street	Kawasan Terpadu street – Kawasan Terpadu	10	1,5	LAPEM	Not finished	- Pedestrian - Slow driving	City road

Source: Public Works Office of South Nias Regency

Table 4
Description of Priority Roads for Development in Teluk Dalam Sub-district, South Nias Regency

No.	Section Name	Road Condition Data			Road Category
		Length of road (km)	Realization Handled	Not handled	
1	Pendidikan – Desa Hilimondregeraya Roads	17,624	3,830	14,794	Asphalt/micro rough surface/terrain
2	Kueni Road – Yos Sudarso Road	0,281	0,180	0,101	Asphalt/micro rough surface/terrain
3	Walo Road –Yos Sudarso Road	5,000	1,050	3,950	Concrete/Asphalt/micro rough surface/terrain
4	Nasional Street Km 3 – Ikhuhele	8,406	3,800	5,606	Asphalt/micro rough surface/terrain
5	Nasional street – Pantai Walo	0,923	0,440	0,483	Asphalt/micro rough surface/terrain
6	Lower ring road– Lower ring road	0,558	0,304	0,254	Asphalt/micro rough surface/terrain
7	Nasional street Km2 – Pantai Hilifusi	1,054	0,500	0,554	Asphalt/micro rough surface/terrain
8	Kawasan Terpadu street – Kawasan Terpadu	4,597	0,536	4,061	Asphalt/micro rough surface/ telford/terrain

Source: Public Works Office of South Nias Regency

The length of Regency roads in South Nias Regency in 2018 reached 743,621 km while Teluk Dalam Sub-district reached 73,822 KM with 43 roads. The condition of roads in Teluk Dalam Subdistrict, South Nias Regency, generally has a traffic lane width of 3-10 M, the type of alignment of hills and mountains, the type of asphalt pavement is flexible and has low side barriers. Many road conditions in Teluk Dalam Subdistrict, South Nias Regency use LAPEM and hot-mix pavement types but the conditions are slightly damaged, moderate and severely damaged and some are incomplete, so it is necessary to carry out maintenance and continuation/improvement (Table 3 and Table 4)

Table 5
Traffic Volume in Teluk Dalam Sub-district, South Nias Regency

Section	Criteria	Light vehicle	Medium Heavy Vehicles	Big Bus	Truck	Motorbike	Total
Hilimondregeraya Street	Pendidikan road– Desa Hilimondregeraya	44	10	0	3	55	112
DI Panjaitan Street	Kueni road– Yos Sudarso Street	37	12	0	3	43	95
Siwa Sanuwu Sihono Street	Walo road – Yos Sudarso Street	16	4	0	0	32	52
Lingkar Bawah Street	Nasional road km 3 – Ikhuhele	22	5	0	0	16	43
Pasir Putih Street	Nasional road– Pantai Walo	24	7	0	0	37	68
Inner lower ring road	Lower ring road– Lower ring road	28	12	0	1	41	82
Hilifusi Street	Nasional road km2 – Pantai Hilifusi	35	11	0	1	74	121
Kawasan Terpadu Street	Kawasan Terpadu road– Kawasan Terpadu	37	10	0	0	48	95

Source: Survey Results

In Teluk Dalam Subdistrict, South Nias Regency, the number of vehicles passing through the roads is normally light vehicles and motorbikes. From the road conditions that look empty, this can be seen clearly. Due to the simultaneous activities at colleges, classes, and workplaces, the number of vehicles is shown to be heavy only about 06.30 to 07.30 in the morning. Then there is a weekend market (Pekan) that typically happens in each district once a week. At this time the volume of vehicles can be high enough that it can cause congestion around the city or the weekend market. In addition, the volume of vehicles will return to being quiet. Several heavy vehicles such as heavy trucks pass by where these vehicles transport agricultural products, BGGC and other goods from outside the area.

Table 6
VCR analysis results on roads in Teluk Dalam Subdistrict, South Nias Regency

Section	Criteria	VCR
Hilimondregeraya street	Pendidikan road– Desa Hilimondregeraya	0.16
DI Panjaitan street	Kueni road– Yos Sudarso street	0.05
Siwa Sanuwu Sihono street	Walo road – Yos Sudarso street	0.08
Lower ring road	Nasional road km 3 – Ikhuhele	0.12
Pasir Putih street	Nasional road–Pantai Walo	0.16
Inner lower ring road	Lower ring road– Lower ring road	0.04
Hilifusi street	Nasional road km2 – Pantai Hilifusi	0.29
Kawasan Terpadu street	Kawasan Terpadu road– Kawasan Terpadu	0.04

From table 6 it is known that the road segment with the highest VCR is Nasional road km2 – Pantai Hilifusi, while the lowest VCR values are Lower Ring Road - Lower Ring Road and Kawasan terpadu Road – Kawasan terpadu. In general from the results of the VCR Analysis, the road sections surveyed are still quite good in accommodating the volume of traffic passing through it with Level of service (LOS) A.

Table 7
Average Travel Time on roads in Teluk Dalam Subdistrict, South Nias Regency

Criteria	Distance in km	Average Travel Time in minute
Pendidikan road– Desa Hilimondregeraya	17,624	18
Kueni road– Yos Sudarso street	0,281	10
Walo road – Yos Sudarso street	5,000	29
Nasional road km 3 – Ikhuhele	8,406	28
Nasional road–Pantai Walo	0,923	17
Lower ringroad– Lower ringroad	0,558	26
Nasional road km2 – Pantai Hilifusi	1,054	27
Kawasan Terpadu road– Kawasan Terpadu	4,597	36

Table 8
Average speed on roads in Teluk Dalam Subdistrict, South Nias Regency

Criteria	Distance in km	Average time (km/menit)
Pendidikan road– Desa Hilimondregeraya	17,624	0.982
Kueni road– Yos Sudarso street	0,281	0.029
Walo road – Yos Sudarso street	5,000	0.174
Nasional road km 3 – Ikhuhele	8,406	0.302
Nasional road–Pantai Walo	0,923	0.056
Lower ring road– Lower ringroad	0,558	0.021

Nasional road km2 – Pantai Hilifusi	1,054	0.039
Kawasan Terpadu road– Kawasan Terpadu	4,597	0.127

From table 8 above, it is known that the road segment that has the highest average speed is on the Pendidikan Road – Desa Hilimondregeraya, while the lowest average speed is the Lower Ring Road - Lower Ring Road section so several things need to be considered based on the survey conducted, namely: a). The width of the road is still narrow and b). Not too much vehicle volume

Trip Generation Model

The model developed in this study was obtained from the generation and attraction of the OD study results in South Nias Regency (Public Works Agency, 2012, Development of a Road Management System Master Plan for South Nias Regency) which is linked to land use, social characteristics. the economy. The model made is for the trip generation and attraction of passengers and goods in the study area with a constant price GRDP (X) and the number of the trip generation (Y) where the unit trip generation of passengers (people per year) and movement of goods (tons per year) are as follows:

Trip generation for passenger $Y = 1{,}38208\text{E-}05X$

Trip generation for goods: $Y = 6{,}12509\text{E-}06X$

Trip attraction for passenger: $Y = 1{,}18849\text{E-}05X$

Trip attraction for goods: $Y = 4{,}78960\text{E-}05X$

The results of the trip generation and attraction model for passengers and goods can be calculated by looking at the GRDP of South Nias Regency per District.

5. CONCLUSION

The results of the road improvement priority analysis show that the Kueni road - Yos Sudarso road is the main road improvement priority. The order of priority for road improvement in Teluk Dalam Subdistrict, South Nias Regency is as follows:

1. Walo road – Yos Sudarso street
2. Kueni road– Yos Sudarso street
3. Nasional road km 3 – Ikhuhele
4. Pendidikan road– Hilimondregeraya Village
5. Kawasan Terpadu road– Kawasan Terpadu
6. Lower ring road– Lower ringroad
7. Nasional road km 2 – Pantai Hilifusi
8. Nasional road–Pantai Walo

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THE ROLE OF TOURISM BUSINESS PLAYERS IN SUPPORTING TOURISM DEVELOPMENT IN NORTH TAPANULI REGENCY

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ABSTRACT

This study aims to analyze the role of tourism business actors in supporting tourism development in North Tapanuli. The research was conducted in North Tapanuli Regency. The analysis method used in this research is multiple regression analysis and descriptive analysis. The results showed that the role of tourism business actors which includes the attractiveness of tourist attraction products (X_1), facilities and infrastructure (X_2), information and promotion (X_3), service and hospitality (X_4), and the level of visitor satisfaction (X_5) has a positive influence and significant towards the tourism development of North Tapanuli Regency. The efforts made by the government to increase the capacity of SME entrepreneurs in the North Tapanuli Regency which include institutional variables, guidance, capital, and capacity building for business actors are positive.

KEYWORDS: *tourism business actors, tourism development, government efforts*

1. INTRODUCTION

Tourism is a modern form of industry that can provide rapid economic development in terms of job opportunities, income, living standards, and the activation of other tourism-receiving development sectors, including art, souvenirs, hotels, transportation, and other industries (Wahab 2003).

Gunn (1994) notes that without knowing the mutual relationship between certain sections of the supply side, especially when it comes to market demand, tourism can not be expected. These two components form one unit, where the tourism supply includes things provided by the destination, which are very closely related.

Getz (2008) states that to achieve the success of the tourism targets of an area, efforts are needed to organize an adequate tourism system in the form of promotion and development of tourism potential supported by production designs and activities held by the local government.

The number of foreign tourists visiting North Sumatra through three entrances, namely: Kualanamu Airport (Airport), which was previously Polonia Airport, Belawan Port. and Teluk Nibung Port, as can be seen in Table 1.

Tabel 1
Development of the Number of International Tourists Coming to North Sumatra in 2005 - 2015

Year	Airport	Belawan Seaport	Tanjung Balai Asahan Seaport	Total
2005	106.083	9.181	5.788	121.052
2006	109.574	6.936	5.336	121.846
2007	116.614	7.312	10.204	134.130
2008	130.211	7.011	15.271	152.493
2009	148.193	5.075	9.981	163.249
2010	202.296	18.260	14.962	202.296
2011	192.650	18.975	11.501	223.126
2012	205.845	22.132	13.856	241.833
2013	225.550	22.631	11.118	259.299
2014	234.724	24.769	11.344	270.837
2015	197.818	20.916	10.554	229.288

Source: Central Statistics Agency of North Sumatra Province, 2016

Natural potential that can be developed as a tourist attraction in North Tapanuli Regency. For more details, see Table 2.

Table 2
Potential Tourism Objects in North Tapanuli Regency

No.	Tourism Object	Type of Tourism	Location
1	Panorama Alam Hutaginjang	Natural tourism	Muara
2	Pantai Muara	Natural tourism	Muara
3	Air Soda di Parbubu	Natural tourism	Tarutung
4	Hutabarat Hot spring	Natural tourism	Tarutung
5	Saitnihuta Hot spring	Natural tourism	Tarutung
6	Ugan Hot spring	Natural tourism	Tarutung
7	Sipoholon Hot spring	Natural tourism	Sipoholon
8	Siborongborong Horserace	Natural tourism	Siborongborong
9	Sopo Partungkoan	Natural tourism	Tarutung
10	Natumandi Cave	Cultural / Historical Tourism	Tarutung
11	Hindu Hopong site	Cultural / Historical Tourism	Simangumban
12	Cross of Love Siatas Barita	Spiritual Tourism	Siatas Barita
13	Munson and Leman Graveyard	Spiritual Tourism	Adiankoting
14	HKBP Main office	Spiritual Tourism	Pea Raja - Tarutung
15	Sipoholon Seminarium	Spiritual Tourism	Saitnihuta Tarutung
16	Nommensen Monument	Spiritual Tourism	Saitnihuta-Tarutung
17	Onan Sitahurung	Spiritual Tourism	Saitnihuta-Tarutung
18	Dame church	Spiritual Tourism	Saitnihuta-Tarutung
19	Johanes Pastor Graveyard	Spiritual Tourism	Pancur napitu - Tarutung
20	Johanes Siregar Pastor Graveyard	Spiritual Tourism	Muara

Sumber : Dinas North Tapanuli Regency Tourism

The large number of tourists visiting North Tapanuli Regency will open business opportunities for the community in providing various kinds of tourist needs while in the tourist attraction of North Tapanuli Regency. This opportunity is utilized by the community by offering various services or goods needed to attract visiting tourists. The increasing demand for services and goods needed by tourists has an impact on increasing people's income in the tourist area of North Tapanuli Regency.

Tourism activities in the North Tapanuli Regency tourism area should be accompanied by an increase in the welfare of the local community, such as income, and an increase in the level of welfare, which is the basis of this study.

2. RESEARCH METHODOLOGY

It is appropriate to group this study into two qualitative and quantitative data according to the form of data and analysis. Qualitative data is in the form of words, sentences, schemes, and images. Quantitative data is data that is measured (scoring) in the form of numbers or qualitative data. According to its degree of manipulation, the method of analysis is quantitative/associative/correlational and this study aims to determine the relationship between two or more variables (Rusiadi, et al, 2014).

The research was conducted in North Tapanuli Regency with the object of research on the role of tourism business actors in supporting tourism development in North Tapanuli Regency. Tourism potential in regional development is carried out in 7 (seven) sub-districts, namely: Muara, Tarutung, Sipohon, Adiankoting, Siborongborong, Simangumban, Siatas Barita. The population in this study are all business actors associated with the development of the tourism object mentioned above. Based on data from the North Tapanuli Regency Tourism Office (2016), in 2016 there were 2,816 business actors associated with tourist objects (hotels, weaving, sihobok beans, and blacksmith).

Sampling was carried out using probability sampling, which is a sampling technique that provides equal opportunities for each element (member) of the population to be selected as sample members (Sangadji and Sopiah, 2010). Furthermore, using the Slovin formula, the total sample size is 96.57 business actors and rounded up to 97 samples or respondents.

Tabel 2
Population and Sample per sub-district

No.	Sub-district	Number of Business Actors (People)	RT Sample (people)
1.	Adian Koting	421	421/2816 x 100 = 14
2.	Sipoholon	410	410/2816 x 100 = 14
3.	Tarutung	562	562/2816 x 100 = 19
4.	Siatas Barita	198	198/2816 x 100 = 7
5.	Simangumban	572	572/2816 x 100 = 20
6.	Siborong-borong	394	394/2816 x 100 = 14
7	Muara	259	259/2816 x 100 = 9
	Jumlah	2816	97

Source: Central Statistics Agency of North Tapanuli Regency (2016)

Data collection techniques used are literature study, observation, interviews. The data collection tools used in this research were interview guides and questionnaires. To analyze how the role of tourism business actors in tourism development in North Tapanuli Regency uses multiple regression linear analysis

3. LITERATURE REVIEW

Hiariey and Sahuslilawane (2013) conducted a study "The Impact of Tourism on Income and Welfare Levels of Business Actors in Natsepa Beach Tourism, Ambon Island". The results showed that the factors affecting household group income were the number of family members, the level of expenditure, and the amount of time spent working. Based on the level of welfare, most households who use the services of the Natsepa beach tourism object have a moderate welfare level of 75%, then a high level of welfare is 22%, and the smallest is a low welfare level of 3%.

OK Henry (2008) conducted a study "The Impact of Theme Park Tourism Locations on Community Income and Regional Development of Pantai Cermin District", concluded that community income was still not significantly adequate with an indication that employment, entertainment, in carrying out their main work, the attention of local governments, knowledge, family education, community organization activities, meeting food needs, housing, saving have not increased.

Suharto (2007) states that the availability of hotels and the ease of accessing them will provide satisfaction for tourists in the Ubud area of Bali. Indrawati's (2006) research on the quality of services

provided by transportation officers has not affected entertainment tourism and tourist satisfaction in Bali. Sudiarta (2005) in Sarangan Village Bali states that transportation access can increase tourism development and increase the number of tourists because access to urban areas becomes smoother and the costs incurred are getting cheaper. This positive impact also affects the community's economy with the emergence of new tours in the form of cafes and turtle captivity and livestock.

It's easy to consider tourism as something intangible (Wahab, 2003). Tourism can be utilized as a symptom that defines people's travel to other countries foreign tourism) or within their own country (domestic tourism). Whereas Yoeti (1996) explains as follows: tourism is a trip that takes place for a while, arranged from one place to another in order not to do business or to make a living in the visited place, but rather to enjoy the trip. To satisfy different needs, it is for sightseeing and leisure.

According to the Law of the Republic of Indonesia Number 09 of 1990, a tourist area is a certain area that is built or provided to meet tourism needs and become tourism targets. A tourist area is a

nature reserve or cultural heritage that is managed in such a way and becomes a tourist destination.

According to Mill and Morison (1985), there is no standard industrial classification figure for tourism because tourism is not an industry but an activity that takes place when people cross over the borders of a country (in an international sense) for pleasure or business and stay in that country at least two forty-four hours but not more than a year. Furthermore, Mill and Morrison stated that tourism is a system consisting of four parts, namely: market, travel, destination, and marketing.

According to Mill and Morrison (1980), several socio-economic variables affect tourism demand, namely age, income, gender, education. Products and services are the elements offered to tourists (Damanik and Weber, 2006). Tourism products are all products destined for or consumed by a tourist while carrying out tourism activities.
According to Kotler (1993), the main actors in the development of a tourist location are as shown in Table 3.

Tabel 3
Main Actor in the Development of Tourist Object Destination

No.	Main actor	Related Institutions
1.	Local Actors Public Sector Actors	Governor Urban Planning Department Business Development Department Government tourism office Department of Transportation Department of Information (Public Information) Infrastructure (Transportation, Education, Sanitation)
	Private Sector Actors	Real Estate Developers and related agencies Financial Institutions (Banking, pawnshop, other insurance) Electricity and Gas Infrastructure Trade Council and local business organizations Health and industrial facilities (hotels, restaurants, supermarkets and others) Tour packages and travel agents Labor union
	Regional Actors	Regional Economic Development Agency Regional Tourism Board Regent and other Regional Government Members
	National Actors	Chief of Government Police Ministers National Labor union
	International Actors	Ambassador and Consulate General International Trade Council

Source: Kotler, 1993

According to Nopirin and Nuryanti (1999) the development of tourism in Indonesia is influenced by the following factors: socio-political stability, security stability, and economic stability.

According to Ambardi, (2002), the discussion of regional economic problems contains four things that need to be considered, namely: resources, location, regional economy, institutions. Resource-based regional development (art, culture and natural beauty) is one of the conventional concepts of regional development (Mangiri, 2000). Regional development is a concept that develops its territory by encouraging the development of transportation, hotels, restaurants, souvenir crafts, travel and other businesses related to tourism. Regional development concepts contain two aspects of the discussion, namely sectoral and spatial material.

4. RESULT
Overview of South Nias Regency

North Tapanuli Regency is also one of the regencies in North Sumatra Province, located in the highlands of North Sumatra at an altitude between 150-1,700 meters above sea level. Geographically, the location of North Tapanuli Regency is directly adjacent to five districts, namely: Sebelah Utara berbatasan dengan Kabupaten Toba Samosir, Sebelah Timur berbatasan dengan Kabupaten Labuhan Batu Utara, Sebelah Selatan berbatasan dengan Kabupaten Tapanuli Selatan, Sebelah Barat berbatasan dengan Kabupaten Humbang Hasundutan dan Tapanuli Tengah.

The land area in North Tapanuli Regency is around 3,793.71 km2, and Lake Toba is 66.02 km2. Of the 15 sub-districts, the largest sub-district in North Tapanuli Regency is the Garoga sub-District, which is about 567.58 km2 or 14.96 percent of the total area of the Regency, and the smallest sub-district is Muara District, around 79.75 km2 or 2.10 percent.

Figure 1. Administrative Map of North Tapanuli Regency

Table 4
Respondent Characteristics

Variabel	Category	Frequency	Precentage
Age	30 – 40	24	24.74
	41 – 50	35	36.08
	> 50	38	39.18
Level of education	High school	12	12.37
	Diploma	27	27.83
	Undergraduate	39	40.21
	Postgraduate	19	19.59
Gender	Male	73	75,26
	Female	24	24,74

The Role of Tourism Business Actors in Tourism Development in North Tapanuli Regency

Tabel 5
Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.968a	.937	.934	.47329

a. Predictors: (Constant), visitor satisfaction, attraction, service and hospitality, information and promotions, facilities and infrastructure

b. Dependent Variable: tourism development

The result of the calculation of the value of Adjusted R Square is 0.937. It means that 93.7 percent of tourism development can be explained by the independent variable of the role of tourism business actors (visitor satisfaction, tourist attraction, service, and hospitality, information and promotions, facilities and infrastructure) above, while 6.3 percent is explained by other variables not examined in this study..

Table 6
Simultaneous Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	305.677	5	61.135	272.917	.000a
	Residual	20.385	91	.224		
	Total	326.062	96			

a. Predictors: (Constant), visitor satisfaction, attraction, service and hospitality, information and promotions, facilities and infrastructure

b. Dependent Variable: tourism development

From the probability level of 0.000, simultaneous statistical tests can be seen, which < alpha = 0.05, which suggests Ha is accepted. It means that in explaining tourism development, the independent variables of the role of business actors (visitor satisfaction, tourist attraction, service, and hospitality, information and promotions, facilities and infrastructure) are simultaneously significant in North Tapanuli Regency.

Table 7
Statistical test results-t

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.982	.489		2.011	.047
	tourist attraction	1.002	.101	.311	9.908	.000
	facilities and infrastructure	.203	.092	.091	2.212	.029
	information and promotions	.957	.106	.311	9.053	.000
	service and hospitality	.883	.096	.303	9.221	.000
	visitor satisfaction	.771	.101	.266	7.612	.000

a. Dependent Variable: pengembangan pariwisata

In Table 7 the results of the t statistical test are as follows:
1. The tourist attraction products have a positive and significant effect on tourism development in North Tapanuli Regency.
2. Facility and infrastructure variables have a positive and significant effect on tourism development in North Tapanuli Regency.
3. Information and promotion variables have a positive and significant effect on tourism development in North Tapanuli Regency.
4. Service variables and hospitality have a positive and significant effect on tourism development in North Tapanuli Regency.
5. The variable level of visitor satisfaction has a positive and significant effect on tourism development in North Tapanuli Regency.

Based on Table 7, the multiple regression equation can be arranged as follows:

$$Y = 0,982 + 1,002 X1 + 0,203 X2 + 0,957 X3 + 0,883 X4 + 0,771 X5$$

The multiple regression equation model means:
1. The constant value is 0.982, which means that if there is no independent variable value, in this case, visitor satisfaction, tourist attraction, service, and hospitality, information and promotions, facilities, and infrastructure are the same with 0 (zero), the tourism development value of North Tapanuli Regency will be 0.982.
2. The variable of tourist attractions (X1) has a beta coefficient value of 1.002 and is positive. It means that each addition or increase of one unit score for the variable of tourist attractions will add to the value of tourism development in North Tapanuli Regency by 1.002 units of the score.
3. The variable of facilities and infrastructure (X2) has a beta coefficient value of 0.203 and is positive. It means that each addition or increase of one unit score for the facility and infrastructure variable will add to the value of tourism development in North Tapanuli Regency by 0.203 unit score.
4. The information and promotion variable (X3) has a beta coefficient value of 0.957 and is positive. It means that each addition or increase of one unit score for the information and promotion variables will add to the value of tourism development in North Tapanuli Regency by 0.957 score units.
5. The variable service and hospitality (X4) has a beta coefficient value of 0.883 and is positive. It means that every addition or increase of one unit score of the service and hospitality will add to the value of tourism development in North Tapanuli Regency by 0.883 units of the score.

6. The variable of visitor satisfaction level (X5) has a beta coefficient value of 0.771 and is positive. This means that each addition or increase of one unit score of the visitor satisfaction level variable will add to the value of tourism development in North Tapanuli Regency by 0.771 unit score.

5. DISCUSSION

The role of tourism business actors which includes the visitor satisfaction, tourist attraction, service, and hospitality, information and promotions, facilities and infrastructure levels have a positive and significant effect on tourism development in North Tapanuli Regency. The results of this study are in line with the research of Hiariey and Sahuslilawane (2013) which states that the development of the Natsepa Beach tourist area has the potential to be supported by coastal resources. The Natsepa Beach tourist attraction is located in Suli Village, Ambon Island. The success of a tourist attraction depends on the important role of the community in the surrounding area.

Resnawaty (2014) indicates that one of the strategies for community welfare that aims to promote national economic development is the development of small enterprises in society related to the tourism industry. In society or community, economic activity is an opportunity. Specific interventions that are carried out together by both the government and the community to achieve the goal of increasing community welfare are required in the development of the tourism sector.

Glen (1993) argues that the pursuit of shared aims, which is called community practice, must be carried out in an integrated way including all components of society, including the government and associated organizations. Community development is one type of community practice. Community development can be defined as a planned attempt to generate assets that enhance residents' capacity to improve their quality of life (Green and Haines, Resnawaty, 2002, 2014). Kretzmann and McKnight (1993 in Resnawaty, 2014) propose that the skills, abilities and capabilities of persons, groups and organisations in a society are assets. The five asset categories are physical, human, social, financial, and environmental. Nevertheless in addition to economic business development, community development also explores how society develops into a society with the capacity to cope with diverse developments in the development of the tourism industry in the region.

Community development can be divided into two categories, namely development of place and development of people. Community development that focuses on people will seek to increase the capacity of every individual in poor areas. However, after increasing individual capacity, is there any

guarantee of employment in these poor areas. As a result, successful individuals (with increased abilities) will have the potential to leave these poor areas in search of more promising employment opportunities in new areas. Meanwhile, community development that focuses on place allows communities to be able to offer new investments in their area.

6. CONCLUSION

The role of tourism business actors which includes tourist attraction (X_1), facilities and infrastructure (X_2), information and promotions (X_3), service and hospitality (X_4) and the level of visitor satisfaction (X_5) has a positive and significant influence on tourism development in North Tapanuli Regency.

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A STUDY ON RELATIONSHIP BETWEEN THE CSR ACTIVITIES OF ORGANIZATIONS AND THE BUYING DECISION OF THE CONSUMERS

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ABSTRACT

A study on relationship between the CSR activities of organizations and the buying decision of the consumers.

Corporate social responsibility is a Management concept that began in the 20th century but started taking shape in early 1950 and till date has assumed new importance and has become multidimensional. The main agenda of CSR has been to give back to the society for encouraging a good brand reputation. This good reputation then attracts the customers to the products of such organizations. The paper aims to find out the relationship between the CSR involvement of the organizations and the buying behavior of the customers. For the purpose of data analysis Karl Pearson's Coefficient of Correlation and Multiple Linear Regression analysis has been done. Managerial suggestions have been made for the organizations so that they can take maximum benefit of their CSR activities through increased sales.

KEYWORDS: *Buying Behavior, Customers, Consumers, CSR, Correlation*

INTRODUCTION
History of CSR in the world

With industrialization In the UK in United States there was growing criticism regarding the increasing factory system not so good working conditions and the employment of women and children were brought into Limelight. the reformers were of the belief that the current employment practices had a major role to play in increasing social problems including poverty and labor unrest. In late 1800 there was rise of philanthropy. Andrew Carnegie and industrialist who made majority of his fortune in the steel industry was very well known for giving away a large portion of his wealth as donation to causes that were related to scientific research and education. John d Rockefeller also donated more than half a billion of dollars to causes such as scientific research religion and education. He followed the footsteps of Andrew Carnegie. It was in 1970 that CSR was into practice in United States of America. The committee of economic

development gave a concept of social contract that exists between businesses and society in 1971. The idea behind this concept was that there is a need to understand that companies function and exist because of public consent therefore there must be a mandatory obligation of companies to contribute towards the societal needs.

It will not be wrong to say that India has the richest tradition of following corporate social responsibility. In India, this concept goes back to the Mauriyan history where great philosophers like Kautilya emphasized on ethical practices and principles that need to be followed while conducting business. The term CSR may be relatively new but the ideology dates to ancient history. CSR has been practiced in formerly in ancient times by means of charity to the poor and to the specially abled. In the Indian culture sharing and caring is deeply rooted. The Indian scriptures talk about the importance of sharing ones earning with the less privileged at more than one

places. One cannot deny the role of religion in promoting the concept of CSR.

Report from Aflac, on corporate social responsibility says that the workers the consumers in and investors have been continuously putting pressure on the American corporations to increase their contribution in CSR activities.77% of consumers said that they are more willing to purchase a product from a company if the company has shown commitment to help in the social economic and environmental issues of the place where they are located. A survey conducted by Deloitte in 2019 showed that climate change and environmental protection are the prime concern of the millennial today. The millennial found that corporate social responsibility is not just an ethical aspect but also is the most expected feature from companies.

In India the young consumers want to associate themselves with brands and companies that are trying to create an impact to reduce climate crisis. The Indian consumer would now want to associate with companies that are trying to create a difference to reduce the impact of harmful substances on the climate. strategy which will help the society to be sustainable. It offers several advantages to organizations which include:

- Ease in launching new products
- New customers are attracted to the products and services
- It contributes to better customer relationship
- A price premium can be charged for the products.
- Increases quality perception about the products and services.
- Contributes to brand recognition
- Helps in winning the trust of the customers.

The brand image is an important factor which helps in promoting the sales of a product. The CSR activities help in portraying a good image about the brand. A brand is a public perception of the organizations vision and mission. With CSR activities the brand image improves and in turns results in better goodwill and profits for the organization. This image can be carefully crafted through CSR activities, promotional events, and public relations campaigns.

LITERATURE REVIEW

Martinez, Pérez & Rodríguez del Bosque, 2014, stated that CSR can be viewed as an emotional aspect of the brand image which in turn enhance the company's competitive advantage and help in forming a positive behavior of the consumer towards the company. This shall help in building positive brand image of the company.

Hur et al. (2014) suggested that corporate brand credibility and the corporate brand image can be boosted by CSR efforts and initiatives. The same kind of findings were found in different countries and different industries. For instance, Hsu (2012) explored initiatives of companies cross culturally oriented. He found that the brand reputation can be improved when the CSR activities are positive. These activities help to create a demarcation in the minds of the consumers related to the company's products and services.

Tian et al. (2011) found that the good CSR initiatives of the firm help in creating a positive perception about the firm and help in increasing the purchase intention, however, the effect of CSR may be different when it comes to different products and different categories but is more prominent when the product is experienced. Ingram and Frazier (1980) identified a positive relationship between the contents of the environmental disclosures and the environmental performance.

Richa Gautam and Anju Singh, Industrial Safety & Environment Management Group, National Institute of Industrial Engineering (NITIE), India (2010) focused on understanding the multiple definitions and descriptions of CSR. They elaborated upon the development of CSR in India and tried to explain the theoretical concepts that were given by many researchers and also have a common platform to discuss the current CSR practices in India. They included the top 500 companies, identified, and viewed the CSR against the global reporting initiative standards.

RESEARCH METHODOLOGY

The Research Design is the basic plan which guide the research data collection and data analysis. it provides direction, guidelines and in short is the blueprint of the Research which aims to make it economical and less time consuming procedure (Kinnear & Taylor, 1996; Churchill & Iacobucci 2005).The research is of two types Exploratory and Conclusive. The conclusive research also has two angles Exploratory and Conclusive (Seth Ginsburg, 2011). The exploratory research is highly flexible, unstructured, and qualitative (Aaker et. al. 2007).

The Research Design is the basic plan which guides the research data collection and data analysis. it provides direction, guidelines and in short is the blueprint of the research which aims to make it economical and less time consuming. The research process starts with the problem identification and formulating the research objectives. considering the scope and the situation of the study primary or secondary data is used for the purpose of the research. the primary data with the firsthand data collected solely for the purpose of research whereas the secondary data

is the data which has been compiled by the previous researchers. Both the types of the data have relevance and respective importance. for the purpose of the study both primary data and the secondary data sources have been analyzed for better results and conclusions.

The research is exploratory nature an aim to find out the relationship between the CSR activities of the organization and the buying behavior of the consumers. the following research objectives have been framed for the purpose of the research:

  i.   To find out the relationship between CSR activities of the organization and buying behavior of the consumer's
  ii.   to find out the CSR activities which have more impact on the minds of consumer while making a buying decision
  iii. to make suggestions for organization so that they can make the most out of the CSR activities by attracting customers to buy their products.

The sampling plan is convenience and judgement based. for the purpose of the study 312 respondents' responses were considered for data analysis. For achieving the research objectives an instrument was prepared which had a Cronbach Alpha of .7. a pilot test was also conducted for the validity off the research. For the purpose of data analysis statistical tools and test Karl Pearson's coefficient of correlation and multiple linear regression analysis was carried out. The dependent variable in the research id the buying decision and the Independent variable is CSR activities of the organization.

The data was analyzed with the use of software's like MS Excel, statistical package for Social Sciences and other online calculators. in the future the research can be extended to certain specific sections of consumers, certain specific industries, and specific Geographic locations. The limitations of Survey method apply to this research.

DATA ANALYSIS, DISCUSSIONS AND RESULTS

The following tables and figures depict the data analysis results which were obtained after processing the data in various statistical software.

Table 1.1 Correlations

		CSR	BD
CSR	Pearson Correlation	1	.357**
	Sig. (2-tailed)		.000
	N	360	360
BD	Pearson Correlation	.357**	1
	Sig. (2-tailed)	.000	
	N	360	360

**. Correlation is significant at the 0.01 level (2-tailed).

Regression

Table 1.2 Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	CSR[b]	.	Enter

a. Dependent Variable: BD
b. All requested variables entered.

Table 1.3 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357[a]	.127	.125	.46185

a. Predictors: (Constant), CSR
b. Dependent Variable: BD

Table 1.4 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.136	1	11.136	52.208	.000[b]
	Residual	76.364	358	.213		
	Total	87.500	359			

a. Dependent Variable: BD
b. Predictors: (Constant), CSR

Table 1.5 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.818	.360		2.270	.024
	CSR	.636	.088	.357	7.226	.000

a. Dependent Variable: BD

Table 1.6 Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	3.3636	4.0000	3.4167	.17613	360
Residual	-.36364	.63636	.00000	.46121	360
Std. Predicted Value	-.301	3.312	.000	1.000	360
Std. Residual	-.787	1.378	.000	.999	360

a. Dependent Variable: BD

Figure 1. 1

Figure 1.2

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BD
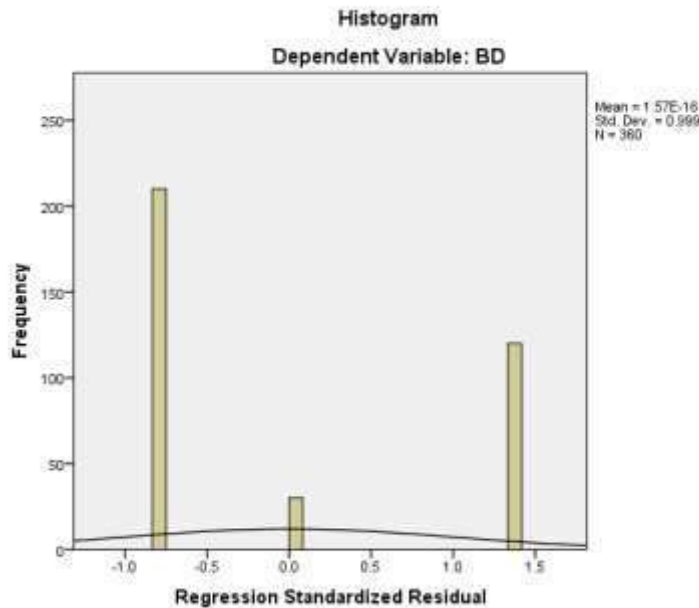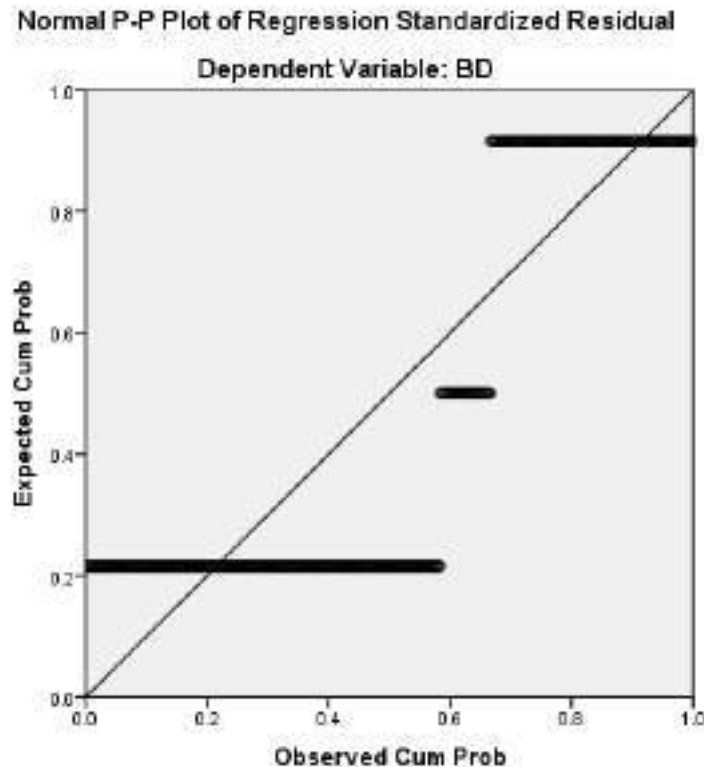
The regression equation for the model is as follows **= 0.8182+0.6364X.**The other statistical inferences can be explained as follows:

1. **Y and X relationship**

   R Square (R^2) equals **0.1273.** It implies that 12.7% of the variability of Y(Buying Decision) is explained by X.(CSR activities).The correlation (R) equals **0.3568**. It depicts a weak direct relationship between both the variables X and Y.

2. **Goodness of fit**

   Overall regression: right-tailed, $F(1,358)$ = **52.2083**, p-value = **3.032e-12**. Since p-value < α (0.05), we reject the H_0.The linear regression model, $Y = b_0 + b_1X$, provides a better fit than the model without the independent variable resulting in, $Y = b_0$.The Slope (a): two-tailed, $T(358)$=**7.2255**, p-value = **3.032e-12**. For one predictor it is the same as the p-value for the overall model. The Y-intercept (b): two-tailed, $T(358)$ = **2.2699**, p-value = **0.02381**. Hence b is significantly different from zero.

3. **Residual normality**

   Linear regression assumes normality for residual errors. Shapiro will p-value equals **0.000**. The data is not normally distributed. But since the sample size is large, it should not adversely affect the regression model. Based on the above it can be concluded that there is a weak positive relationship between both the variables.

CONCLUSIONS

In the study it has been observed that also consumers have become increasingly aware of the CSR activities and the ethical policies followed by organizations that is not the sole criteria when they make a buying decision. The product price, the place and the promotion factors given by Kotler still assume a lot of importance as far as the buying decisions of the consumers are concerned.

But it cannot be denied that the consumers do not take cognizance of the CSR activities of the organizations it came out in order to promote a particular cause or sometimes buy the product but that is not their regular choice always. The companies and organizations who have a strong product and

competitive price and are also involved in CSR activities can take maximum advantage of this mindset of the consumers.

Given a choice between two similar products with the same price the consumers are tilted towards the organization whose CSR activities are more prominent and society driven, but CSR activities is not the only criteria when the consumers make a buying decision of a product. The consumers these days are also bothered about the eco-friendliness of the product packaging and the minimum use of plastic and prefer biodegradable materials. such information Should be provided on the packaging and labelling.

The companies who have competitive products should take the maximum mileage out of their CSR activities by including them in their promotional campaigns. The brand ambassador of the company should regularly speak on such a selected activity of the organization. the social media should be extensively used for promoting the CSR activities of the organization. A proper feedback mechanism should be established when in the consumers can a press the company about the CSR causes which are dear to them and appeal them the most. Advertisement and promotional campaigns should be design in such a manner that they convey the CSR activities of the organization to the common public.

When the company is will start integrating there CSR activities in the promotional campaign along with the strong and competitive product it would be a Win-Win situation for both the producers as well as the consumers who are becoming increasingly aware of sustainability and social responsibilities which are the organizations have towards the society.

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OYBEK'S GENIUS IN THE INTERPRETATION OF ODIL YAKUBOV

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ANNOTATION

This scientific article is devoted to the study of literary aesthetic views of Odil Yakubov, the author wrote about Oybek's historical novels. O. Yakubov provides and analyzes information about the artistic mastery of the novels "Sacred Blood" (Kutlug kan) and "Navoi". In his novel "Sacred Blood", the author describes the difficult periods in the life of the Uzbek people with truthfulness and artistic mastery. Navoi explains through his literary views that the novel is a preparatory work, that the writer has thoroughly studied the image of Navoi and the historical period, perfectly mastered scientific information. Odil Yakubov says that he wrote and studied the novels "The Treasure of Ulugbek" and "Old World" inspired by Oybek's historical works, which are of great importance in the development of Uzbek literature.

KEYWORDS: *innovator, historical truth, poetic skill, realist artist, plastic character, typical character, writer's imagination.*

INTRODUCTION

There were times in the history of our country when our people even read the works of their favourite writers Abdulla Qadiri, Abdurauf Fitrat and Cholpon, and were deprived of the great pleasure that these works will bring. One of the days when there was a thirst for such a good work, the famous Uzbek writer Odil Yakubov received Oybek's novel "Sacred Blood". Today, we, the younger generation who grew up during the years of independence, are not well acquainted with this work of Oybek, and we have no idea about this work. It is no exaggeration to say that Odil Yakubov's first impressions of the novel ""Sacred blood" and his thoughts on this novel made a great impression on me. [1]

MAIN PART

Odil Yakubov recalls his impressions of the novel: "That night," wrote Odil Yakubov in the article "Immortal Image": "I read the Sacred Blood and saw what is good, what is evil, what is justice and injustice, what is honesty and dishonesty. - I understood. In other words, the deep social content of this immortal work had become a priceless noble emotion and had shed light on the heart of a sixteen-year-old boy. I will never forget these light and bright feelings ... This work, which was absorbed into the minds of the people at that time, formed an entire period not only in the development of literature, but also in the spiritual life of the people. [1]

Indeed, as the author points out, the tragic life of ordinary people in the early twentieth century, the relationship between uncle and nephew - poor Yulchi and Mirzakarimboy, the images of Yulchi and Gulnor

in sincere love are so perfectly and impressively drawn that you feel as if you live in that time, in that environment. "Sacred Blood" is a work that accurately depicts the most difficult periods in the life of the Uzbek people.

O. Yakubov's acquaintance with the novel "Navoi" began in a special way. When the future writer was serving in the Far East, he heard the fame of the novel "Navoi", asked his acquaintances and read it by mail. For some reason, the work does not fascinate him as much as "Sacred Blood". But when he returned from the army and was studying at university, he turned to this work again. He even takes this novel as the subject of his dissertation. He begins to study the work carefully. Gradually, he begins to discover for himself the vast realities of life, rich historical material, deep meaning, deep feelings, the secrets of the writer's realistic mastery, which are embraced in this work. "Then I learned", says the author, "that in order to have a deep understanding of this work, to fully accept it, the reader must have some preparation". Perhaps, on the one hand, I have a tendency to the historical past, to the historical theme, to the moments when I discovered this novel for myself.

Here we will quote the opinion of the literary critic Numanjon Rakhimjanov about the novel "Navoi", and we will get the answer to the question of why it is necessary to prepare to read this work. N. Rakhimjanov says: "There are works in literature written for the elite, trying to explain his admiration for the novel's art, that is, works designed for the taste and level of the reader who understands literature with sensitivity. In my opinion, Navoi is such a work. It's a classic novel for the reader". [2]

That is why this novel is chosen by the reader. By reading these works, Odil Yakubov not only seeks the idea in it, but also discovers his own literary and aesthetic views - ways to create a historical work, depicting heroes, ways to create conflict.

Oybek's historical novels were influenced by our national literary traditions, the first experiments of Uzbek realist prose, including the realism in the novels of Abdullah Qadiri. The writer's views on the protagonist of the historical novel, rich in knowledge and experience of the historical work, were as follows: "The people are the creators of history ... you still need someone who relies on human reality, whose dreams and feelings are complex. The people are the creators of history because they are made up of such real people". [3]

Literary critic A. Kattabekov confirms Oybek's views on the criteria for evaluating historical novels: "... the period and events described in the historical novel, the writer's scientific and aesthetic concept of historical figures should be exaggerated".[4] No matter what person or event is described in history, the writer must be able to learn from history, what he has to say about history for today. O.Yakubov added to these thoughts and praised Oybek's critical skills: "The realist artist, based on the realities of life, was able to discover the extraordinary in simplicity, the simplicity in glorious events, the humanity. As a great artist, Oybek was able to demonstrate these two important features of realism in his work. The Wayfarer in Sacred Blood" is a very simple, humble, hard-working young man, but he has gradually become a huge force that drives the historical process. "Navoi in "Navoi" is a great poet, statesman, Oybek, who at the same time reveals aspects of this extraordinary personality that are close to the hearts of ordinary people".[1]

If we look at the works of Odil Yakubov and look at the image of the heroes in his works "The Treasure of Ulugbek" and "Old World", we see that they are heroes based on such truth.

After the novels "Last Days" and "Night and Day" in the Uzbek literature created up to this time, whoever entered the novel genre, he had to rise higher than the peak reached by Abdullah Qadiri and Cholpon. Oybek was well aware of these requirements of fiction and tried to pass these teachers on some issues.

Odil Yakubov writes about it: "The greatest innovation and originality of Oybek in "Sacred Blood" is that the writer was able to bring the social types of life to the level of real artistic types ... the conflict of the work is also based on class struggle. You know, in a number of prose works created in the 1920s and 1930s, we encounter cases where the class struggle is transferred to such a simple work, and the characters are simply illustrated by the writer-rich or oppressed-poor class. In contrast, "Sacred Blood" is characterized by an in-depth artistic analysis of the

essence of the phenomenon, the art of elevating social contradictions to a truly impressive conflict, and social forces to the level of a full-fledged bright plastic character - type. [1] In order to write a historical novel, the writer must diligently study the materials about the historical period and the historical person who lived in that period, have a clear and vivid idea about this period and this person. But that alone is not enough. The writer writes a work of art, not a scientific work. He is an artist. He reveals the truth about the historical period and the historical figure through images.

"In a historical novel" – O. Yakubov said in an interview with literary scholar U. Normatov, - "the relationship between scientific truth and artistic truth is a very delicate and controversial issue. There are works in the history of literature that have been written on the basis of documents that are fully consistent with scientifically based historical facts. Oybek was a great scientist, historian and philosopher, and he probably did not shy away from historical facts because he knew the life and work of Navoi and the historical period in which he lived. At the same time, there are works in which it is important to understand the historical fact through the imagination of the writer, based on real life facts, events, personalities are interpreted differently on the basis of the author's artistic intentions. [1]

In an interview with Umarali Normatov, Odil Yakubov noted that there are different ways to create the image of a historical figure, for example, in Navoi's epic "Saddi Iskandariy", I say this not to discriminate or reject the principle that Oybek took in the novel Navoi, but to emphasize that the ways of creating a historical work are different. Personally, I am in favor of giving full freedom to the writer's imagination in a historical work, of the view that "where the work of a historian ends, the work of a writer begins". Izzat Sultan's drama "Navoi" is similarly criticized. It is said that the relationship between Alisher Navoi and Hussein Boykaro in this drama was distorted. In response to these thoughts, we read the following thoughts of Izzat Sultan: "The writer has the right to interpret the image on his own. The reason is that each work has its own concept. It's a new world". [2]

We cannot say that the expression in a work of art must correspond to the original. Odil Yakubov believes that every writer, including himself, should find his own style of writing a historical work, no matter how much he respects and appreciates Oybek or Abdulla Qodiri, their experience of writing historical works. If we read the works of the author on the theme of the historical past, such as "The Treasure of Ulugbek", "Old World", we see that he did not follow the path of Oybek or Abdullah Qodiri, but the path he chose, approved and tested. In creating historical works, Odil Yakubov does not connect with the facts of the biography of a real

person, uses his imagination, pays more attention to the inner world of the heroes, creates typical characters. However, this does not overshadow Odil Yakubov's lofty ideas about Oybek, his historical novels and the principles of creating a historical work. To substantiate our opinion, the literary critic A.Kattabekov's comments on this novel. The critic says about the novel "Treasure of Ulugbek": "The writer starts his story about the great astrologer from the end of the historical document, creates many textual dramatic scenes, dozens of vivid images. The artist takes the historical fact as a starting point for his running artistic fantasy and fills the history on his own, revealing his aura. [4] This work, which has been translated into several languages, will also attract the attention of the famous writer Chingiz Aitmatov.

From the literary and aesthetic views of Odil Yakubov Oybek's novels "Sacred Blood" and "Navoi" we cite the places that should be noted in the side notebooks of our writers.

1. In-depth analysis of the essence of historical events and their interpretation on the basis of artistic intent;

2. To be aware of the ways of creating a historical work, to give full freedom to the imagination;

3. Thorough study of the literary views of their teachers about the historical work, the existing historical novels, but with their own style;

4. Based on the realities of life, he must artistically depict the extraordinary in simplicity, the simplicity in glorious events.

CONCLUSION

Russian writer F. Dostoevsky has a wonderful saying. Referring to himself and his contemporaries, he said, "We all came from Gogol's "Shinel". Odil Yakubov recalled Dostoevsky's words and said: "By changing these words a little, I am not mistaken in saying that all Uzbek writers who write about history have learned from Oybek's "Navoi". After Oybek, no writer who has touched the historical past, the lives of great people, has bypassed the experience of Navoi. There is a great truth in these words of the famous writer.

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PESTS OF COTTON AND STRAW CONTROL AT COLLECTION

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ABSTRACT

It is established that settling degree of stubble crops reaches by 44, 4 %, and with a corn moth by 37-71 %. Economically significant pests of corn and sorghum are bollworm, the corn moth and Leucania borers, of a peanut - the ordinary red spiders and bollworm. Estimation of biological products and insecticides efficiency against dominating group of pests (bollworm, corn moth, Leucania borers, the ordinary red spiders etc.). The main reservation of pests is the corn. The total biological efficiency of protective actions reaches to 50 % at triple application of insecticides.

KEYWORDS: *Stubble Crops (Corn, Sorghum, Peanut etc.), Corn Protection from Pests, Cotton Bollworm (CB), Stem Corn Moth (CM), Leucania Borers, Insecticides, Entomophages*

INTRODUCTION

The environmental grain) wheat, mainly winter wheat, began to conditions of Uzbekistan (an abundance of be sown on the area equal to cotton. Wheat heat and prosperity of irrigation moisture) cultivation in a crop rotation with a cotton in allow sowing as repeated stubble cultures the conditions of irrigation agriculture has the plants with shorter vegetative period,growing ripe for 70-100 days. With that end in view are widely cultivated corn (Zea mays L.), Sorghum *(Sorgum Mocnch.* Pers.) and peanut *(Arachis hypogaca* L.) for reception of grain, green weight on a silo or a dry tops of vegetable. In republic territory, the grades of siliceous, half-odontoid, odontoid and sweet corn [1,2] are most widely cultivated. From Sorghym kinds in Uzbekistan spread *S. cernuum, S. vulgarc, S. technicum, S.sudancus* and *S. sacha* [2]. As stubble cultures, in farm economies are grown pumpkin, vegetable and bean.

It has the big economic and social value, because in personal and part-time farms of Fergana valley for long used to grow up small and horned cattle. In this connection on the lands, released after wheat in June mostly cultures, suitable for feeding of cattle corn (for grain and green weight), sorghum (for grain and green weight), technical sorghum (on brooms and green weight), peanut (for bean "nutlets" and a tops of vegetable), etc are sown. The special studying of pests of corn, sorghum and of peanut in Uzbekistan was not spent for a long time. The separate data about some pests of these cultures is resulted in [3], in the Reference book, 1963, and a number of other works. The structure of these pests

in general is known, but with change of ecological factors of environment and technologies of crop cultivation, the economic value of kinds is changing. Therefore, in 1990th, the value of gnawing worms decreased, while of bollworms (CB)increased. For the last decade of years, the considerable expansion of areas and strengthening of injuriousness of a stem corn moth (CM) (Ostrinia nubilasis Hb) and Leucania borers [4, 5] in the Republic has been observed. Especially it is necessary to note CM, from which harmful activity the losses of corn grain reach up to 40-45 %, a silo - 35-39 %. The considerable attention to this wrecker is given and in other countries [6].

For the last decade, the number of CB, which was and remains being the basic wrecker of a cotton, corn, tomato, bean, pumpkin and other cultures in Uzbekistanhas sharply increased. We consider that one of the reasons of a new wave of strengthened development of CB on a cotton plant, especially in the conditions of Fergana valley, is the increase in crops of corn on stubble areas. From a total area of crops about one-third (12-13 thousand in hectare in each area) occupies this culture, cultivated for grain and ripening to the middle of October. In view of tallness of corn plants, its treatment against CB in the conditions of the shattered sites in small farm economies is complicated, in this connection, the caterpillars of 3 and 4 generations in weight finish the development on its crops. Half of these lands remain not ploughed, that promotes the safe re-wintering of the wrecker in soil, creating a problem for cotton growing at the next season.The similar situation is

and with the ordinary red spiders (Tetranychus urticae Koch.), as approximately a half of stubble lands is sown with cultures strongly occupied by this wrecker (pumpkin, vegetable, bean, etc.).The stated above testifies to necessity of development of effective measures of protection of stubble cultures from the most harmful kinds of phyto-phages with a view of restriction of their number both in a current season, and on a cotton which is grown up on these lands in a following season. In this connection, the problem of our researches included revealing and studying of dominant kinds of pests of stubble cultures, development of means and methods of crops protection of separately taken bio-tops and warning of accumulation of their wintering stock for number decrease next year.

MATERIALS AND METHODS

Technique of Researches. The researches carried out in farms of Fergana and Andijan areas of Fergana valley of Uzbekistan on corn, sorghum, peanut and other cultures to be cultivated on the technologies accepted in the given region. At a choice of sites and a bookmark of experiences guided by the Regulations accepted at carrying out of registration tests of pesticides [7] issued by State Chemistry Commission of Uzbekistan. The manufacture and an estimation of biological means of pest control of studied cultures spent according to workings out existing in the Republic [8, 9]. The

survival rate of CB estimated on sample of 50 chrysalises, put in different stations on wintering. At CB control, on corn the various schemes of release of its natural enemies - egg-eater of Trichogramma (Trichogramma pintoi Voegele) and a parasite of caterpillars of bracon (Bracon hebetor Say) on the signals received by researchers, and on catch of males on pheromone traps have been tested. Results of Researches For last two decades in Fergana valley of Uzbekistan, the areas occupied by stubble (sowed after wheat) cultures have considerably grown. Pre-estimation shows that Andijan area has an area of 76 th/ha, and Fergana - 69 th/ha.

Cotton Bollworm on Corn of Late Term of SowingIn Uzbekistan, CB as the pest of corn in stubble sowings has been insufficient studied and its control practically is not carried out. One of the reasons is the tallness of the plants, complicating carrying out of chemical and biological treatment in the conditions of small country sites.Its injuriousness is defined not only by size of decrease in a grain yield, but also by strong pollution of production by excrements. Supervisions have shown that in territory of Fergana valley practically everywhere all cultures on which were accounts spent are strongly enough occupied by CB. The most settled and needed carrying out of protective actions by cultures, besides corn, are cotton, tomato and chickpea (Table 1).

Table 1:
Degree of Settling of Various Cultures by Cotton Bollworm in Fergana Valley (the Andijan Region, the End of July)

Occupied by plants in areas, %	Balykchi	Huzhaabad
Cotton	36,2	12,1
Corn	28,4	2,1
Tomato	44,4	25,1
Chick-pea	31,1	27,6
Pumpkin	6,7	10,2

In Andijan area, the population of cotton and corn by the wrecker in a flat zone (Balykchin area) is several times above, than in a foothill zone (Huzhaabad area), that is why tomato, chickpea and pumpkin populated in both zones approximately equally. As the cotton is grown up mainly in a flat zone, at carrying out of the preventive protective warning actions against its settling by CB in a following season, the attention first should be turn on corn as most widely cultivated stubble culture in a flat zone of Fergana valley.

As the corn crops occupy in economies of Fergana valley from 40-60 % from a total area of all stubble cultures, it is the core reservation of highly viable CB population occupying cotton next year.The data obtained by us allowed introducing

corrective amendments in flight terms of CB imago. Earlier considered that CB males take off for some days earlier, than females [10]. Our supervisions have shown that, on the contrary, females appear for 3-5 days earlier, than males. These data explain the presence of fact in separate years on fields of appreciable quantity of pre-imago phases of CB development at low density of population or absence of flight of its males in pheromone traps. Moreover, the obtained data are important and for the forecast of necessity and signalization of terms of trichogramma release on the various crops populated by the wrecker.

Studying of survival rate of CB chrysalis after wintering in different stations was one of the problems of our researches. For this purpose late

October, 2008 from different fodder plants the CB caterpillars of advanced ages collected and finished feeding in laboratory. At conditions approached to natural, 50 normally developed chrysalis of the wrecker left on wintering. On indicators of survival rate of the chrysalis, received from three fodder plants, on the first place there is a corn, the second - cotton, the third - tomato. The similar indicators are received and on a share of ugly imago (Table 2).

Table 2:
Influence of Wintering on Survival Rate of Cotton Bollworms in Different Stations of Habitation

Fodder	Autumn 2008, wintering chrysalis, ps.	Has taken off imago, % in all	Spring of 2009, including the freak	Predicting flight of males, days
Cotton	50	67.5	14.7	3-5
Corn	50	76.2	3.5	4-5
Tomato	50	53.3	16.1	3-4

The phenological supervisions spent in 2008-2009 have revealed essential distinctions in CB development on stubble cultures on years. In favorable 2008, CB developed on corn in 5 generations (the firstweed, the others - on cultural crops), and on wintering went chrysalis of 4-5 generations, in 2009 it has developed only in 4 generations. Because of long rainy and cold weather in March May 2009, the first generation of CB has started to develop only in the beginning of June. On wintering went the part of chrysalis of penultimate (September) and of last (late October) generations. On the basis of these supervisions, it is possible to consider that scientifically well-founded terms of corn treatment against the wrecker are the periods of mass flight of females and laying eggs by them at the period of its maturing, that is mid-August and the second-third decade of September.

In 2009 at CB control on corn, we estimated the efficiency of release of its natural enemies - an egg-eater of Trichogramma (Trichogramma pintoi Voegele) and a parasite of bracon caterpillars (Bracon hebetor Say). In Balykchin area, there were tests on various schemes of release of their laboratory populations on the signals received by researchers, and on catch of males on pheromone traps. The results presented in Table 3 testify that only at consecutive release of Trichogramma (2 times on 1 g/ha) and Bracon in the ratio of 1 to 10 caterpillars the satisfactory (at level of 50 %) efficiency is provided.

The chemical treatment of corn and other tall cultures in republic spent only to an initial stage of their growth and development in control at caterpillars of Leucania borers. As CB caterpillars develop mainly on corn at formation and ears maturing period (and it is reserved under wrappers), the use of insecticides often does not give the positive results. For increase of insecticides application efficiency at protection of culture against this wrecker, we recommended the new scheme of its release and carrying out of treatment. This scheme provides cornrows alternation with rows of undersized intermediate cultures where the tractor ventilatory sprayer with lateral blasting moves ahead to process directly the corn.

As there are no recommendations on CB control means' application on stubble corn in the Republic, the development of insecticides assortment to be effective against imago during the period of their eggs laying, and caterpillars of younger age after birth was also required. For this purpose in laboratory conditions, we had selected the most effective imagocides - piretroids cipermetrin 250 CE and carate 25 CE and larvaecides - antranilamid coragen, 200 CK and carbamat lannat 20 JI, 200 РК. These insecticides have been tested in field conditions on sites where the corn was sowed under the scheme developed by us: 40 cornrows alternation with 8 rows of undersized intermediate culture.

With the help of pheromone trap, the period of mass eggs' laying confirmed by accounts directly on plants has been established. Treatments spent at number of 15-27 CB males caught on the average for night on pheromone trap, and 16-22 eggs and some caterpillars of younger age on 100 plants. For treatments the ventilator sprayer SVH-28 with unilateral side blowing and norm of the expense of a working liquid of 300 l/ha have been used.

The accounts spent after treatment, have shown the high biological efficiency of insecticides selected by us for CB control - 66-100 % decrease in number of caterpillars during 20 days. Stem Corn BorerLast century this wrecker has extended in the Republic on bluegrass (Poaceae) cultures, but had no economic value [3]. Nowadays, the considerable expansion of its areal and sharp increase of harm is observed. So in economies of Fergana area the population of corn by caterpillars of 1 generation in June made up 37-42 %, in September-October (П-Ш generations)-62- 71 %. It leads to decrease in corn crop and its quality.

Leucania Borers on Sorghum and CornThe last decade corn and sorghum began strongly to be damaged by CM and borers of this sort. According to [3], there are 4 kinds of them in Uzbekistan, but an economic value have only Leucania vitellina Hb. and Mythimna (Leucania) album L. The supervisions have shown that corn and sorghum are damaged by I, II and III generations of these borers in all phases of development, beginning from the occurrence of shoots. The caterpillars, getting into the bases of petiolate leaf, damage it and a growth point, later - a stalk and ears like CM.

The difficulty of corn protection from the subsequent borers' generations in phases of flowering and maturing of ears is connected with inaccessibility for insecticides caterpillars after their penetration into stalks and ears.

In this connection, we spent a comparative estimation of one, two and three corn treatments during mass flight of butterflies and eggs laying of each generation of borers. Treatment of corn against the first generation of Leukania borers spent by means of manual sprayer MS, against two others - tractor sprayer SVH-28 with lateral blowing. Established, that one and two treatments by insecticides do not provide protection of corn from Leukania borers during a season. Only at triple treatment of plants (last - at plants entering in fructification phase), it was reached a satisfactory effect of protection of culture from these wreckers. Thus, it is necessary to underline that triple application of insecticides during a season provides protection of culture against all complex of lepidopterous wreckers (Leukania borers, CM, CB), and also from plant louses of an autumn wave of development.

CONCLUSION

In the Fergana valley of Uzbekistan after wheat cleaning on repeatedly sowed (stubble) cultures with shorter vegetative period (corn, sorghum, peanut, sunflower, vegetable, bean, etc.) economically significant wreckers of corn and sorghum are CB, CM and Leucania borers; of peanutthe ordinary red spider and CB.Among stubble cultures, the greatest areas occupy corn to be inhabited by dominant kinds of wreckers in high number that affects quantity and quality of its crop. On corn, a viable invasion source of wreckers (a wintering stock) is forming owing to which it is a reservation of some wreckers of cotton and other cultures in the subsequent season. In this connection, we develop and offer effective receptions and protection frames of corn from the most harmful kinds, providing decrease in their number on cotton and on a number of stubble cultures next year.

The best variant of biological CB control on corn is double release of trichogramma on signals of pheromone trap in the start of eggs laying (on 1 g/ha) with the subsequent single release of bracon in the ratio of 1 to 10 caterpillars. The total efficiency of application of these entomophages can reach 50 %.

At carrying out of tractor treatment of corn with insecticides for pest control against CB and Leucania borers it is necessary to make sowing of corn on special scheme providing alternation of corn (40 rows) with undersized intermediate culture (8 rows). Technical Efficiency of Bio-Method Against Cotton Bollworms on Corn Field Experiment, Andijan Area, 2009

Results of Corn Protection from Leukania Treatment Andijan Region, Treatment - Borers at Various Frequency Rates of Manual and SVH-300 l/ha, 2009.

S. No.	Variants	Norms of preparations' expense, l/ha	Contamination of plants in:							
			July		August		September		October	
			II*	**)%	II	%	II	%	II	%
Single treatment -25.07 (handsprayer-HS)										
1.	Ciperphos, 55 % c.e.	1,0	0	2	14	15	26	51	44	90
2.	Sumi-alpha, 5 % c.e.	0,5	1	4	16	21	27	62	51	81
3.	Control (without treat.)	-	13	8	31	37	58	79	69	92
Double treatment -26.07+10.08 (HS+SVH-28)										
1.	Ciperphos, 55 % c.e.	1+1,2	11	3	3	6	16	21	26	54
2.	Sumi-alpha, 5 % c.e.	0,5+0,5	2	6	3	10	21	27	19	46
3.	Control (without treat.)	-	13	8	31	37	58	79	69	92
Triple treatment -25.07+10.08+15.09 (HS+SVH-28)										
1.	Ciperphos, 55 % c.e.	1+1,2+1,5	0	5	7	10	4	20	8	11
2.	Sumi-alpha, 5 % c.e.	0,5+0,5+0,5	2	4	3	7	5	24	11	19
3.	Control (without treat.)	-	13	8	31	37	58	79	69	92

NOTE: *p - Quantity of Caterpillars on 10 Cont. Plants, ex.; **) %-The General Contamination of Plants

The chemical treatment of corn against cotton bollworm should be spent at mass flight of butterflies and eggs laying period with possible occurrence of insignificant quantity of born caterpillars by cipermetrin (0.3 l/ha), carate (0.5 l/ha), coragen (0.2 l/ha), avunt.

An effective protection of corn against a complex of wreckers (Leucania borers, CM, CB and a plant louse of an autumn wave of development) provides 3-fold application of insecticides for a season. The first treatment is to be spent against I-II generations: Leucania borers, the second - against III generation of a Leucania borers and CM in July: the third - against the fourth generation of CB - in second half of August September.

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FORMATION AND DEVELOPMENT OF THE THEORY OF SPEECH PARTS OF UNCHANGEABLE WORDS IN LANGUAGES OF DIFFERENT GRAMMATICAL STRUCTURE

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ANNOTATION

The question of parts of speech has always been relevant in linguistics of all periods and all languages. And we can say that the question of the formation and development of the theory of unchanging grammatical parts of words in languages with different grammatical structures has always been in the focus of linguists.

From this point of view, this article examines the general theoretical issues of the adverb, studies the linguistic features of other significant parts of speech in the grammatical structure of the Tajik language, compares the adverb with other significant parts of speech and determines its place and grammatical status in the general system of parts of speech.

KEY WORDS: *linguistics, part of speech, grammar, structure, system.*

СТАНОВЛЕНИЕ И РАЗВИТИЕ ТЕОРИИ ЧАСТЕЙ РЕЧИ НЕИЗМЕНЯЕМЫХ СЛОВ В ЯЗЫКАХ РАЗНОГО ГРАММАТИЧЕСКОГО СТРОЯ

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Аннотация
Вопрос частей речи всегда был актуальным в лингвистике всех периодов и всех языков. И можно сказать, что, вопрос формирования и развития теории неизменяющихся грамматических частей слов в языках с разными грамматическими структурами всегда находился в центре внимания лингвистов.

С этой точки зрения в данной статье рассматриваются общетеоретические вопросы наречия, изучаются лингвистические особенности других знаменательных частей речи в грамматическом строе таджикского языка, сопоставляется наречие с другими знаменательными частями речи и определяется место и грамматический его статус в общей системе частей речи.

Ключевые слова: *лингвистика, части речи, грамматика, структура, система.*

Введение
Учение о системном и структурном характере частей речи внесло много принципиально нового в лингвистику конца XX и начало XXI столетия. Вместе с тем в отдельных влиятельных направлениях науки и языке нашей эпохи и система, и структура частей речи стали толковаться односторонне, прямолинейно. Ученые начали анализировать не реальные их системы и структуры, бытующие в реальных живых языках, а системы и структуры, характерные для искусственных кодовых построений. Подобные построения вполне возможны для удовлетворения тех или иных технических целей, но сами они не раскрывают специфику национального языка. Вместе с тем, речь идет не о том, чтобы заменить жесткие структуры различных уровней частей речи структурами менее жесткими, более гибкими, а о понимании их сложной частеречной природы, о соотношении структурных и антиструктурных тенденций в синхронном состоянии развития любого национального языка. При изучении разных национальных языков лингвисты обязаны считаться с взаимодействием системных и антисистемных, структурных тенденций во всех языковых сферах и уровнях. Борьба подобных противоборствующих тенденций определяется самой природой естественных языков и служат-источником их же дальнейшего развития, выдвигая на передний план задачи исследования общелингвистических их специфик. [1,18]. Изложенное означает, что следует особо важное внимание уделить и общелингвистическим особенностям частей речи каждого конкретного языка и их соответствиям в других родственных, близкородственных или дальнеродственных языках, поскольку при сопоставлении условий их реализаций, а также интерпретации исследуемой объект легче познать, опыт исследования хранить, обрабатывать и предавать.

Основная часть
Становление и развитие теории частей речи неизменяемых слов в языках разного грамматического строя в таджикском, узбекском, русском и кыргызском языкознании проходило в основном под знаком описательного, таксономического подхода к исследованию их языковой природы. Главным, а порой и единственным объектом этой исследовательской ориентации признавался анализ лишь, системы словообразовательных средств, способов и моделей, релевантных на синхронном уровне изучения сопоставляемых языков. В результате такого подхода получены ценные данные относительно принципов структурно-семантической классификации частей речи, основных единиц словообразования и закономерностей словопроизводства, осуществлено моделирование, частеречных словообразовательных систем. [2,117]. Накоплен значительный фактический материал, достигнут такой уровень описания, который ныне предоставляет возможность перехода к качественно новому этапу анализа–синтезу синхронно-типологического изучения грамматических явлений разноструктурных языков**,** изучению закономерностей и специфических своеобразий использования системы словообразовательных средств и моделей, способствующих формированию структуры конкретных единиц – своеобразные разряды в общей системе частей речи, максимально ориентирующих на модели речемыслительных процессов языкового

общения, носящих динамический характер в противовес статическому их пониманию как застывших элементов или словесных знаков.

С античных времен лингвисты интуитивно, на основе самых разнообразных критериев устанавливали определенные классы слов. В истории науки о языке, начиная с древнеиндийских языковедов, постоянно наблюдается стремление охарактеризовать данные классы слов. Яска и Панини (V – III в. до н. э.) устанавливали в древнеиндийских языках четыре части речи: имя, глагол, предлог и частицу. Они объединялись попарно по признаку сохранения значения вне предложения (имя, глагол) или же его утраты предлог, частица). Имя и глагол в предложении, т.е. как словоформы речевой цепи, назывались " падеж" и "действие". Как подгруппу имен Яска выделял местоимения. Смысловой критерий был ведущим при классификации по частям речи в древнеиндийском языкознании. Аристотель (IV в. до н. э.) выделял три части речи в древнегреческом языке: имя, глагол и союзы, к которым он относил артикли, местоимения, связки. Позже александрийские грамматики установили восемь частей речи: имя, глагол, причастие, артикль, местоимение, наречие, предлог и союз. При выделении частей речи они учитывали их синтаксическую роль, морфологические свойства, в частности, словоизменение, а также семантику. Вместе с тем, в отличие от древнеиндийских ученых, они не дошли до анализа морфологической структуры слова, им остались неизвестны понятия корня и аффиксов. Римские языковеды, убрав из числа частей речи артикль (его не было в латинском языке), прибавили междометие. [4,92].

В средние века стали особо выделять прилагательное. Классификация частей речи в античном языкознании составлялась в тесной связи с логикой: части речи отождествлялись с членами предложения и сближались с членами суждения, т.е. с категориями логики. Но все же эта классификация была частично грамматической, так как некоторые части речи устанавливались по наличию определенных грамматических форм и значений (например, глаголы – это слова, изменяющиеся по числам, временам, лицам и обозначающие действие). Грамматика античного мира, средневековья и даже эпохи Возрождения имело в основном дело с греческим и латинским языками; при разработке грамматик новых западноевропейских языков ученые исходили из норм латинского языка. Взгляд на части речи как логико-грамматические категории господствовал вплоть до конца XVIII середины XIX веков. В XIX-XX веках традиционная система частей речи перестает

удовлетворять ученых. Появляются указания на непоследовательность и противоречия в существующей классификации, на отсутствие единого критерия. В XIX веке в связи с интенсивным развитием языкознания, в частности морфологии, встает вопрос о принципах выделения частей речи и об их универсальности. Выделение частей речи начинает основываться на морфологическом критерии, т.е. на общности грамматических форм, присущих тем или иным разрядам слов. Примером выделения частей речи с формально-грамматической точки зрения может служить классификация Ф.Ф. Фортунатова [5, 86]. Части речи, называемые им " формальными классами", Ф.Ф. Фортунатов выделял по наличию у соответствующих слов форм словоизменения: слова склоняемые, слова спрягаемые, слова несклоняемые и неспрягаемые. Наряду с морфологическим продолжал развиваться и логико-синтаксический подход к характеристике частей речи. Основываясь на узко-морфологических или синтаксических особенностях слов, всегда так или иначе связанных с их собственно-лексическим значением, части речи начали обозначать как лексико-грамматические разряды слов.

Выводы

Теоретические вопросы синхронно-типологического изучения языковых явлений не вызывает сомнений ни у кого из лингвистов, хотя трактовка их неодинакова у различных ученых. Части речи можно определить как классы слов языка, выделяемые на основании общности их синтаксических, морфологических и семантических свойств. Различаются знаменательные части речи (существительное, глагол, прилагательное, наречие) и служебные (союз, предлог, частицы, артикли). К знаменательным частям речи относят также числительное и местоимение. Состав частей речи в различных языках различен. Вопрос об основах классификации частей речи остается дискуссионным в современном языкознании. В лингвистике, и в англистике в частности, сложились несколько основных подходов к классификации слов по частям речи – традиционный (наиболее древний), дескриптивный, функциональный и ономасеологический. Несмотря на то, что все эти подходы имеют дело с одним и тем же языковым феноменом, каждый из них обладает своей спецификой.

Если традиционный подход стремится провести границу между частями речи посредством выявления их семантических, морфологических и синтаксических

особенностей, то дескриптивный – по крайней мере в первоначальном его виде – единственно релевантным идентифицирующим признаком класса считает позицию и категорически выступает против учета роли значения при лингвистическом анализе.

Функциональный подход ставит во главу угла изучение синтагматических реляционных свойств слов в речи, при этом в качестве формального метода. Позволяющего установит характер отношений между отдельными словами и целыми классами, он использует метод дистрибутивного анализа на морфологическом уровне, который предполагает выделение по принципу бинарности и контраста, противостоящих группировок единиц, не взаимозаменяемых ни в формальном, ни в содержательном плане.

В центре внимания ономасиологического подхода стоит вопрос о том, как производится выбор и создание названий различных фрагментов объективной действительности в том или ином языке, в чем состоят особенности номинативной специфики разных групп слов и как эти особенности определяют возможности развертывания на базе конкретных номинативных признаков соответствующих грамматических и деривационных категорий**.**

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THEORY AND PRACTICE PROFESSIONAL DEFORMATION OF MILITARY PERSONNEL

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ABSTRACT
This article discusses the concept of professional deformation of military personnel and its theoretical and practical aspects. The peculiarities of the occurrence of occupational deformity have been scientifically substantiated.
KEY WORDS: *Military service, competence, professional deformation, mental disorder, deviant behavior, individual character, mental relief.*

INTRODUCTION

It is clear that every professional will experience professional deformation after a certain period of time. Occupational deformation is a broad concept and depends in many ways on the content of the profession. Elements of professional misconduct are manifested primarily in the behavior of military personnel, in the negative nature of service. Occupational impairment (deformation) is a reflection of professional competence. For military personnel, professional misconduct is a negative process that should and should not happen. The basis of an occupational disorder is a mental disorder, whereas a mental disorder is directly related to deviant (deviant) behavior. When we think of a professional disorder, we definitely define that concept. Thus, professional misconduct is a negative impact on the psyche and activities of a serviceman as a result of his long service in a profession. Several scholars have attempted to study the psychological, pedagogical, and legal aspects of this problem [1, p.23]. The pedagogical aspects of professional deformation have been partially overlooked by scholars in the field of legal pedagogy. Without studying the theory of professional deformation, we cannot fully study its practical aspects there is not enough basis to reveal its essence.

METHODS

A military serviceman is a stress-rich profession just like a police officer. Military personnel (more often referred to as National Guard personnel) also have a negative outlook on society, are reluctant to work, prone to theft, quarrels, and, if necessary, professional misconduct as a result of working directly with not only offenders but also murderers. Citizens may not invite law enforcement officers, National Guard servicemen to a wedding.

However, they will definitely be contacted for lifestyle issues related to the service.

RESULTS AND DISCUSSIONS

The first sign of professional deformation is, first of all, in the attitude of servicemen to the profession, duty, "late service, late performance, high self-esteem, abuse of office, disrespect for citizens", on the other hand, the fate of citizens who apply indifference, failure to consider the application in a timely manner, incompetence, etc. All of these signs listed above are actions that discredit all military personnel. Professional deformation as a problem began to be studied by scientists from the middle of the XX century [2, p.272]. The geography of military personnel deformation is wide, and such deformation not only affects their service activities, but also their family members. Negativeness in the family also has an impact on the positive development of the family as a part of society, as a social institution. It is no secret that the professional deformation of the head of the family is not limited to the mental changes in him, but also affects the psyche of his colleagues. Children, the role of the mother in the prevention of socio-psychological factors in the family of servicemen is great. Because the joy of the child is the joy of the parents, they both turn their fatigue, changes in mood to the positive. We found out during our direct interviews with the military that more professional deformation can also be caused by the wrong choice of profession. The manifestation of occupational deformation is also related to the nature of the profession. For example, it is natural for a teacher to teach more people and always talk a lot, trying to explain something. In tractor drivers, on the other hand, the tractor can fall asleep inside even if it is on fire, and can continue to sleep for hours. He wakes up when the tractor turns off. Soldiers who serve with weapons will no longer be afraid of the sound of bullets. Doctors try to find some disease in the patient. When you walk into a shoe repair shop, they look at your shoes. Disbelief and suspicion are predominant in law enforcement officers [3]. The theoretical and psychological aspects of occupational deformation have been studied in more detail by the following scholars (on the example of law enforcement officers). For example, A.R.Ratinov, G.G.Shixantsov, N.L.Granat, A.I.Papkin, K.R.Takasaeva, A.V.Budanova tried to create a psychological portrait of the employee through professional deformation. B.S. Medvedov focused on the professional deformation of the criminal investigation officer. Professional deformation begins to occur over the years in service. During the 11 to 15 years of service, all elements of professional deformation will be formed and developed. The deformation will culminate during the service life of 20 years or more. The culmination is what actions we can see in employees. For instance, they wear the clothes of their service days, that is, their shoes or shirts, their boots, their field clothes (we get the answer that they are accustomed to the question, "Why are you wearing clothes?". That they are comfortable and do not want to leave). In addition, slang words are used by military personnel both on the street and in the family. It will be difficult for them to get rid of these words. In addition, many servicemen try to find work in their profession after retirement. Jobs aren't always found, and as a result, security guards get hired.

It is natural that the occurrence of occupational deformation is primarily caused by occupational stress. A military serviceman may accumulate negative qualities, including fatigue. The most horrible aspect of professional deformation is that it changes the individual character in the professional. This negative trait becomes episodic, persistently superficial in the military. Preventive measures will need to be taken to prevent the impact of deformities on occupational activities in military personnel and personnel, especially the provision of opportunities for rest. That is, psychological relief is a must for every serviceman. The answer to the question of who organizes psychological relief is psychological centers. But military personnel do not have time to enter these places.

CONCLUSION

In conclusion, it should be noted that professional deformity was found to be overt and covert during our observation. In the first case, the military is indifferent to the fate of civilians, while in the other, it is manifested in the abuse of office. Abuse must be understood in a broad sense. At this point, analyzing the specific literature, we came to the following conclusion. That is professional deformation is a process aimed at changing the military character of the profession, an increase in professional experience is the basis for the occurrence of professional deformation.

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ASSESSMENT OF SANITATION METHODS UTILIZATION AMONG SOUTH TAYBA CITIZENS, IN *EL-OBEID*, *NORTH KORDOFAN STATE*, *SUDAN*, (JAN TO DEC 2017)

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ABSTRACT

Sanitation is the management and dumping of solid wastes and liquid waste in and around populations and families. The most hazardous waste product is human faeces, therefore it should focus on sanitation programs. The safe disposal of human faeces is essential for the health of families and the community as a whole. But promotion health is not the only benefit of sanitation [1]. *A cross-sectional study was carried out to aim assessment of sanitation methods utilization among South Tayba Citizens, in El-Obeid, North Kordofan State, Sudan. Building on community. A total of (260) households were selected, were participated (100%) response rate, among the total participants 52 (20%) were male whereas 208 (80%) were females, filled a self-administered questionnaire that was selected through a clustered sampling technique, and a systematic random sampling technique used to select sample size determined from each cluster (block). Data were analyzed using the Statistical Package of Social Sciences (SPSS) version (22.0) software. Chi-square (X²-test) was used to verify the possible association between different variables (dependent and independent). The findings showed that the majority of households (95.8%) have latrines, (10%) of citizens defecate in the open, (69.9%) of them have primitive pit latrines, (24.1%) ventilated improved pit, and (6%) of the septic tank. (96.2%) uses the sanitation methods. only (8.5%) of citizens have excellent knowledge of the hazards of sanitation methods and only (13.1%) of citizens have excellent knowledge of the importance of sanitation methods. (48.5%) of citizens wash their hands after defecation, (36.5%) of households have soap for handwashing.*

KEYWORDS: *Assessment, Sanitation, Methods, Households, Utilization, El-Obeid,Eljallabiya*

1. INTRODUCTION

In a WASH program, the word "sanitation" commonly refers to human excreta disposal. It should also take into account environmental sanitation issues such as disposal of solid waste, disposal of animal excreta, liquid waste control and vector control [2]. Sanitation decreases or inhibits human waste pollution of the surroundings, thereby decreasing or eliminating transmission of infections from sources such as animal excreta may remain important. Sometime simple latrines can be very effective, while untreated sewage distributes agents in the environment and can be the source of disease [20].

There are different types of latrines with varying degrees of suitability for diverse conditions. Technical designs are available from several resources. When constructing a hygienic latrine, an important criterion is to opt for dry or water-sealed.

The major standard regarding the choice of technology is the availability of water for flushing. For flush latrines to function, water must be available (at least 2.5 litres per flush) all year round. For new latrines to be sustainable the users must feel ownership of them. The degree of ownership felt by the users is generally dependent on the level of their input to the design and construction process [2].

The water supply and sanitation position in rural Africa has been very horrendous for a long period of time. According to UNICEF's 2010 Joint Monitoring Program (JMP), access to developed water supply and sanitation services was (52%) and (31%) respectively, although there are large regional disparities [3]. Commonly, poor areas in developing countries are not connected to functioning central sewerage systems. In those conditions alternatives for 'traditional' flush toilets have to be found. Before taking the decision to construct completely new facilities, an evaluation of the circumstances of possible existing facilities should show the need for new construction. Such assessment should contain of a physical examination, study on options for rehabilitation as well as an economic analysis showing that revamping is more cost-effective on the longer term than newly constructed facilities [1].

In the Sudanese societies, close to (40%) do not have latrines in their houses and almost half use primitive latrines, of them (85%) use outdoor as an alternative to latrines [4]. The Sudan household health survey 2006 (SHHS) discovered that under five children with diarrhea in North Kordofan State was (24.8%), about (28.3%) of household population uses of improved sanitary means of excreta disposal [5]. Globally, improving water, sanitation and hygiene has the potential to avoid at least (9.1%) of the disease burden or (6.3%) of all deaths [6]. Contamination of water cause to poor sanitation is largely responsible for transmission, [7],[8]. Reduced standards of general housing sanitation and personal hygiene are among the most common effects of disaster upon environmental health conditions and services. Sanitation diminutions with the disruption of solid waste disposal systems, the contamination of food and water supplies and the propagation of vectors raise the risk of disease [6].

2. METHODOLOGY

Community based descriptive cross-sectional study was done to an assessment of sanitation methods utilization among South Tayba Citizens, in El-Obeid, North Kordofan State, Sudan. Data collectors received a one-day intensive training in study design and purpose, questionnaire administration and collection. From the general population, the sample size was selected and taken proportionally from the study group.

2.1 Sample techniques

The sampling technique was employed is a cluster sampling technique; in this method, the households are divided into clusters or groups, and some of these are then chosen by systematic random sampling. The study area was divided into clusters (blocks), and a systematic random sampling technique used to select sample size determined from each cluster (block). All units considering in the same cluster as a homogenous group, hence, determined the total of sample size (n = 265). A sample was taken proportionally from each block, as follow:

Blocks	No. of households	Calculation ($n_h = n_{prop} \frac{N_h}{N}$)	Sample size required from block
Block (1)	290	290 ÷ 1793 × 265	42
Block (2)	780	780 ÷ 1793 × 265	116
Block (3)	227	227 ÷ 1793 × 265	34
Block (4)	496	496 ÷ 1793 × 265	73
Total	1793		265

Where:

n_h = sub-sample from block (h)

N_h = Size of block

N = Size of population

2.2 Data collection

The researcher prepared an Arabic questionnaire version (pre-coded and close-ended) and translated it to the English and checked for consistency. The questionnaire was used to collect data on basic information and utilization of sanitation

methods among South Tayba citizens. Our final questionnaire included questions relating to sanitation methods, in addition to socio-demographic characteristics of the respondents, including age, sex, number of infants, number children, occupation, monthly income and, and educational level. The questionnaire comprised questions about presences of the latrine at home, types of latrines, utilization of latrines, latrines share, hazards of latrines, the importance of latrines, hand washing practice after defecation, availability of soap for handwashing and waste disposal.

2.3 Data processing and analysis

Taking samples and filling the questionnaire and cleaning all data and data was analyzed using Statistical Package for Social Sciences (SPSS), version (22.0). Chi-square (X^2-test) was used to verify a possible association between different variables. Values were considered to be statistically significant when the p-value obtained was less than (0.05).

3. RESULT

A total of (260) households were selected, were participated (100%) response rate, among the total participants 52 (20%) were male whereas 208 (80%) were females. The obtained result below:
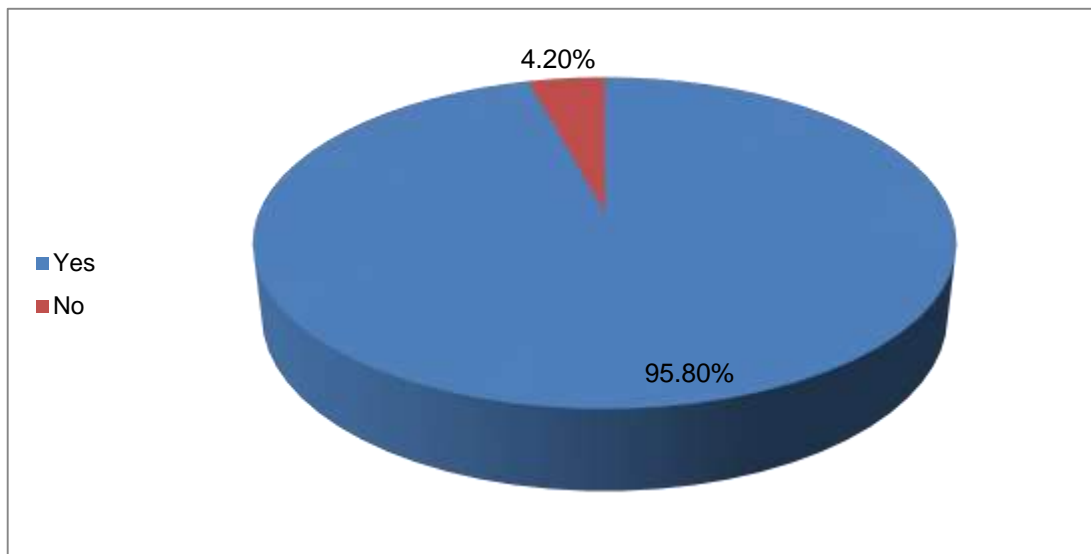
Figure (I): The presence of sanitation methods at households, South Tayba, El-Obeid City, 2017 (n=260).
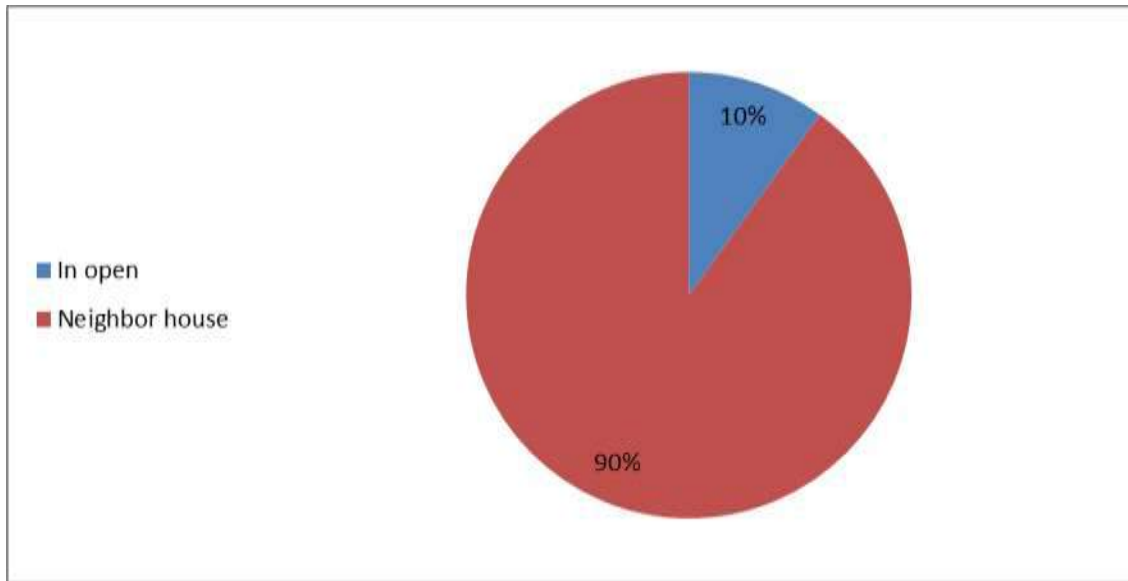
Figure (II): The place uses to defecation by citizens when they have not latrines at their home, South Tayba, El-Obeid City, 2017 (n= 260).

Table (1): Types of sanitation methods at household, South Tayba, El-Obeid City, 2019 (n= 249).

Types of latrines	Frequency	Percent
Pit latrine	174	69.9%
VIP latrine*	60	24.1%
Septic tank	15	6%
Total	249	100%

*(VIP) ventilated improved pit
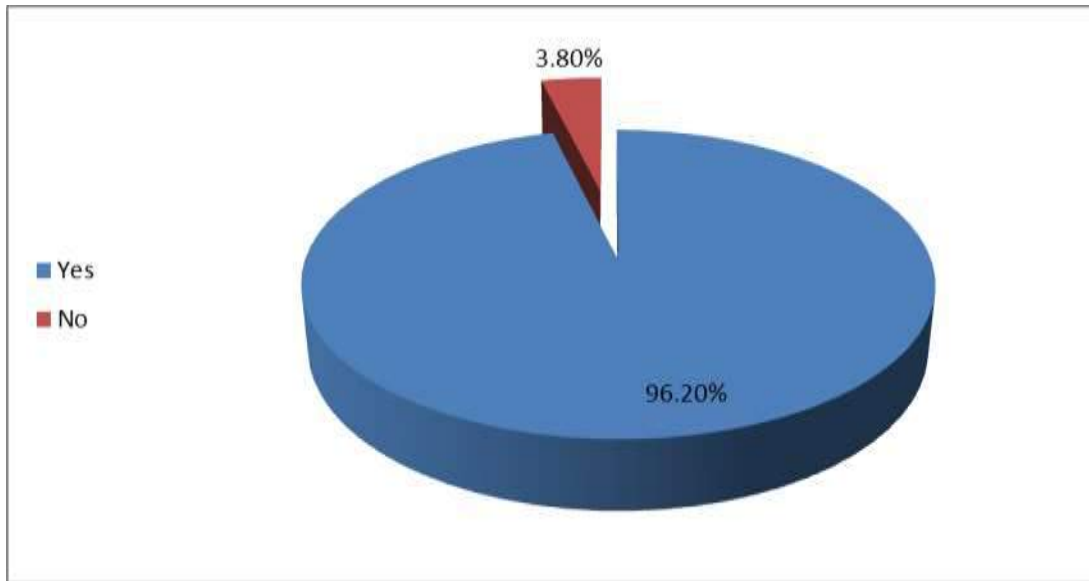
Figure (III): Utilization of sanitation methods, South Tayba, El-Obeid City, 2017 (n= 260).
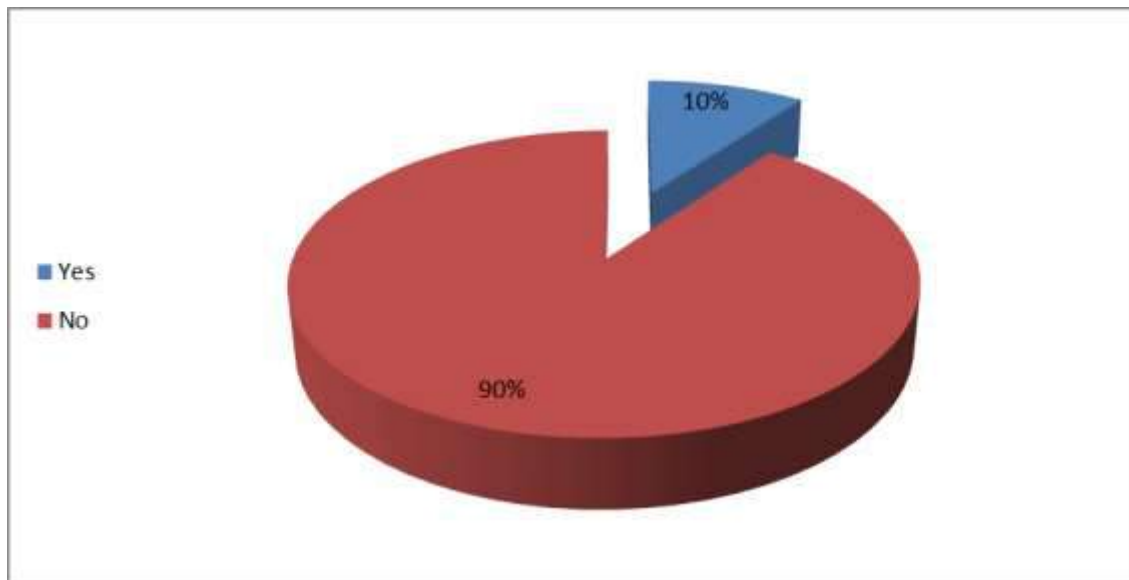
Figure (IV): Sharing in the use of sanitation methods, South Tayba, El-Obeid City, 2017 (n= 260).
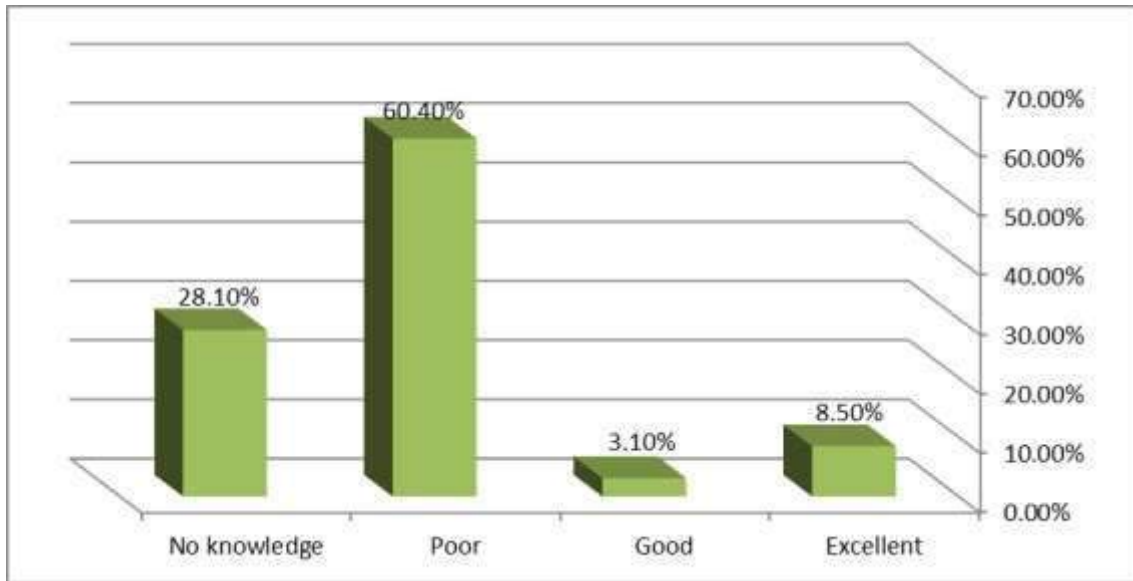
Figure (V): Citizens's knowledge for hazards of sanitation methods, South Tayba, El-Obeid City, 2017 (n= 260).
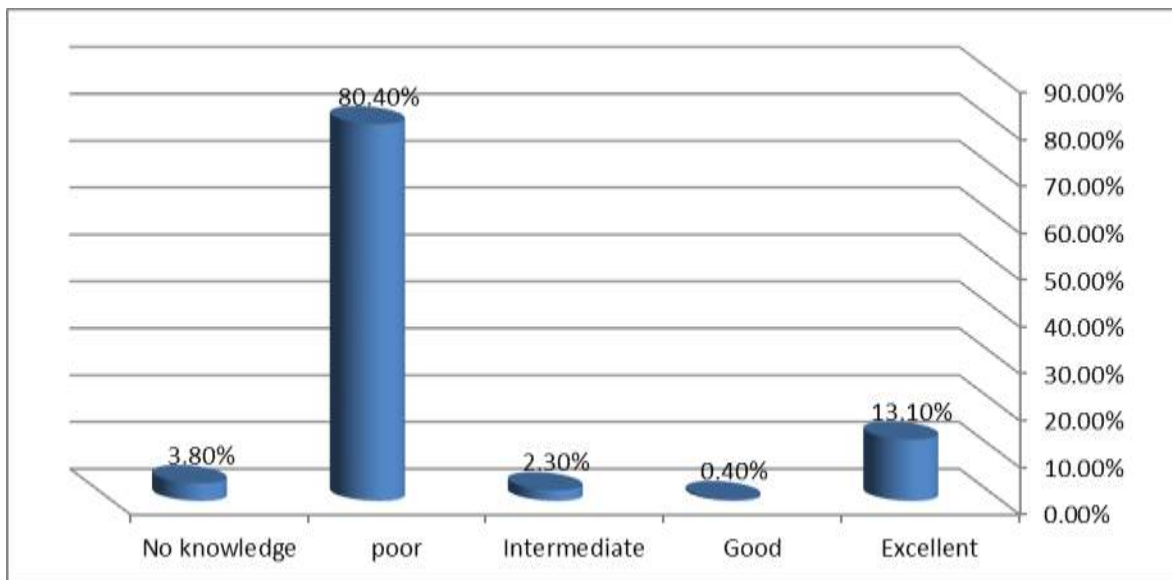
Figure (VI): Citizens's knowledge for the importance of sanitation methods, Eljallabiya and South Tayba, El-Obeid City, 2017 (n= 260).
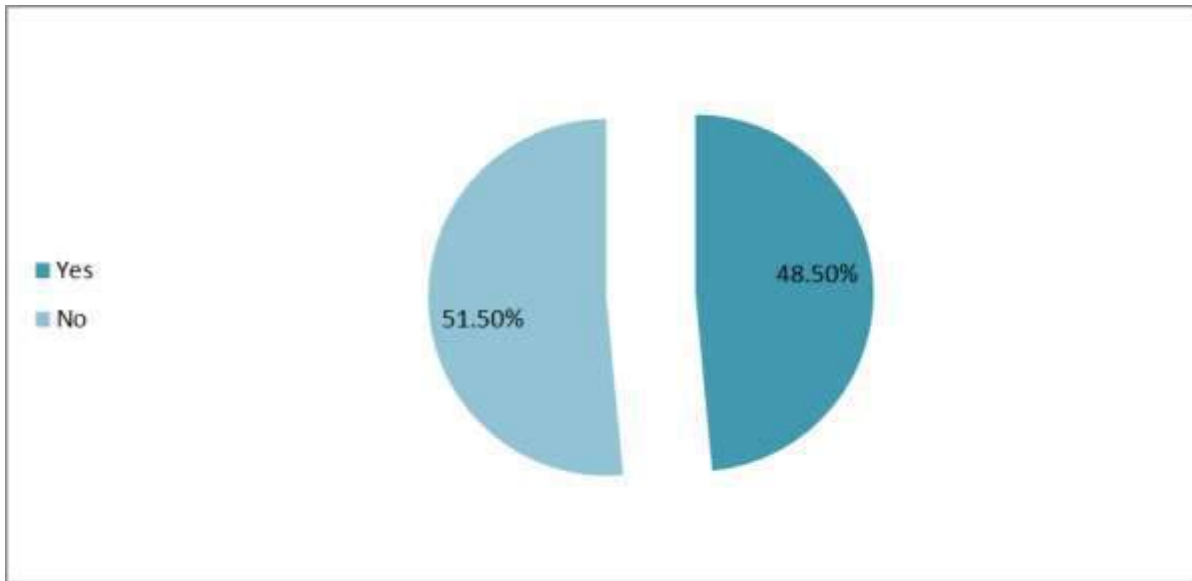
Figure (VII): The handwashing practice after defecation, South Tayba, El-Obeid City, 2017 (n= 260).
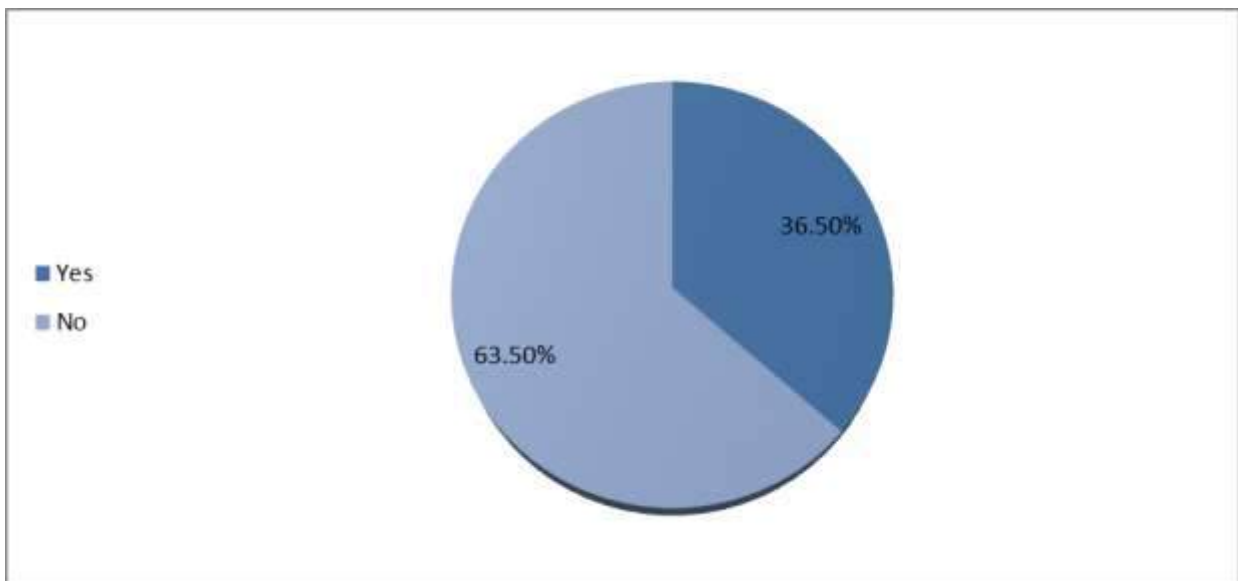
Figure (VIII): The availability of soap for handwashing at households, South Tayba, El-Obeid City, 2017 (260).
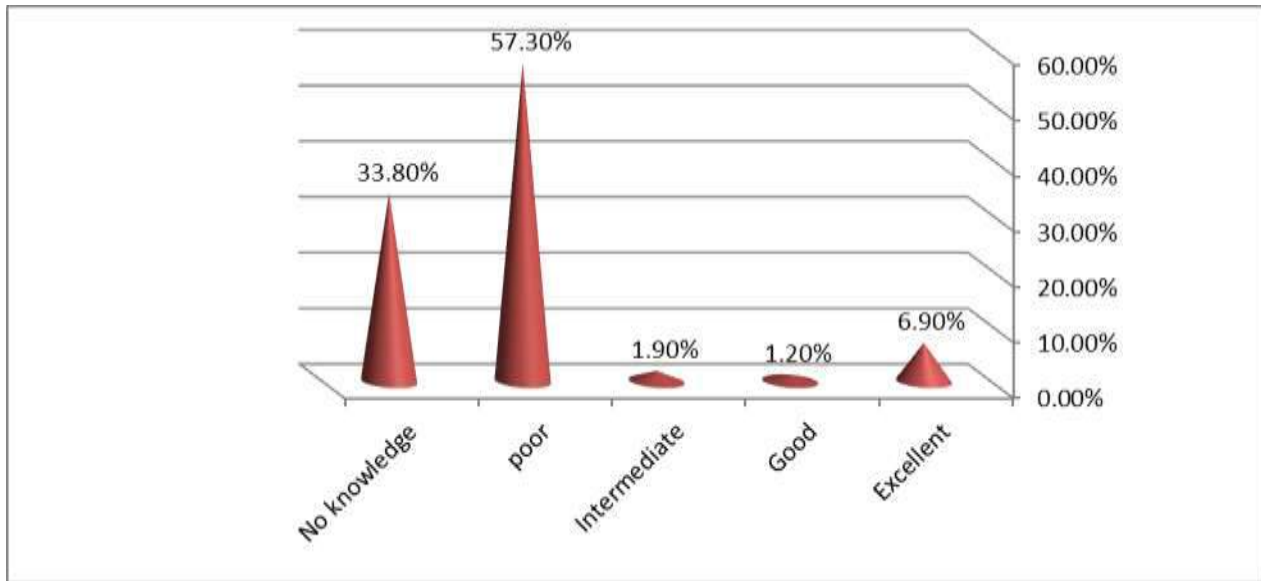
Figure (IX): Citizens's knowledge of sanitation-related diseases, South Tayba, El-Obeid City, 2017

Table (2): The relationship between gender and utilization of latrines, South Tayba, El-Obeid City, 2017(n= 260).

Utilization of latrines		Gender		Total
		male	Female	
Yes	Observed value	45	205	250
	Expected value	43.9	206.1	250.0
No	Observed value	0	6	6
	Expected value	1.1	4.9	6.0
Total	Observed value	45	211	256
	Expected value	45.0	211.0	256.0
X2= 1.31 df= 1 p-value = 0.252				

4. DISCUSSION

According to the present study showed that about (95.8%) of citizens have latrines at home, this result considered a high when compared with a similar study conducted in Sudan (2011), showed that close to (60%) have toilets in their houses and almost half use primitive latrines [4]. Similarly, in a study conducted in Kirkuk-Iraq (2015), showed that (83%) of households reported had individual latrines [9]. Also in a study conducted in South India (2016), only (11.3%) had sanitary latrine in the household. [10]. besides study conducted in India (2017), showed that (73.6%) of households have own toilet facility [11]. As for other study conducted in southern India (2007), showed that (30.9%) had toilets [12]. In a study conducted in Sokoto State, Nigeria (2018) showed that (57.8%) of the households have toilet facilities [13]. Also in a study conducted in Anse La

Raye Village, Saint Lucia, Indies (2015), showed that (29%) had no household toilets [15].

According to types of sanitation methods, the present study showed that (69.9%) of households have primitive pit latrines, (24.1%) ventilated improved pit, and (6%) septic tank, when comparing with similar study conducted in Sokoto State, Nigeria (2019), showed that out of which (67%) had used pit latrine with slab followed by use of bucket latrine by (29%) while five households (2.2%) have water closet[13]. in a study conducted in Anse La Raye Village, Saint Lucia, Indies (2015), showed that (65.4%) own a flush toilet with a septic tank, (1.9%) own an improved latrine and (0.6%) pit latrine[15].

Among those having latrines, the utilization of latrines was (96.2%), World Health Organization, (1997) mentioned that "all men, women, and children should use latrines at home, at work, and at school".

The present result considered very high when compared with a similar study conducted in South India (2016), among those having latrines, (76.5%) of the respondents were using it routinely, as increasing to (93.2%), after the intervention[10]. Also, the present study considered very high with a similar study conducted in Zalingie (2005) among populations showed that (49%) use latrines [16]. Similarly, a study conducted in India (2017), showed that (83.3%) of individuals had used toilets [11]. As for other study conducted in southern India (2007), only (67.9%) of households used toilets actually[12]. in a study conducted in Parla village, Kurnool district, Andhra Pradesh (2019), only (48.4%) were fully utilizing toilets. remaining (51.6%) households were going to open field defecation even though sanitary lavatory was present [14].

In our study finding there no correlation relationship between gender and utilization of latrines $\{X^2= 1.31,$ P-value = 0.252$\}$, in a study conducted in Zalingie among populations (2005), Latrine use by gender is relatively in balance with the male population at (50.51%) and female at (49.50%)[16].

The present study illustrated that (10%) of citizens had shared latrines with other households, this result is considered as low when compared with study conducted in Anse La Raye Village, Saint Lucia, Indies (2015), showed that only (26.9%) of them indicated that they share toilets with other households[15].

In the current study, (10%) of citizens defecate in the open, in a study conducted in southern India (2007), showed that (74.2%) of respondents defecate in fields, and there was no stigma associated with this traditional practice[12]. Also in a study conducted in Sokoto State, Nigeria (2019), showed that (42%) of households without toilet facility, of which (94.6%) defecate in nearby bush, (2%) use neighborhood toilet while (4.8%) defecate in the polythene bag to be disposed off into open field[13]. in a study conducted in Parla village, Kurnool district, Andhra Pradesh by (2019), showed that (75%) of study households were practicing open field defecation practices[14].

Regard to the handwashing practice after defecation was (48.5%). Hand washing with soap and water is ideal, but hand washing with a non-soap cleaning agent such as ash or sand is an improvement over not using any cleansing agent [17]. Handwashing disturbs the transmission of disease pathogenic and so can significantly reduce diarrhea and respiratory infections [18], in a study conducted (2011), showed that more than (80%) of population stated to wash their hands before and after eating, after going to the toilets, and before food preparations[4]. Also in the KAP study conducted in Zalingie (2005), (88%) of the total population washes their hands [16].

In our study, according to the presence of soap at hand washing site in citizen's households was (36.5%), similarly, a study conducted by Federal Ministry of Health, Sudan, (2011), only (55%) reported the use of soap during hand washing [4]. In a study conducted in India (2017), showed (32.6%) used soap with water for hand wash [11]. Recommended that hand washing with soap, particularly after defecation and after handling a child's stool, can reduce diarrheal incidence by 42-47 % while continuing work [11]. During 2005's study conducted in Zalingie showed that (66%) of the responses use soap when washing hands [16].

5. CONCLUSIONS
There was a poor knowledge regarding the importance of sanitation methods and their hazards and sanitation-related diseases. The majority of households have latrines. Less than half of citizens wash their hands after defecation, tertian of households have soap for hand washing.

6. RECOMMENDATIONS
There need for health education programs should conduct among the population for increasing their awareness thus improving sanitation methods utilization.

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THE CONCEPT OF GLOBALIZATION, A MATTER OF ITS MEANING AND ITS ROLE IN HUMAN DEVELOPMENT

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DISCUSSION

There is a growing interest in the concept of globalization, its meaning and the role of humanity in development. The process of globalization is uniting the countries and peoples of the world to such an extent that no other instrument in the history of mankind has been able to do so. This process is intensifying so much that no part of the world is still affected by it. The term globalization, which appeared at the end of the last century, meant the general generalization of the economic and spiritual life of the countries of the world. Countries that say globalization will avoid such a process are more likely to be affected. Such involuntary effects often have negative consequences. An analysis of the research conducted by our countries during the independence period shows that work in this area is just beginning. Globalization also affects national spirituality. Given that any policy, including economic policy and policy in the field of spirituality, can be successful only if it has a scientific basis, we have to admit that our scientists and politicians will provide sufficient assistance in this regard. There are many definitions of globalization, but the one that fully covers its features, in our opinion, is the definition given by the French researcher B. Bandi. It emphasizes the three-dimensional nature of the globalization process. There may be some objections to each measurement of globalization as described. But if we look at the processes that are taking place in the world, we see that every dimension of them is present in it. Proponents of globalization are called globalists. Among them are government officials, politicians, industrialists and businessmen. According to A. Parshovil, a speaker at the Conference on Sectors of Anti-Globalization in Russia, the main content of globalization is produced in other countries.

The term "globalization", which appeared at the end of the last century, meant the general generalization of the economic and financial life of the world. Today, however, it has become a comprehensive concept. It represents the process of general generalization in all spheres of life of states and peoples. Although the process of globalization did not appear suddenly, but continued in a simple and natural way since the creation of man, it has now accelerated sharply as a result of the violent interference of man in the process of natural development in his own interests. Of course, on the one hand, there are positive aspects of this process. For example, the rapid influx of science and technology in many countries is due to globalization. This has a positive impact on the development of their economic life and the living standards of the people. In this way, it contributes to the growth of the general intellectual potential of mankind. On the other hand, the negative effects of globalization are also evident. In particular, the widening of economic disparities between developed and developing countries, especially through the use of modern telecommunications, computers, the Internet, the assimilation of national and spiritual values of a region to other peoples, and thus not only economic but also national attempts to establish naval domination are also observed. By the 21st century, this process has become more widespread than in the 20th century, increasing its influence, and, worst of all, many developed countries are strengthening economic integration in the world, assisting developing countries in science, technology, education, and promoting democratic values, trying to exert national-spiritual influence under the pretext of widespread dissemination. In this sense, the process of globalization serves the interests of more developed countries more than those of newly developed or developing countries. Powerful states, relying on their enormous potential, are exploiting the material resources and markets of less developed countries. This limits the ability of economically weak countries to be independent in their development.

Because the necessary equipment, technology and scientific developments for the organization and implementation of production are not prepared in developing countries, but imported. In this way, developing countries are doomed to become dependent on, or more precisely, dependent on highly developed countries. In other words, globalization is launching a new form of aggression. Of course, this is nothing. The worst thing is that along with this technique and technology, production relations, there are elements of alien spiritual life and culture of life. If they did not harm the national feelings and mentality of the people, if they did not negatively affect the development of the nation, there would be no need to worry. Unfortunately, foreign spiritual influences try to replace national spirituality and worldview. In addition, the most modern means of mass spirituality and culture - immoral movies, TV series, stupid shows come in. In the process, the national language, national values and views are pushed aside like an orphaned lamb. If this is not done in time, the risk of losing national identity will increase. This is a great tragedy for all mankind. Because the greatness of a human being is, first of all, reflected in his understanding of his nation and his pride in it. The national feeling encourages the nation to live, work and sacrifice with great responsibility. That feeling builds confidence in the future. So a person who doesn't understand his nationality is a person who doesn't know who he is. As great and sacred is the preservation of humanity, the preservation of the nation is no less. It is a sacred feeling to live as a representative of a nation. Only a person who understands and appreciates himself will have this quality. The growing influence of national identity requires not only an understanding of the threat that is emerging, but also a concerted effort to prevent it. In this regard, the formation of national spiritual immunity is especially important.

National spiritual immunity is the existence of intellectual skills necessary for the sustainable development of a nation. It is a growing national demand and a national spiritual opportunity that can withstand any external threats, is stronger and superior to them. In other words, national spiritual immunity is a response to external influences, a spiritual force that can resist it. The formation and effective use of the following factors will be of practical importance in the development and strengthening of national spiritual immunity. First, the development and effective use of national intellectual potential. To this end, the development of education and national upbringing, the transformation of customs, traditions and values into an integral part of the worldview of young people in accordance with universal values. So that young people feel not only the universal values, but also the richness and beauty of the values of their nation. Let them be seen as the main source of national spirituality. But it is not easy.

Because in today's world, a lot of money and energy is being used to replace the spirituality of a nation that occupies the human heart and mind with foreign ideas, and ultimately to establish spiritual domination over millions of people. Sometimes in such a situation, some young people who have no life experience and are struggling financially try to seek salvation from the outside. In addition, the curiosity of young people, acting without thinking about the consequences, also weakens the national spiritual immunity. High intellectual potential is a key factor in the formation and strengthening of national spiritual immunity. By achieving its growth, we can meet the spiritual needs of young people with our national spiritual wealth, protect them from various ideological attacks. In order to fulfill this task, it is necessary to effectively use the intellectuals who form the core of the nation's intellectual potential, to activate them, and to take the necessary measures for this. Only a nation with a high national intellectual potential can develop national ideas that will lead the country to development and put them into practice. World experience shows that a nation with underdeveloped intellectual potential is doomed to ignorance. Therefore, the development of national intellectual potential, constant care for it is a prerequisite for the consistent strengthening of national spiritual immunity. Therefore, in the current period of growing various threats, our country pays great attention to the issue of increasing the national intellectual potential.

New schools, lyceums and colleges being built in our country, modern universities, cultural institutions, a number of state programs are all serving this purpose. Second, another factor in the formation of national spiritual immunity is the development and implementation of the idea of national development, which embodies the interests and goals of the nation. If the idea of national development is far from the requirements of real life and does not take into account the aspirations of the nation, it will remain a dry theory that will never become a material force. The idea of national development is not the very idea of the nation. Rather, it is a scientific-theoretical concept that calls the nation to the pursuit of a specific goal, to high progress, and makes them a vital necessity. The national idea is a source that expresses more national identity and gives it a practical meaning. While the national idea is a constant and the main source, the idea of national development develops according to the needs of the nation, the scope of the tasks of its development, expands and reflects them due to life experience and requirements.

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REVISITING STAKEHOLDERS' ATTITUDE TOWARDS MTB-MLE AND ELT

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ABSTRACT

A number of studies on the Filipinos' attitude towards the Philippine official languages and on code-switching have been done; nonetheless, very few studies on attitude towards the Mother Tongue Based Multilingual Education (MTB-MLE) language program after its implementation in 2013 have been conducted. This paper presents selected stakeholder participants' attitude towards the language program in relation to English language teaching (ELT) and learning after about seven years of its implementation, and now that it may be suspended through House Bill No. 6125 or the Act Suspending the Implementation of the Use of Mother Tongue as the Medium of Instruction for Kindergarten to Grade 3 as suggested by a prestigious national linguistic organization[13]. The writer's self-designed attitude questions which were patterned after the language attitude questions [21] were used to gather data through interview. Analysis revealed that four out of six participants had a positive attitude towards MTB-MLE; two were undecided about their perception and attitude; however, three among the six did not fully understand the program. The participants supported ELT and acknowledged the role of English as the global language; nonetheless, they were uncertain as to whether or not MTB-MLE would have a positive impact on ELT and on global competitiveness.

KEYWORDS: *Attitude, Bilingualism, English proficiency, English Language Teaching (ELT), Language of Instruction (LOI), Mother Tongue Based-Multilingual Education MTB-MLE), Multilingualism.*

I. INTRODUCTION

In this era of globalization, the vast world has turned into a small global village where everybody becomes a member of what Maher (2005) named Empire of the Cool where English has become the lingua franca associated with knowledge and success. However, in the Philippines, specifically in the suburban areas, it is observed that even university students would not speak straight correct register of English. Research shows the ESL learners' poor English language performance in either of the four macro-skills due to factors related to textbooks quality, teacher training, educational facilities, of curricular program itself. Indeed, Filipino students ranked last among the 79 countries in a global survey of reading comprehension, Program for International Student Assessment (PISA in Ropero, 2019). The failure may be traced back to the students' poor reading skills in English; hence, ESL teachers are challenged to improve the learning situation.

Relatively, Valderama (2019) is convinced that the Philippines' fall from 14th place in 2018 to 20th in the 2019 English Proficiency Index (EPI) should be a cause for worry that the country's education sector should immediately address. She explains that EPI measures the average level of English language skills based on the results of an online Standard English Test (SET) administered by English Proficiency Education First, a Swiss-based global company. Further, she posits that the result affects the chances of Filipinos getting jobs and worries that it would have negative consequences for the competitiveness of Filipinos in the global arena.

Therefore, she recommends that the Department of Education (DepEd), the Commission on Higher Education (CHED), State Universities and Colleges (SUCs) should exert efforts to improve the teaching

and learning of English. She relates her friends' observation which can actually be observed in some areas, i.e., college graduates have difficulty expressing themselves clearly and logically in English. Valderama (2019) also claims that some observers put the blame on the Mother Tongue-Based Multi-lingual Education (MTB-MLE) teaching component embedded in the K to 12 Curriculum.

Inevitably and unconsciously, it may be opinionated that Filipino ESL learners who are poor in English despite the English language of instruction in particular content areas, will all the more be English semilinguals within the current MTB-MLE language policy. Phillipson's (1992) maximum exposure fallacy suggests that when students' learning is divided over two or more languages, it will result in an impairment of language learning. Hakuta (1986) implies the same possibility of the decline of one or more languages when more than one language is used in essential domains like formal instruction.

Nonetheless, despite empirical data manifesting the deteriorating English language skills of Filipino ESL bilingual learners and professionals, the language maintains its role and prestige as the language of power and success. Durano (2009) investigated the attitude of 284 seniors, 140 from two public high schools, and 140 from three private high schools. The respondents were made to answer close-ended and open-ended questions regarding their general attitudes towards English and Filipino. Quantitative results showed that 99% of the participants had a positive attitude towards English. Likewise, the qualitative data revealed that all the 280 participants had positive attitude towards English, which they said are connected to professional and social mobility.

As regards the Philippine official languages, the language provision in the 1987 Philippine constitution reflects that Filipino and English should be used as media of instruction, the use allocated to specific subjects as indicated in the Department Order no. 25, S.1974, and that these two languages should be taught as language subjects in all levels to achieve the goals of bilingual competence. In 2004, former President Gloria Arroyo designated English as the primary medium of instruction. Nevertheless, studies show that content area teachers and students code-switch English and Filipino for different reasons (e.g., Metilla, 2009).

The Department of Education (DepED) Order 31 s. 2013 records the dramatic transition of Philippine Basic Education from Bilingual Instruction i.e., English and Filipino to MTB-MLE, and contravened the latter's provisions of RA 10533. Sec. 4 of RA 10533, otherwise known as *An Act Enhancing the Philippine Basic Education System by Strengthening its Curriculum and Increasing the Number of Years for Basic Education* provides that:

> "Basic education shall be delivered in languages understood by the learners as the language plays a strategic role in shaping the formative years of learners."
> "For kindergarten and the first three years of elementary education, instruction, teaching materials, and assessment shall be in the regional or native language of the learners, among others."

According to Dekker (2010), MTB-MLE which is perceived to refer to language of instruction (LOI) is more than just using the learners' L_1 to explain lessons' content. MTB-MLE curriculum reflects the local culture and promotes cognitive development, more so higher order cognitive processes. Moreover, MTB-MLE rests on the premise that the students can transfer the skills and knowledge they gained from their intensive L_1 instruction to their L_2, provided they get sufficient training and education. Thus, active L_2 learning is ensured alongside the improved academic performance of the students (Nolasco, 2009 in Gallego and Zubiri, 2013).

Relatively, Mahboob and Cruz (2013) in Wa-Mbaleka (2014) believe that the success of MTB-MLE will highly depend on the change in attitude towards languages. Wa-Mbaleka (2014) investigated the perceptions of English teachers about MTB-MLE policy and its implementation. His analysis revealed that the teachers' perceptions on the impact of MTB-MLE on learning in general were inconclusive. He stated that they could not reveal with certainty whether or not they believe that an impact of MTBMLE exists on learning, and whether MTB-MLE will have a positive impact on ELT and on global competitiveness. Likewise, the teachers were not sure whether or not the Philippines is well prepared for the implementation of MTB-MLE. On the other hand, the study also revealed his participants' positive view that MTB-MLE will have a positive impact on the learning of mother tongues and on the enhancement of the local cultures.

Educational institutions' stakeholders in the elementary and high school levels are divided in their opinions regarding the MTB-MLE program's possible effects on English language teaching and learning. Some commend the new language program's principle of learners starting from where they are and from what they already knew proceeding from the known to the unknown. In contrast, others, especially those who see English proficiency as a competitive advantage in employment, especially across borders, may keep skeptical about it. Filipino language scholars and applied linguists, therefore, double their efforts in

finding appropriate approaches in teaching and learning English across the curriculum. Nevertheless, this implementation of MTB-MLE specifically in Kindergarten, Grades 1, 2, and 3 to support the goal of *Every Child-A Reader and A Writer by Grade 1,* poses a significant challenge to ESL teachers.

The recently proposed House Bill no. 6125, *"An act suspending the implementation of the use of mother tongue as the medium of instruction for kindergarten to grade 3* seems to sadden the supporters of MTB-MLE. House Bill No. 6125 proposes the suspension of the implementation of mother tongue as a medium of instruction (MOI) from Kindergarten to Grade 3. The Linguistic Society of the Philippines (2020), a premier fifty-year-old prestigious professional organization of linguists in the country stands against the Bill and claims that the mother tongue is the most effective bridge to and foundation for the learning of other languages like English, among other arguments expressed in its February 2020 position paper. Citing a number of studies done in other countries and in the Philippines, the Organization argues that the mother tongue used as a medium of instruction particularly in the early stage of basic education, helps the learners learn best and bridge their learning of the second language and of content areas taught in that second language.

LPS recommends the Filipinos concerted effort to capacitate the concerned government sectors, particularly the Department of Education (DepEd), to work in collaboration with universities, professional organizations, book companies, and non-profit government organizations, in order to produce teaching and learning materials needed by both teachers and learners to implement the MTB program in basic education effectively. Moreover, the concerned faculty members of the Department of English at Ateneo de Manila University (ADMU) as well as UP College of Education and UP Integrated School support the LSP's stand. ADMU, in its statement, asserts that the MTB-MLE needs not to be suspended but rather be maintained, valued, and strengthened.

It is, therefore, more interesting to find now if the program is still gaining support from its immediate stakeholders, especially from English language teachers who observe that ESL learners' English language proficiency deteriorates all the more due to MTB-MLE program. The present paper tries to describe the attitude and perception of six stakeholders: two secondary school heads, two secondary high school ESL teachers, and two parents of MTB-MLE students from a performing state university in Region-4, Philippines towards the seven-year-old MTB-MLE program in relation to English language teaching and learning.

II. METHODOLOGY
2.1 Participants

This study involved six immediate stakeholders of a performing university in Region 4 of the Philippines; the choice of this state university is justified by the fact that it succeeds in offering Education courses and producing successful teachers and supervisors for specific content areas, among others. Besides the bachelor's, master's, and doctorate degree programs, it has also been offering Basic Education. The writer was convinced that the participants should not necessarily be MTB-MLE teachers but mere educators and teachers because language issues should be every teacher's concern. Every teacher is aware of what is happening within the educational system, and each has a unique attitude towards it.

Two Basic Education principals/coordinators, two senior high school ESL teachers, and two parents were purposively selected to shed light on the problem raised in section 1. The coordinators, who are called principals in the Department of Education (DepEd) schools, were the overall heads who would manage, look after, and supervise classes the senior high school. The choice of the two ESL teachers was also planned; the writer believes that language teachers are supposed to be aware of national language policies, issues, and concerns to become more effective and productive teachers. To ensure substantial and insightful answers to the interview questions from the parents and use of only one set of questions in Filipino, two professional mothers of MTB-MLE students were considered for the interview. They are college instructors for mathematics and Science.

2.2 Data Collection and Analysis Procedures

Only one qualitative research tool, the writer's self-designed interview instrument, was used to gather data that would determine the participants' attitudes towards MTB-MLE in connection with English language teaching and learning. The interview questions were written and identified when the review of the literature had been done. The attitude questions were constructed and patterned to Romaine's (1995) language attitude questions, which she used in her study of Panjabi/English bilinguals' attitude towards code-switching (p. 298). On the other hand, the question contents on attitude towards ELT were anchored on Albarracin et al. (2005) model of attitude concept.

Romaine (1995) argues that attitude is a general concept that can be accurately determined from the answer to a specific question or responses given by an informant in a carefully controlled experimental

situation. In short, the questions were formulated in a way that they would draw the participant's authentic attitude towards the issue at hand. Romaine (1995) suggests that there can be discrepancies between what people say and what they do, and part of such discrepancies has to do with how questions are phrased. For instance, in this study, the *yes* answer to the question, "*Do you think Mouther Tongue as medium of instruction will threaten the prestige of English,* or *Do you think it will limit the domains of English?"* was not taken to imply a positive attitude at once. The participants' attitude was determined through their justifications of their *yes* response.

To validate the attitude questions, the researcher had it field tested in her Bachelor of Education-English (BSEd) second year class. She interviewed six members of the class; however, the interview did not progress because the answer to the initial questions, "*What do you know about MTB-MLE Language program*? *Do you welcome the transition from Bilingual instruction (English & Filipino only) to MTB-MLE*?*"* were not given good answers. The students naively admitted that they do not know MTB-MLE. The researcher then asked the first year BSEd-English class to write at least a paragraph about the language program, and to her surprise, the students could not do as directed due to their unfamiliarity with it.

Interviews were then conducted. To ensure full cooperation and further explications of the participants' answers to the interview questions, they were interviewed informally with the researcher initiating the code-switching. The researcher did not provide them any information on the English proficiency of Filipino learners as well as MTB-MLE though four of them tried to ask. This was done to ensure authentic responses to the interview questions. The interviews were audio-recorded and transcribed during Christmas vacation. After the transcription, the key responses were arranged, summarized in Tables 1 and 2, and then interpreted. The basic answers were lined up side by side the questions asked, and marked for easy reference. Responses that implied positive attitude were marked with (*l*); those that reflected negative attitude were marked (x), and those that suggested the interviewees' uncertainty or neutrality were marked with (?). Inasmuch as this is a qualitative exploration, no complex statistical treatment was utilized, but simple counting only to determine the overall impression regarding the stakeholders' attitudes towards the language program.

When the summarized responses were being explained, the complete responses were revisited repeatedly. Extracts from the full interview texts are presented to justify the claims made. These replies and excerpts were encoded as uttered; no revisions or corrections were made in any level of language study (e.g., choice of words, grammar, etc.) except for the deletion, supplication, and alteration of the sentence theme or complementizer for a clearer presentation of answers to questions (e.g., *I think*, *it will not threaten the prestige of English because the majority will still be using the English language* is edited into *MT* or *the use of MT* (when the participant really meant that) *will not threaten the prestige of English language*.

III. RESULTS AND DISCUSSION
3.1 Stakeholders' attitude towards MTB-MLE
Table 1 presents the key questions asked to the participants, which were followed by questions that sprung out of the participants' answers during the actual interviews. With these key questions are key responses from the participants.

Table 1
Stakeholders' Attitude towards MTB-MLE

Attitude Questions	Responses					
	SHS Coordinators		ESL Teachers		Parents	
	A	**B**	**A**	**B**	**A**	**B**
1. Do you welcome the transition from Bilingual instruction to MTB-MLE? What do you know about MTB-MLE?	? Yes	✓ Yes	✖ I hardly understand the government for implementing it.	✓ Yes	✓ Yes	✓ Yes
2. Do you think it will help our students improve their academic performance?	✓ Yes	✓ Yes	✖ No	✓ Yes	✓ Yes	✓ Yes
3. Which do you think between MTB-MLE and English is the foundation of lifelong learning?	✓ MT in a way	✓ MT	✓ MT	✓ MT	✓ MT	? I'm not sure
4. Do you see MTB-MLE as a tool for socio economic advancement?	? It depends upon the implementation	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✓ Yes
5. Do you think it can produce global learners with 21st century skills?	? Not at all	✓ Yes	? Slightly	✓ Yes	✓ Yes	✖ No
6. Do you think pupils lose confidence when their Mother tongue is not used in classroom interaction? Why?	? It depends upon teacher's approach.	✖ No	✖ No	No	✓ Yes	✓ Yes
7. Do you think MTB-MLE will threaten the prestige of English? How?	✓ No	✓ No	✓ No	✓ Not at all	✓ No	✓ No
8. Do you think it will limit the domains of English? Explain.	✓ No	✓ No	✓ No	Not at all	✓ No	✓ No
9. Do you agree that MT is a good bridge to learning oral and written English language skills? How?	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✓ Yes	✓ Yes
10. Do you think the MTB-MLE program is succeeding? Why?	? It depends upon the implementation.	✓ Yes	? I hope so.	✓ Yes	✓ I think so.	No

Legend: ✓ Positive Attitude
✖ Negative Attitude
? Neutral

A quick look or closer scrutiny of the summarized answers of the six participants show their positive attitude towards the program in relation to English language education, as advanced by the 45 checkmarks presenting positive attitude against seven x marks indicating negative attitude and seven question marks implying neutrality of attitude i.e., positive

attitude; however, there may be hesitations doubts and conditions given.

As has earlier been stated, the 45 checkmarks recorded the participants' positive attitude towards the newly implemented MTB-MLE along with the broader K-12 Basic Education. It is important to mention, however, that the ESL teachers and the parents of MTB-MLE pupils who are also college instructors of courses taught in English are not wholly familiar with the language of education policy. Two of them boldly admitted it, while the other two participants' answers suggested the same fact. Likewise, the high school heads showed inconsistent familiarity to the program through their not very sufficient answers to the question, *I hope you don't mind. What's your understanding of the MTB-MLE program?*

Coordinator A: *There is a need to be an efficient L_1 user; therefore, MTB can help pupils to express themselves wholly and fluently.*

Coordinator B: *There are subjects in which the students should use MTB. The transition from the Bilingual Education (English and Filipino) to MTB-MLE is a good idea so that the students will fully understand the subject matter.*

The other four participants' replies to the same query are as follows:

ESL Teacher A: *It is about using L_1 instead of English for the subjects that need to be explained in English.*

ESL Teacher B: *It is a strategy/method … using the native tongue as the medium of instruction in teaching Math, Science, and other subjects*

Parent A: *I have to study MTB-MLE first.*

Parent B: *I am not familiar with MTB-MLE; what is that?*

It is interesting to know that although the participants do not have a complete understanding of the seven-year-old language education overhaul, the majority, i.e., four among the six stakeholders are convinced that the MTB-MLE program can help improve Filipino learners' academic and cognitive performance. They also believe that it can be a foundation of lifelong learning and can be a tool for socio-economic advancement; hence they appreciate the implementation of the said language of the education. This finding jibes with Wa-Mbaleka's (2014) observation that the Philippines, especially in public schools, has been successful in having everyone adopt the policy. The participants gave the following reasons for openly considering the MTB-MLE program, though admitted that it was difficult at the outset of the implementation.

Coordinator B: *MTB-MLE helps the students a lot because they will easily understand the lessons. MT can be a foundation for lifelong learning. In a way, it will help, but the students will not be totally competitive because English is the universal language.*

ESL Teacher A: *Of course, MT is the foundation of lifelong learning. But though it may help, still our goal is to be more competitive in this era. It will be more in hand if we Filipinos also adapt to the use of the universal language.*

ESL Teacher B: *It will help improve their cognitive performance since the problem is limited vocabulary. Difficulty in expressing themselves will not be a hindrance. MT is the medium of one's thought.*

Parent A: *Yes, because the understanding of the lessons will be achieved. Korea, Japan, China use MT in teaching, and yet they are very progressive… they produce learners that are globally competitive.*

It can be observed that although Coordinator B and ESL Teacher A support the MTB-MLE program, they also support ELT and acknowledged the function and role of English as Lingua Franca of the world and as a passport to global competitiveness. Parent B did not elaborate, inasmuch as she admitted that she does not know the MTB-MLE program.

ESL Teacher A seemed not to completely have a 100% positive attitude towards the program in relation to ELT teaching, as shown by her replies to ten attitude questions, Table 2. Her replies can be grouped into three a) five checkmarks (*I*) that reflect her positive attitude, b) three X's that mirror her negative attitude, and two question marks (?) that show her doubt and uncertainty of the success of MTB-MLE, hence hers can be *yes or no* answers. She displayed inconsistency in her stand and attitude towards the language policy. Again, this finding appears to correspond with Wa-Mabaleka's (2014) teacher participants' attitude towards the same language program. He suggested that her participants were uncertain as to whether or not they would believe on MTB-MLE's impacts on learning, and whether it would have a positive impact on ELT and on global competitiveness. Likewise, they were not sure whether or not the Philippines is well prepared for the implementation of MTB-MLE. ESL

Teacher A did not welcome the transition from Bilingual education to MTB-MLE because she was convinced that it would not help students improve academic performance and doubted if it could produce global graduates with skills on par with skills of graduates from any university, primarily in the ASEAN region.

The senior high school Coordinator A, on the other hand, is happy about the MTB-MLE program; however, she expressed a negative attitude towards the implementation. She stated:

> Both MT and English can be the foundation of lifelong learning. Actually, there are students who cannot express themselves, even in MT. They have limited vocabulary even in MT and use ano, bale, kuwan (Tagalog discourse particles tantamount to uhm, ah which are used as fillers.)
> The problem is the implementation. There must be long span preparation before implementation.

Her thoughts embody those of other scholars and teachers which are expressed when they are having informal and friendly academic discussions and during seminars as observed and noted by this researcher. It can be remembered that Wa-Mbaleka (2014) suggested that more preparation and training should have been done before the implementation of this policy. Consequently, in the course of preparation, Nolasco's (2008) propositions should necessarily be considered. He suggests four conditions that must be met for MTB-MLE to succeed: cognitively demanding curriculum, competent teachers in the required language; suitable teaching materials; and community support and empowerment.

The same trend of attitude and perception is manifested by the stakeholders' responses to questions 6-10 in T_1. All of them were positive that MT is a bridge to the learning of spoken and written English, that the MTB-MLE program will not cause the natural death of the English language or even make it diglossic. Along with their positive attitude towards the program reflects their confidence that English will continue to perform its roles as MT does its function. This is confirmed by the following extracts from their propositions:

Coordinator B: *MTB-MLE will not threaten the prestige of English because the majority will still be using*

> *the English language. It is a good bridge to L_2 learning because many students can comprehend the lessons.*

ESL Teacher B: *MT is a good bridge to L_2 learning. Most of us believe that mastery of the universal language*

> *is the key to competing globally; we*

> should also realize that mastery of the MT prior to the English language can establish a stronger foundation. MT cannot limit or dictate when or where English should be used. Understanding the system/rules of their MT can be used to scaffold oral and written English language skills.

The above extracts reflected the participants' agreement with Cummins' (1984, 1999) interdependency model, i.e., the level of second language proficiency acquired by learners is a function of the level of proficiency in their first language at the point when intensive second language instruction begins. His well-acknowledged model of two types of literacy: Basic Interpersonal Communication Skills (BICS) which refers to conversational communication skills and Cognitive Academic Language Proficiency (CALP) which refers to language skills used as a cognitive tool for academic purposes proposes that competency in the first language is transferred to second language competency when CALP has been developed.

While the six participants were unanimous in their answers to questions 7, 8, and 9 in Table 1, the parent participants, however, were very concise with their answers and hardly elaborated their yes or no answers as they jokingly reminded the interviewer that they are not language teachers. Nonetheless, they said:

> Parent A: *Mother Tongue will not threaten English, because as far as I know, English will still be taught*
> *when the pupils reach grade 3.*
> Parent B: *Mother Tongue is a good bridge to English learning because students can learn thru translation.*

The two, Coordinator A and ESL Teacher A, were still read to have a small degree of negative attitude or perception regarding the implementation of the new language program. The former insisted that the success of the program depends on the implementation, along with the provision of other requirements like instructional materials and well-trained teachers. She confirmed her agreement with the MTB-MLE authors that great users of English are also great users of MT. The latter, ESL Teacher A stood firm in her notion that learners do not lose confidence when their language and culture are excluded in the classroom saying that:

> ESL Teacher A: *It is not only thru language; there are other factors that build their confidence.*
> *English should be taught at an early age.*

Three of them are confident of the program's success; Parent B is not convinced it will succeed, Coordinator A counts on the implementation effectiveness; while ESL Teacher A sighed positivity with her, *I hope so. After almost seven years of implementation, I hope it will have something to contribute to the welfare of the country.*

3.2 On English Instruction within MTB-MLE Program

Table 2 shows the participants' attitude towards English language instruction and the language itself within MTB-MLE Program.

Table2
Stakeholders' Attitude towards English Instruction

Attitude Questions	Stakeholders' Responses					
	SHS Coordinators		ESL Teachers		Parents	
	A	**B**	**A**	**B**	**A**	**B**
1. How is your English language teaching? How is your content area teaching using English as MOI?	NA	NA	Fulfilling challenging Getting better I'm not totally satisfied	Frustrating Below average; they have limited vocabulary	Ok lang. (It's okay) average	Okay Okay
2. What do you think of your students' English proficiency?	Comprehension not good	They can comprehend	No	Yes	Yes	Yes
3. Do you code-switch (MT and English) during your discussion?	Yes	Yes	No, teachers help them gain confidence	Absolutely	Yes	Yes
4. Do you think pupils lose confidence when they cannot express themselves in English?	No answer	Some, not all	Yes, of course	Yes	No	Yes
5. Can we still maintain our identity and culture if we promote English language learning?	If teachers are fair in giving views and issues **Yes and No**. It depends upon the capacity of the learners	Yes	Yes	Yes	Yes	Yes
6. Should Science and Mathematics be taught in English?	**Yes and No**. It depends upon the capacity of the learners Not sure	Yes	Yes	Yes	Yes	Yes
7. Do you think English should be taught early, to Kinder 1children?	Yes	Yes	Yes	No	Yes	No
8. Do you agree that oral proficiency in English should be built up before reading instruction?	Yes	Yes	Yes	Yes	Yes	Yes

9. Will you still encourage/motivate your children and students to speak/learn English? 10. Do you think English will remain the language of globalization?						

As suggested by the data in Table 2, the participants' have positive attitude towards English language instruction and the language itself, although one of them, ESL Teacher B, admitted frustration in teaching English.

Teacher B: *Teaching fourth-year students English frustrates me. Based on my formal reading inventory, they have*

> *poor comprehension. I allow myself to code-switch as much as I allow them to. If I won't, our discussion will just be pointless efforts. Their vocabulary is very limited; therefore, using their L1 allows them to express themselves thoroughly.*

This attitude is totally different from ESL Teacher 1, who finds ELT as fulfilling and challenging. The MTB-MLE parents who are mathematics and physics teachers describe their teaching using English as MOI as just fine sent across by the phrase *okay lang*. The brief reply to "*How's your teaching of Physics/Math using English as MOI?*" is understandable since they are not language teachers.

It can be noted that their replies to question number 2, *What do you think of your students' English proficiency?* are very much related and seem to have arrived at the same point-i.e., their ESL learners would not perform well in English class. Their descriptions of their learners' English language skills match with the observations and findings of the scholars (e.g., Macasinag 2011) about the poor English proficiency of Filipino learners in general.

They were divided in the opinion that students lose confidence when they cannot talk in English; however, they were in agreement that these Filipino learners can maintain identity and culture while learning and patronizing the English language. Five participants were unanimous in their beliefs that English should be taught as early as Kindergarten 1, and that the two essential subjects elementary Science and Mathematics should be taught in English. All of them perceived English as the language of globalization; thus, they will continue motivating their children and students to learn English despite the implementation of MTB-MLE.

This positive attitude of the stakeholders on English and English language instruction has been confirmed by early studies, e.g., Aglaua and Aliponga (1998) and Durano (1994). Likewise, Dumanig et al., (2010) study revealed the preference of teachers and parents in using the English language over the vernacular in classroom teaching and the home environment. The Filipinos have been looking up at English as a prestigious language, the language of global mobility and success. The participants' understudy did not manifest emotional and nationalistic resistance to favor English instruction but equal acceptance of both Philippine Languages and English Language as the media of learning.

In sum, the analysis revealed that the majority, four out of the six stakeholder participants in the present study, have a positive attitude toward the MTB-MLE program. The other two, Principal A and ESL teacher A, seem to be undecided about their perception and attitude. Their responses to the interview questions suggest a balance between positive and negative attitudes towards the language program. The negative attitude was brought by their 1) doubt towards effective implementation of the program, and 2) dedication and love for teaching English as a second language. This finding suggests a similar attitude of the more significant number of stakeholders and a slightly different attitude of a small portion of the society as represented by one high school head and one ESL teacher in this study. Nevertheless, all of them shared the same perception about English and its status and prestige as shown by their answers in questions 7 and 8, despite the MTB-MLE program.

IV. CONCLUSIONS

The findings imply that stakeholders, in general, positively accept the MTB-MLE program and support, though they do not fully understand it. It may be said that the government's promotion of the program was not sufficient, not only at the grassroots level but even with the Basic Education principals, language teachers,

and educated parents. The Education-English major students, for instance, do not know the MTB-MLE program. It can therefore, be concluded that even students may not be aware of the program. Henceforth, it can be recommended that more awareness-raising seminars be conducted specially to win the stakeholders' support; otherwise, MTB-MLE would be deemed futile as suggested by Gallego and Zubiri (2013).

The MTB-MLE program would be more supported by English language teachers and even by legislators if it is explicated well because the framework is clear, MT as a subject focus on the development of beginning reading and fluency from Grades 1-3. The learners' MT is used as the MOI in all content areas from Kindergarten through Grade 3 except Filipino and English, which can be L_2 and L_3 of those born outside the Tagalog region. The L_2 (Filipino) is introduced in the first semester of Grade 1 for oral fluency; whereas, reading and writing are introduced in the 2nd semester of Grade 1. What will cause ELT teachers to support the program is the provision that oral fluency in English (L_2 in Tagalog region and possibly L_3 in non-Tagalog region) is introduced in the second semester of Grade I; while, reading and writing start in the 1st semester of Grade II. However, this instructional program for monolingual students as posited by Cummins (1988) should address: cognitive skills, academic content, and critical language awareness.

Coordinator A's concern and worry about the effectiveness of the program's implementation should be taken seriously by the government. The government' claim that the implementation and related activities have been well planned does not sound completely convincing; even concerned MT teachers have not all been trained to teach Mother Tongue. In addition, casual interviews done with the non-participants of this study revealed that there are insufficient instructional materials. These may also be part of the country's legislators' observation that resulted in the proposal of House Bill No. 6125 or the Act Suspending the Implementation of the Use of Mother Tongue as the Medium of Instruction for Kindergarten to Grade 3.

It is therefore recommended that all universities offering Education courses offer the *Teaching of the Mother Tongue* because it is not as easy as it may seem. The MT teachers need to have pedagogical know-how of handling the course and the learners as well. In addition, DepEd provincial offices may seek the assistance of best language teachers in the universities within the outskirts of their provinces to help them train their Mother Tongue and English language, teachers. It is also advanced that graduate

students in Linguistics programs continue to conduct and prepare dictionaries and reference grammars of Mother Tongues in the Philippines. Likewise, the works of graduate students in these areas need to be funded for publication and utilization in corresponding areas in the country.

Despite findings and claims that Filipinos' English language proficiency is deteriorating, educational institutions' stakeholders seem to share a common perception of the importance and prestige of English. This implies that they can be motivated to learn it rigidly; it just takes ESL and content area teachers' support and collaboration to develop among students' English proficiency tailored for their future jobs while learning through the MTB-MLE education. Simultaneous with the learning of Mother Tongue and Filipino, acquisition of proper English should start from children's early years because of secondary and tertiary level teachers find it challenging to correct students' fossilized language errors. MTB-MLE teachers and ESL teachers may, by all means, assist one another in helping Filipino young learners learn their Mother Tongues and English and learn content areas through these languages. In conclusion, it may be concluded that both MTB-MLE and English language instructions within the MTB-MLE program have a bright future, only if the former will be implemented well and if the latter will be taught in the most innovative approaches. Nolasco (2008) conveys that the road to multi-literacy and multilingual education in the Philippines would be a difficult and tortuous one (p. 13); however, he suggests that once the program is understood and supported, there will be more than enough hands to build that road.

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TRADITIONAL AND MODERN COLLECTING METHODS OF RAW MATERIAL IN HERBAL DRUG UTILIZATION: A REVIEW

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ABSTRACT

Traditional system of medicine in Sri Lanka included Indigenous medicine, Ayurveda Medicine, Unani Medicine and Siddha Medicine. In this system of medicine utilization of herb plants are considerably higher than mineral and animal product. Hence adulteration and substitution are frequent in raw material trade of medicinal plant; determine adulteration and substitution as well as collecting method of medicinal plants through morphologically and organoleptic is essential. Therefor the objective of this study is to find out the detail literature review of the conceptual evidences based on collecting and authentication of the herbal material according to traditional and modern methods. According to traditional medicine there are pharmaceutical procedures for any drug, involves various steps starting from identification and collection of authentic raw materials, application and standardized processing techniques and production of quality drug to packing and storage of the produce drug. According to Studies regarding modern methods of raw material collection was comparatively similar to traditional methods. In this study method of collecting of raw material according to traditional and modern view is discuses rationally. Therefor further research is acquired to study about the chemical validity of relationship between traditional and modern collection methods of raw material.

KEY WORDS: *traditional Medicine, Raw material collection, Herbal Drug utilization*

1. INTRODUCTION

Since ancient times, medical plants and simpler herbal remedies have been used in all parts of the world for the treatment and alleviation of various disease conditions. Even though the use of medicinal plants is as old as mankind itself, their controlled application, the isolation, and characterization of the active ingredient started only near the past. Nowadays physicians depend on a third person for collection, primary processing of the drug, so getting genuine and pure drug material is a matter of chance. Herbal materials are being used abundantly, in the market it is sold in the form of various methods. So chances of adulteration with herbal plant raw materials are highly increasing.

"Yat sadhayati tat pahalam"

The ultimate pryojana of chikitsa is to get expected Phala. Chikitsa chatushpada happens to be the base of that. The Dravya is given the next important role after Bhishak. Hence to have all four abilities like Bahukalpa, Bahuguna, Sampanna, Yogya, the dravya should be honest and unadulterated. In the ancient period, vaidyas used to stay amidst medicinal plants and them themselves used to collect medicinal herbs, prepare medicine,

and administer to the patients, so there were no chances of adulteration (Pujari, 2011).

According to the World Health Organization presently 90 % of the world population still relies completely on raw herbs and unrefined extracts as medicines. About 80% of the populations in developing countries are still dependent on traditional systems of medicine for their primary health care needs (Masand, Madan, & Balian, 2014). Demand for herbal products worldwide has increased at an annual rate of 8% and it is estimated that the global herbal market would be worth US$5 trillion by the year 2050 (Kankanamalage, Dharmadasa, Abeysinghe, & Wijesekara, 2014). Sri Lanka has rich traditional systems of medicine which play a significant role by fulfilling 60-70% of the rural populations' primary health care needs.

There are 20,353 registered Ayurveda physicians and more than 8,000 traditional practitioners, who engage with public health care, which herbal products and materials are mostly employed. Sri Lanka is considered one of the most biologically diverse countries in Asia, with about 16.5% of forest density in 2019. There are 3,771 flowering plant species, out of which about 927 (24%) of them are endemic to the country (Perera, 2012). About 250 species of medicinal plants are

commonly used in the traditional medicine of which 50 species are heavily used. Ethno pharmacological/ botanical surveys play an important role in the documentation of medicinal materials used by different systems of medicine. However, in Sri Lanka, available data on the national demand for herbal materials are scarce or too old.

Due to the worldwide acceptance of Ayurveda, there is a continuous increase in request for herbal drugs in the last few decades thus exerting huge pressure on natural resources. Today many of the manufacturers are doing more production of medicines by using raw materials from the market. Procurement of genuine and pure drug is the need of the day. Ayurveda mentions many drugs having multi facilities activity which are utilized as medicine, food, spice, cosmetics, etc. So to meet such a countless demand quite visibly it is unfairly adulterated.

In medicinal plants, the secondary metabolites or active compound are made available through appropriately performed harvesting techniques. The scientificity behind ancient Ayurveda harvesting techniques and the standardization narrated by Acharya Charaka, Sushruta, Chakradatta, Yoga Ratnakara, Rasa Ratna Samucchaya, Bhaishajya Ratnavali, Rasatarangini, etc. are also proven by modern scientific methods. To achieve a good mandatory therapeutic result it is obligatory to collect the drug bestowed with optimum Rasaveeryadi qualities. In Ayurveda literature, drug collection has been stated according to various parts of the plant in respective seasons, Nakshatras, Veeryas on the basis of therapeutic uses.

According to Modern science, drugs retain the uppermost potentiality during its collection period. The climate, temperature, rainfall, duration of daylight, altitude, methods of cultivation, the effect of a lunar cycle, collection from the wild area, soil condition, and methods of collection, processing, and storage have an impact on the secondary metabolites of the plant ultimately which affect the therapeutic efficiency of the drug.

2. METHODS OF RAW MATERIAL COLLECTION
2.1. Traditional Method

The collection of herbs plays major role in herbal drug preparation process. Herbs are gifts of Mother Nature. Ancestors utterly depended upon this nature only. They established a way of life in which they described the maintenance of health by using nature only. In this, the ancients explained some of the secrets of life, and also how one could live without ill-health. Many herbal preparations were used to maintain health.

In India herbal preparation practice exists in two major forms. The first one is the preparation of the herbal medicine according to classical texts, e.g. Ayurveda, Siddha, Unani, Homeopathy, etc. The second is in accordance with folk medicine practices. The latter one is more popular in villages and exists in some of the families only. In nature we can get abundant raw materials. We can select proper food and herbs to maintain health. There is a strong link between man, herbs, food and nature.

Sharngdhara quotes the Sharad as the best period to collect the drug for all therapeutics uses and also drugs intended for Shodhana karma .In case of Vamana and Virechana drugs can be preferably collected at the end of Vasant rutu (B. Tripathi, 2007). Bhavprakash and Nighanturatnakara quoted the same opinion and specified the collection on auspicious day that to in the early morning (Krushnachand) . Ashtanghrudya, quoted about the collection of drugs in their fully matured condition on Pushya, Mrugshira and Ashwini Nakshatra and on auspicious time in a day.

Nature and our bodies are linked by six tastes: sweet, sour, salt, pungent, bitter, and astringent. The body is maintained by food using the six tastes (Shad Rasa). Generally we can divide people into three categories: the lean (Vata); the medium (Pitta), and the stout (Kapha). Keeping in mind the nature of the body, one should use herbs and food containing these six tastes. The lean person; a person with Vata body constitution should use sweet sour and salty food, and regulate the arrangements to preserve health. The medium person should use sweet, astringent and bitter tastes. The stout person should use herbs and food containing more pungent, bitter, astringent tastes. Thus the taste; *shad rasa* is also very important during the collection of the herbs in order to preserve its quality. Although the whole plant is beneficial, in some of the plants, the following parts are more useful: the root, stem, bark, latex, leaves, flowers and fruit.

2.1.1. Limitations for Collecting Raw Materials

There are some boundaries concerning the collection of herbs. The main problem is that of identification of herbal plant correctly. This is mainly because of their ethno botanical and ethnopharmachological variations as well as names in different places. Additionally it makes trouble is unavailability of skilled persons for taxonomic documentations. Furthermore the herbs do not exist in all the seasons, and are also of inadequate amount. Therefor cultivation is very important. There are also some seasonal standards for collecting herbal parts. Basically the root should be collected in summer, the leaves should be collected in the rainy or spring season; and the latex in winter.

Table 1: Specific Useful parts and plant material Harvesting mentioned in Ayurvedi Literature (Sharma, 2009)

Collection performs of some significant medicinal plants have been identified recent research and confirmed that the active ingredient content and it differs depending upon the period of collection.

Common Name	Scientific Name	material Harvesting mentioned in Ayurveda Literature
Madanaphala	*Randia dumetorum*	Collect mature fruits of Madanapala commonly known as emetic nut in between Vasanta (spring) and Greeshma (summer) season on Pushya, Ashwini or Mrigashira Nakshatra.
Ikshwaku	*Lagenaria cicerea*	The tender leaves should be collected before flowers seem on the climber
Trivrutta	*Operculina turpethum*	Trivruta should be collected for purgative therapy during the lunar cycle of full moon phase.
Snuhi	*Euphorbia species*	Latex of should be collected at the end of Shishira Rutu (winter season) and plant should be two or three years old.
Ashwagandha	*Withaniasomnifera (Linn.)Dunal*	Harvesting of Ashwagandha root starts from January and continues till March .The ripeness of crops is judged by the drying out of the leaves and berries turning red.
Kumari	*Aloe vera*	Kumari plant takes about 3 years to reach harvestable size and then leaves can be harvested for 7 years. Leaves less than 25cm size are not suitable for collection due to less gel content.
Kebuka	*Costus species*	The plant should be collected when it is about 16-17 months old and its Dysgenic content is concentrated during this period.
Dhattura	*Datura metel*	The plant attains highest percentage of alkaloids after 5 months of sowing. It is recommended to collect the leaves in early morning or late afternoon. Mature leaves of about the middle of the stem of D. metal had the maximum alkaloid content.
Vidanga	*Embelia ribes*	the immature fruits collected in October contain an average of 1.67% embelin whereas mature fruits collected in December has average contain 4.64% embelin
Pippali	*Piper longum Linn*	The spikes will be ready for collection 2 months after their formation on plants. The spikes should be picked when they are blackish-green and most pungent. The thick parts of stem and roots which have medicinal value should be harvested 18 months after planting
Nimba	*Azadirachta indica*	The trees shed their leaves during Feb-March and fully grown trees produces 350kg of leaves. The fruit matures in June-July.
Ahiphena	*Papaver somniferum Linn*	The lancing operation is performed by skilled labour, usually on bright sunny days between noon and 4pm.
Sarpagandha	*Rauvolfia serpentina Linn*	roots dug out in winter (December), when plants shed out their leaves are rich in total alkaloid content
Tulsi	*Ocimum sanctum Linn*	The oil and eugenol content is maximum at flower initiation and seed setting stage

2.1.2. Collection of raw Material According to Kala/ Period (Singhal, 2007)

Ayurveda classics denote the ethics of collection of medicinal plants according to their used part. Susrutha is not approving with Charaka's perception of seasonal collection of medicinal plants. He has quoted the modern principles of drug collection and has finally concluded that these principles are not relevant and suggested that drugs of Shita virya (cold Potency) should be collected in Soumya ritu and those of Ushna virya (Hot Potency) in agneya kala. Susrutha proposes to collect the drug basing on virya (potency) as a replacement for part used of the plant.

Table 2: Dravyasamgrahan kala (collection period) according to part of plant used (I. Tripathi)

Prayojyanga (Useful part)	Charak	Sushruta	Ashtang sangraha
Kanda (tuber)	Sharad	-	Sharad
Ksheera (latex)	Sharad	-	Sharad
Moola (root)	Greeshama Shishira	Pravrutta	Greeshma
Patra (leaves)	Varsha	Vasant	-
Phala (fruit)	Yatha rutu	Greeshma	Yatha rutu
Pushpa (flower)	Yatha rutu	Yatha rutu	Vasanta
Shakha(branches)	Varsha	Vasant	-
Sara(heartwood)	Hemant	Vasant	Hemant
Twak (bark)	Sharad	Sharad	Sharad

2.1.3. Collection of Raw Materials According To Bhumi / Soil

According to Susrutha samhitha the importance of bhumi/ soil for the collecting of raw material for different beneficial purposes can give bellow (Dutta, 2005).

Table 3: Collection of Raw Materials According To Bhumi / Soil

Pharmacological-Property	Quality of the Soil Type According to Ayurveda
Veerachandrava/ purgatives	Prithvi and Jalmahabhuta
Vamandrava/ emetics	Aagni, Vayu &Aakashmahabhuta
Ubhayabhag-haradravya dravya/ purgative & emetics	All The Five Mix Mahabhuta
Samanyadravya/palliative	Akashmahabhuta

2.1.4. Collection of Raw Materials According to Desha (Area)

Sharangdhara believe collection of agneyadravas (Ushnaveeryadravya) from vindhya region and Soumyaoushadha (Seetaveeryadravya) from Himalayan region (Shrivastav, 1996).

2.1.5. Collection of Raw Material According to Pharmacological Properties

Sarangdhara clarified the association between the collection of raw materials in a specific season and for specific therapeutic effect depending upon their respective pharmacological properties(Shaileja, 1996).

Table 4: Collection of Raw Materials According to Pharmacological Properties

Pharmacological-property	Season
Veerachan/purgation	Vasanta-ritu
Vaman/emesis	Vasanta-ritu
For all other purposes	Sarad-ritu

2.2, Modern Methods

In recent Pharmacognosy texts books, one can find a considerable importance given for the season during collection of different parts of economical plants as it governs not only the total quantity of active constituents produced but also the relative proportions of the components of the active mixture.

2.1.1. Physiological and phytochemical basis of collection (Shah)

Flowering period of plants are highly active period and Leaves are collected from the plants during the flowering period. When the photosynthetic activities are maximum and leave contain a maximum percentage of active constituents is the optimum time for collecting raw materials. As the moisture reductions their constituents, they are

collected in dry weather. The bark is collected in spring or early summer as the cambium is very active and due to the thin cell wall bark gets easily separated. In some other cases, the bark is collected in other seasons. As an example, Wild cherry bark is collected in autumn as it contains a maximum percentage of active constituents at this season while Chincona bark is collected in rainy as it gets easily separated. The usual time for the collection of leaves is when flowers are beginning to expand. At this time it is rational to assume that the leaves are in the healthiest state and contain optimum of the product of plant metabolism to produce desirable therapeutic action. Collection of flower must always be done in dry weather because the petals which are damp when gathered become badly discolored during drying. Roots and rhizome are usually collected when their tissue is fully stored with reserve food being assumed that the phyto constituents will be high during this season. In the temperate regions, autumn is therefore the season of collection. The bark should be collected in spring or early summer when the sap is rising in the stem and the cambium is active therefore more easily torn than at another seasons.

A study of a traditional Chinese medicine exposed seasonal variation in overall isoflavonoid content, as well as variation among different compounds. This is an extremely valuable finding if roots are being grown for individual compounds or if industrial products are collected at different times and standardized to a specific compound that varies from month to month, week to week, or even day to day.

Daily variations were also seen in the essential oil of wild basil herb, or Ocimum gratissimum (Lamiaceae), where levels of eugenol in the essential oil were observed to drop from 98% at 12 a.m. to 11% at 5 p.m. Circadian rhythms are also known to control stomata opening, gene expression, transcription, timing of photoperiodism, and to drive growth and development, although the control mechanisms remain unknown.Studies have found that disruption of normal circadian function in Arabidopsis thaliana (Brassicaceae) has led to reduced leaf chlorophyll levels, reduced growth, and increased mortality (Shah; T.C.Denston).

2.1.2. Seasons for the Collection of Specific Parts According to Modern Botany (Shah; T.C.Denston)

The season and time at which each drug is collected is usually a matter of consideration, since the amount and sometimes nature of active constituents varies throughout the year. There is aggregate evidence that structure of number of secondary plant metabolites varies considerably throughout day and night. During September - November can be considered as the best period for collection of herbaceous species, but in August-October in the area above 3000m. March-May can be consider as best period for collection of trees and shrubs In evergreen forest, as most of the species are in flowering condition during this period. Winter season in deciduous forest the collection should be avoided because of falling of leaves is common during this season.

Table 6: 2.2.2.Seasons for the collection of specific parts according to modern botany

Plant part	Season/ Time of collection	
	Textbook Pharmacognosy	
	Dr.C.S.Shah	**T.C.Dunston**
1 Leaf and flowering	Top When they reached flowering (maturity).	During the flowering time of the plant, in the morning time and Dry weather.
2 Flower	a) Just before pollination b) Before their full expansion c) Dry weather d) Morning hour	During its season, petals just expanded middle of the day and in Dry weather.
3 Bark	a) Spring b) Early summer when cambium is active	Autumn-After leaf fall / Spring-Before the development of leaves.
4 Fruit	As per season, ripe fruit	Fully grown and ripe or nearly ripe.
5 Root	In Spring, before vegetative process stops	a) From annuals :- Shortly before flowering b) From biennials: -

		Autumn/Winter following the first year growth. c) From perennials: - Autumn/Winter following the second year growth.
6 Unorganized part(resin, gum, latex)	As they ooze out of the plant	In dry weather.
7 Rhizome	When their tissue are fully stored with reserve	a) From annuals :- Shortly before flowering b) From biennials: - Autumn/Winter following the first year growth. c) From perennials: - Autumn/Winter following the second year growth.
8 Herb	--	When the plant attains its flowering stage

2.1.3. Collection of Root Parts According to Modern Botany

The roots of an annual plant along with aerial part of the plant are collected. In case where the whole plant is used; roots of annuals are usually collected. In autumn of the first year growth or in spring before the beginning of the second year growth the biennials and perennials are generally collected. Accumulate active principles during the summer and the roots are storage organ for the plant. As an exception the roots of *withania somnifera* are normally collected when the plants are 6-8 months old. Similarly some root parts should be collected when the plants are of 3-5 years old the roots. As an example *Innula racemosa, Glycirrhizia glabra* (Geneva, 2003).

2.1.4. Collection of Leaves Parts According to Modern Botany

Leaves parts are collected throughout the whole growing period. Young leaves are normally consider as contain highest quality of active principle, but they must be free from diseases, insect etc. (Geneva, 2003).

2.1.5. Collection of Tubers/Bulb Parts According to Modern Botany

Tuber/Bulb part of the plant should be collected during flowering period because this support in proof of identity of the species. It is remarkable that the deep excavating should be avoided during the collection of underground parts (Geneva, 2003).

2.1.6. Collection of Herbage Parts According to Modern Botany

Collection of the aerial or top parts of the plant should be done with flower or fruit bearing stem. In case of herbage, seasonal studies must be conducted to locate the period when ideal active ingredients are present in the plant. The mature branches of the stem must be harvested and never remove all the branches of the plant (Geneva, 2003).

2.1.7. Collection of Flower Parts According to Modern Botany

Flowers or whole inflorescences are collected at the start of the flowering period and leave some floral parts on the plants to help natural pollination (Geneva, 2003).

2.1.8. Collection of Fruits and the seeds Parts According to Modern

Fruits and the seeds are collected when they are fully matured. In the case of cultivated crops which are harvested by machine, this is done just before they are fully ripe so that fruits do not crumble or the seeds fallout in the field (Geneva, 2003).

2.1.9. Collection of Bark Parts According to Modern Botany

Bark should be collected in spring when the trees and shrubs begin to bud or in autumn after they have shed their leaves. During this period the flow of sap is at its maximum and bark radially separate from the wood. The collection period of every separate plant or part of the plant varies depending upon the climate and altitude. The bark should be collected from the branches instead of main trunk and do not peel whole bark of the plant. It is also

important to strip the bark longitudinally and not all over the circumference to the trunk/ branches (Geneva, 2003).

3. CONCLUSION

Traditional cultures have been educated the collecting methods of raw materials through many generations. Harvesting methods of herbal plant can significantly affect the characteristics and qualities of herbal products. The effectiveness of the medicinal plants is subject to the availability of secondary metabolites. According to ancient philosophizers, medicinal plants were not just resources for treatment protocols. If an appropriate care is not taken during the harvesting; it may result in loss of therapeutic action. The data analyzed in this paper highlights the requirement of application of scientific techniques to make phytomedicines as potent as any other modern agent. The herbs without therapeutic efficacy become useless in combating the disease condition. Therefor the effective raw material collecting method is highly demand on preparation of high quality products as well as the treatment.

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STUDENT ENGAGEMENT IN ONLINE LEARNING: WHAT IT MEANS TO STUDENTS

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ANNOTATION

Given the increasing numbers of students who choose to learn online, educators should understand the conditions necessary for student success in this environment. Previous studies have documented that student engagement is essential to student learning, retention, persistence, and satisfaction. In this descriptive qualitative study, we sought to understand how students conceptualize engagement in online courses as well as to understand what elements students perceive to be engaging. For this work, we interviewed or surveyed 40 students who shared their perceptions of engagement in online courses. We uncovered several key themes related to types of engagement including behavioural engagement, cognitive engagement, social engagement, emotional engagement, and argentic engagement. Additionally, the students described specific course elements they find engaging. We offer suggestions for distance learning administrators and instructional designers who wish to work with instructors on engaging students in the online learning environment.

KEY WORDS: *online learning, student engagement, education, student enrollment, quality, online innovation, efficiency*

INTRODUCTION

In 1998, too few fully online courses existed for researchers to take an account of student enrollment. According to the most recent Babson Research Survey Group report, which presents data collected under the U.S. Department of Education's National Center for Education Statistics' (NCES) Integrated Postsecondary Education Data System (IPEDS), in the fall of 2016 there were nearly 6.4 million students taking online courses (Seaman, Allen, & Seaman, 2018). This figure represents 31.6 percent of total enrollment. This report also documents that distance education enrollment has increased for the fourteenth straight year in an environment that that struggled within overall declining enrollment since 2012 (Seaman et al., 2018). According to the Education Departments National Center for Education Statistics, the proportion of all students who were enrolled exclusively online grew to 15.4 percent (which is up from 14.7 percent in 2016). This means that about one in six students are studying online. The share of all students who mixed online and in-person courses grew slightly faster, from 16.4 percent in 2016 to 17.6 percent in 2017. The proportion of all students who took at least one course online grew to 33.1 percent, which is up from 31.1 percent in 2016 (Grinder, Kelly-Reid, & Mann, 2019).

With the growth in importance of online learning as an instructional form, ever-increasing numbers of faculty are teaching online courses.

Findings from a 2013 survey of more than 2,200 faculty members indicated that 30% of faculty have taught online (Seaman et al., 2018). Faculty at all career ranks, part- and full-time faculty, and faculty teaching at a range of institutional types have developed and taught online courses. Findings from this study about faculty participation in online learning correspond to other studies, which also indicate that a growing number of faculty are beginning to teach online. Lederman and Jaschik (2013) conducted a study with 2,251 faculty members. The findings support those of Seaman's (2009) earlier study of more than 11,000 faculty, which indicated that by the fall of 2008 just over one third (34.4%) had taught a course online and nearly one quarter of all faculty (23.6%) were teaching one course online at the time. More recent research involving a study with 95 chief academic officers (Learning House, 2019) found that about two-thirds of the online courses (67 percent) are taught by full-time instructors, and the other third by adjunct professors (31 percent). Institutions are less likely to require training than to require it. Almost a quarter of institutions (23 percent) do not require professors to any activities to prepare for online teaching, and the percentage of academic officers ranged from a high of 45 present for self-paced training on the institution's online education technology (learning management system, etc.) to about thirty percent for training on online course design. With evidence to

suggest that almost one third of faculty members are teaching online and that more are planning to do so in the future, this instructional form appears to have reached what Rogers (1983) called the "tipping point" in diffusion of innovation, in this case instructional innovation. According to Rogers (1983), it takes 25% of individual adoption to reach a "tipping point" of acceptance. That is, online learning appears to have become common instructional practice among higher education faculty. The evidence suggesting that most faculty don't receive any formal training for teaching online suggests that we need to provide faculty with more information about teaching in the online environment.

High-ranking officials also have signalled the growing importance of online learning in higher education in several ways. In the Sloan Foundation survey, for example, while in 2002, fewer than 50% of all higher education institutions reported that online learning was critical to their long-term strategy, by 2011 that number was 66%. In the 2013 survey, 90% of administrators indicated a belief that it is "very likely" or "likely" that all students will be taking at least one online course in the next five years. It seems clear that administrators believe that online learning is occupying an increasingly important role in institutions of higher education.

In 2016, Quality Matters and Eduventures Research formed the Changing Landscape of Online Education (CHLOE) to conduct research on online learning. Among their first efforts was to track Chief Online Officers (COO) perspectives of the field. Their survey of 280 COOs signifies the growing importance of online learning. From increased number and types of campuses, to increases status of online learning officers (growing numbers and shifts in the organizational chart), to the amount of time and effort being spent on online innovation, clearly this form of distance learning is getting a stronger hold on higher education (Garrett & Legon, 2019).

With the growth of online learning during the past three decades and the likelihood for its continuation, there have been notable challenges to its success, which are largely connected to the concept student engagement. While we know from research on onsite courses that engagement is critical to student success (Bawa, 2016), researchers have not fully addressed the question of what makes an online course a more or less engaging learning experience for students. Since student engagement is critical, we need to understand what engagement is and how we can best plan for it in online environments. The purpose of this descriptive qualitative study was to discover how students conceptualize and recognize student engagement in the online setting.

LITERATURE REVIEW
Online Learning

A growing body of evidence suggests that online learning is an effective method for helping students achieve learning outcomes. A recent Education Resources Information Center (ERIC) search found more than 3,000 research or evaluation studies on the effectiveness of online learning at the higher education level were published in peer-reviewed journals between the years of 2000 and 2019. Around a tenth of these studies involved a direct comparison between online and offline program models. These studies largely suggest that online and offline courses often have similar outcomes, or a finding of "no significant difference," with some studies suggesting online are slightly better and some suggesting offline are slightly better, in the area of cognitive gain (National Research Centre for Distance Education and Technological Advancements, 2019). According to the National Research Centre for Distance Education and Technological Advancements (DETA), strong evidence exists to defend the "no significant difference finding." That said, this research is accompanied by much criticism. Some educators argue that online learning is inferior to onsite learning. Indeed, in ten national surveys of chief academic officers conducted by the Babson Survey Research Group from 2002-2015, no more than about a third of the officers reported that faculty accept the value and legitimacy of online education. These numbers ranged from a low of 28 present in 2002, 2005 and 2014, to a high of 34 percent in 2007. As the researchers concluded, "a continuing failure of online education has been the inability to convince its most important audience— higher education faculty members—of its worth."(Allen, Seaman & Straut, 2016). Additionally, the criticism has included questioning whether the "no significant difference" studies were rigorous or if they asked the right questions. Specifically, DETA has compiled a bibliography of hundreds of studies that compare online courses (or other forms of distance education) to onsite ones. Many of these have questioned the "no significant difference" research itself, from whether the studies were rigorous to whether they asked the right question. Some meta-analyses of such studies, however, have in general confirmed the "no significant difference" indication. One of the most recent meta-analyses of these studies was conducted by the US Department of Education. The researchers found that "*on average, students in online learning conditions performed better than those receiving face to face instruction*" (Means et al., 2009, p. ix). The researchers also found that "*the effectiveness of online learning approaches appears quite broad across (p. xv).* In other words, online learning has proven effective for undergraduates, graduates, and academic and professional students. Several scholars

claim that research aiming at the comparison between online and offline courses has been largely exhausted (Bernard et al., 2009; Clark 2000; Gunawardena and McIssac, 2004; Mishra & Koehler, 2006; Locke, Moore, and Burton, 2001; Yin et al., 2018). What we have yet to document as clearly is what experiences or course features make online courses more or less effective for student learners and learning.

Student Engagement

Educators suggest that we don't have a clear understanding of what student engagement is. As one educator suggested, "an explicit consensus about what we actually mean by engagement or why it is important is lacking," which illustrates the complexity of the idea (Bowen, 2005, p. 3). There is some agreement at a broad level about what student engagement is, however, and these characteristics provide an essential framework for understanding student engagement. Student engagement in general is students' willingness and desire to contribute and be successful in a learning process that leads them to higher-level thinking and long-term understanding. Barkley and Major (2020) suggest that student engagement is the mental state students are in while learning, representing the intersection of feeling and thinking. We believe that "engagement requires a psychological investment on the part of the learner as well as persistence in undertaking the learning task" (Major, 2015, p. 208). Additionally, several interconnected factors such as motivation, attention, involvement, and intellectual effort can support engagement initiatives. Finally, instructor actions can prompt engagement. In one study for example, researchers found that students in courses where faculty used more non-verbal immediacy behaviors (e.g. emoticons/figurative language, color, cohesion, visual imagery, and audio in course design; response latency, length, time of day, and message frequency in forums; and type and promptness of feedback via grading and email), student engagement was higher (Rogers-Stacy, 2017). In order to engage online learners, we need to advance a distinct understanding of student engagement in an online setting. Likewise, we need to understand the concept from the perspective of the ones who are, or are not, engaging: the students. And we need to understand common features and elements of online course design and delivery that can promote student engagement.

Conceptual Framework

With little research on creating engaging experiences online and multiple perceptions of the term "engagement," a conceptual framework helps the various concepts and themes derived from the review of literature and data analysis. Reeve and Tseng's (2011) study described various levels of student engagement. Specifically, the researchers argued that student engagement is a four-component construct: behavioural engagement, emotional engagement, cognitive engagement, and argentic engagement.

Behavioural engagement includes students' effort, determination, contribution, and compliance with the course (Wetzel, 2003; Reeve & Tseng, 2011). There is little consistency on the definition of emotional engagement (Wetzel, 2003; Reeve & Tseng, 2011). While perceptions differ, two definitions have emerged from prior research. Sierra and Stirrup (2008) described emotional engagement as the degree to which students feel a sense of belonging and "the degree to which they care" (p. 218). Skinner and Belmont (1993) defined emotional engagement as students' feelings of curiosity, pleasure, apprehension, and irritation during their efforts towards success. Cognitive engagement includes students' motivation, skills, and approaches to improving their work (Metalloid & Via Chou, 2007; Reeve & Tseng, 2011).

The prior three variations of engagement have been continuously defined and described in prior research. However, Reeve and Tseng (2011) were the first to suggest that agentic engagement is a fourth aspect of student engagement. They defined agentic engagement as "students' constructive contribution into the flow of the instruction they receive" (p. 1). Figure 1 displays their four-component model and suggests interactions between different types of engagement leads to student achievement of learning outcomes. Since prior research noted the discrepancy of student engagement meanings among students and faculty, using various components of the term should invoke more meaningful discussions.

METHODS

The purpose of the study was to explore the concept "student engagement" in online courses. Our research questions were:

- How do students define student engagement?
- How do students define student engagement in online courses?
- What experiences and features of online learning do students find engaging?

Our research approach for learning about the concept of student engagement was a descriptive qualitative study. A descriptive study is useful for examining events or phenomena experience by individuals or groups. The approach is useful for providing an extensive summary of the situation. Rather than asking "why" or "how," the descriptive qualitative researcher examines the "what" (Major, 2013).

To carry out this descriptive study, we created an open-ended, online survey for students on "student engagement." The survey consisted of nine of open-

ended questions about engagement. Forty students participated in our study. Demographic data from students was collected prior to the open-ended questions.

Seventy percent of students were classified as full-time taking between six and sixteen credit hours per semester. A majority, 75.7%, were graduate students. Eighty percent of students listed their ethnicity as "white" and 70% identify as female. While most students (86%) classified themselves as residential students, defined as most courses taken were taught in-person and on-campus, all students had taken at least one course online. Areas of study varied, but the majority of the students were enrolled in an education program. Higher education administration and instructional leadership were the two most common.

We used thematic analysis to identify common themes and trends in the data. During the first cycle of coding, we used initial coding and read transcripts as we created codes that defined what we were reading (Charmaz, 2014). Saldaña (2013) explains that "initial coding is breaking down qualitative data into discrete parts, closely explaining them, and comparing them for similarities and differences" (p. 100). The second cycle of coding, or recoding, was needed to better refine the categories and themes found in the data. Abbott (2004) likened this round of coding to "decorating a room; you try it, step back, move a few things, step back again, try a serious reorganization, and so on" (p. 215). We coded all surveys and found that we reached theoretical saturation, in which we were able to answer the research questions and were finding recurrent themes.

FINDINGS

We found several key themes in the data. The themes most often were associated with different types of engagement and the strategies or course features necessary for engagement to occur. They also included students' thoughts about who is responsible for student engagement.

Cognitive Engagement
Definition. Most student respondents stated that engagement in the classroom must be "active." They pointed to the idea of their own involvement in their learning as well as to the notion of intellectual effort. As one participant explained, students "must be involved in the learning process." Interestingly, when asked about student engagement online, several of the students tipped to descriptions of learning that happen in a physical classroom. For example, one student said:

"Student engagement is defined as students actively participating in the learning process. Instead of passively sitting in a classroom and doing the bare minimum to get by, student engagement entails that

students participate in thoughtful discussion, and go above and beyond on assignments in order to learn." Another student, talking about student roles, said that students:

- "are fully invested in the learning process, whether by participating in classroom discussions with faculty and classmates, completing reading assignments or other projects outside of class time, or by generally committing to the class."

Students felt they had to put forth cognitive effort in order to engage. But they did not articulate how that engagement differed between online and onsite classes.

Strategies. Students often described active learning strategies in which they had participated as engaging. Strategies included leading the discussion one week, completing activities such as WebQuests, and developing authentic projects, such as portfolios kept them active and engaged in learning online. Students knew that to engage, they could not be bystanders, but instead participatory members of the learning environment. They wanted important and meaningful work, not busy work or rote tasks. While they knew they had to engage, they wanted teachers to design environments in which that is possible. Another student explained a positive and engaging experience as follows:

"The best experience that I had in an online course is where the professor had us post weekly on two different topics. The first topic was given to us by the professor. The second topic was picked by the individual student but had to be relevant to the weekly lesson. Each student had to respond to two classmates. With the first topic, the professor was preparing us for the type of questions that were typical on comprehensive exams. The second topic was to engage the student by letting us research and pick something that was interesting to us as individuals. Some students complained that it was a lot of extra writing due to the length of the posts. I aced my comprehensive exams for the program and that class was a big factor in my improving my writing skills. She also sent us weekly motivational quotes or pictures."

Emotional Engagement
Definition. Students had to connect with the course on an emotional level. That is, they had to have a positive view of the course and of the importance of learning. They had to believe that they could succeed. They had to want to learn. And, they understood this as well as its interconnection to other types of engagement. One student described engagement, specifically pointing out the personal and emotional aspect, in addition to the cognitive one, say that engagement is "The level of involvement of students personally, emotionally, and academically pertaining to a course both in and out of the classroom."

Emotional Engagement Strategies Students were unsurprisingly less vocal about emotional engagement than they were about cognitive engagement, but they had some specific suggestions for faculty, as follows:

- **"**Be challenging, but again show some personality in the class. Incorporate some reflective or introspective assignments."
- "Be open minded to different viewpoints. Encourage creativity. Allow time and space for collaboration. Provide students a rubric or expectations for student engagement. Allot time for students to respond to posts"

Engaged Behaviors

While our conceptual model suggests that behavior and agency are types of engagement, we found that cognitive and emotional engagement had to be in place for students to demonstrate engaged behaviors. That is, students had to want to engage, and they had to exert the effort to engage, prior to *doing* things that demonstrate engagement and prior to taking ownership for the course. They recognized when they were engaged and offered several behaviors that document their engagement in their own learning. Moreover, agency emerged as a type of engaged behavior. Students described the following engaged behaviors.

Showing up. One of the key indicators of engagement was simply showing up. Engaged students describe logging into the course and completing their assignments and talking with their instructors and peers. They demonstrated engagement through trying to learn the information, rather than just passing the test. They showed engagement by demonstrating their attempts to understand the bigger picture of the assignment rather than just attending to the requirements. They were active in reflections about their learning. One student shared that to be engaged, students have to, "Be open-minded. Be active participants. Put forth an effort to deep thinking and constructing a sound response. Be a good listener. Make sure you reread for clarity."

Interacting with others. Students often mentioned collaborating with peers as a key way they demonstrated engagement. Specifically, many students responded that discussion boards and forums are ideal tools for engaging. As one student said, "Therefore, I would suggest that a professor's foremost objective is to rekindle the social interactions of online students. Once the students begin working as a unified system, then learning outcomes/processes become more alluring." Additionally, they also noted the importance of interacting with the teacher. They wanted timely and insightful feedback from the instructor. Social presence was an important factor to their perceptions of engagement.

Exercising Self-Management and Agency. Students believed that a level of accountability and self-direction should be implemented in the classroom. One respondent said that students should be "actively involved in and accountable for their own learning." Another said, "self-discipline is key." They indicated that this autonomy leads to further involvement and comprehension of the material. Additionally, this self-guidance can result in students taking the initiative to reach out to their classmates and/or instructors and yield better efficiency within the online course. They also wanted leadership opportunities in the course, sharing some of the authority with their instructor and their peers.

Shared responsibility between faculty and students

Most students believed that engagement should be a shared responsibility. One respondent stated, "We are all- students and faculty- fully responsible for both teaching and learning." Another said,

"Just as a student must take the initiative to learn, the teacher must take the initiative to teach (mutual responsibility). This sense of 50/50 can also be applied to student-student relationships, too. Any situation in which one side is exerting too much and the other is not receptive/contributing is doomed for inadequacy."

For online learning, the interconnectivity of the course can be an ideal setting for this shared responsibility.

Even though describing it as shared responsibility, they acknowledged the instructor's critical role in student engagement. One student said:

"An engaging professor draws students in. Even students who are not inclined to be engaged. Part of prof's responsibility is to make students engage and learn, even when they don't know they want to. An engaging and fun class can be refreshing and fulfilling."

Another said, "While students must take the initiative to interact and build up trust with each other, it is up to the professor and course design to facilitate this process."

DISCUSSION

Distance learning administrators need to set policies that encourage faculty to build in efforts to engage students in their learning. While students understand their role as engaged learners, it is essential to design courses that create opportunities for engagement to happen. The key is for instructional designers to help faculty learn how to make their courses more engaging for the students who will participate in them. These strategies need to blend cognitive engagement prompts with emotional engagement and motivation in ways that will lead students to engaged behaviors. From our findings, we

offer the following strategies for engaging students online.

Encourage online faculty to use student-led pedagogies. Pedagogies such as lectures and demonstrations tend to be instructor led, while pedagogies such as cooperative learning, team-based learning (TBL), and problem-based learning (PBL) tend to be learner led. While both approaches have value, pedagogies in the latter group provide opportunities for students to take an agency role in their own learning. The best approach is likely a mix of instructor-led and student-led pedagogies, which will help students understand that both the teacher and the learners are involved in and responsible for learning.

Encourage online instructors to use pedagogies that empower students in the pedagogical process. Students can be involved in the pedagogical process in a variety of ways, through contributing their own goals to course goals. They can also have opportunities to serve as the instructors at some point in a given course, for example through student created micro teaching videos, digital stories, web sites, collages, letters, personal learning environments, or other (for a fuller list of teaching techniques, see the K. Patricia Cross Academy, nd). These approaches are motivating and provide students with an opportunity to engage cognitively and to exert agency.

Encourage online instructors to use pedagogies that allow students to connect their personal interests to course content. Students are more likely to be interested in topics that involve them directly, as an adult educational theory suggests. Adult learners are internally motivated and self-directed. They bring experiences and knowledge to their learning that they want to apply. They are practical and want learning to be relevant to their own experiences. In addition, adult learners want to be respected. Designers can work with instructors to build in these opportunities.

Encourage instructors to use pedagogies that simulate reality. Students tend to be more engaged in activities that feel real to them. Pedagogies based on realistic experiences for students can range from case-based learning in which students strive to solve real-world problems presented in the form of case studies to game-based learning, in which students participate in simulations and immersive games. These approaches are motivating and they provide opportunities for deep learning and higher order thinking.

Encourage instructors to use pedagogies that have students create authentic products. Authentic learning involves activities that are contextualized in real life, rather than decontextualized to the classroom. These approaches not only make engagement and ultimately learning more visible, but also more real for the students. Activities like book reviews, digital storytelling, surveys, data analysis, book reviews, case studies, and so forth can allow students to approach a meaningful task and to produce a real and enduring product that documents their learning in a tangible way.

Encourage instructors to use varied pedagogies that require documented student action Just as onsite students need breaks from content consumption to actively engage in their learning, so do students in online courses. There are many activities that faculty can implement to ensure student activity, even when presenting content. Short video lectures juxtaposed with active learning assignments (such as posting to a discussion board or uploading content), for example, is one option. Written content maybe be interspersed with links to assignments that invite activity, such as the opportunity to comment on a content post. Students can engage in a range of activities such as accessing information, sharing information, contributing information, creating information, and curating information.

CONCLUSION

Our study revealed that students view "student engagement" to be active and participatory amongst both students and faculty. Our findings show also that in order for "student engagement" to be achieved, communication must be encouraged and accessible for all members of the course. Our hope is that this research will help those who are developing online courses to create opportunities that enable students to communicate, problem-solve, critique, and create. While most are familiar with these techniques in the traditional, face-to-face setting, they cannot be ignored or neglected in online classrooms. Technology, including Learning Management Systems, can be used to support different types of student engagement among the digital learning community resulting in deeper and more meaningful learning.

Table 1. *Research Question & Methods*

Research Question	Methods
What experiences and features of online learning do students find engaging?	Questions from the semi-structured interview questions. Interview questions related to this question included questions about emotional, behavioral, cognitive, and agentic engagement. Specifically, we asked students to describe both the positive and negative attributes of online courses as it related to their level of engagement.
How do online students define student engagement?	Each semi-structured interview began by asking the participant to define student engagement. Specifically, "What is student engagement and what are your experiences with the concept?"

Figure 1. *Reeve & Tseng's (2011) four-component model of student engagement*
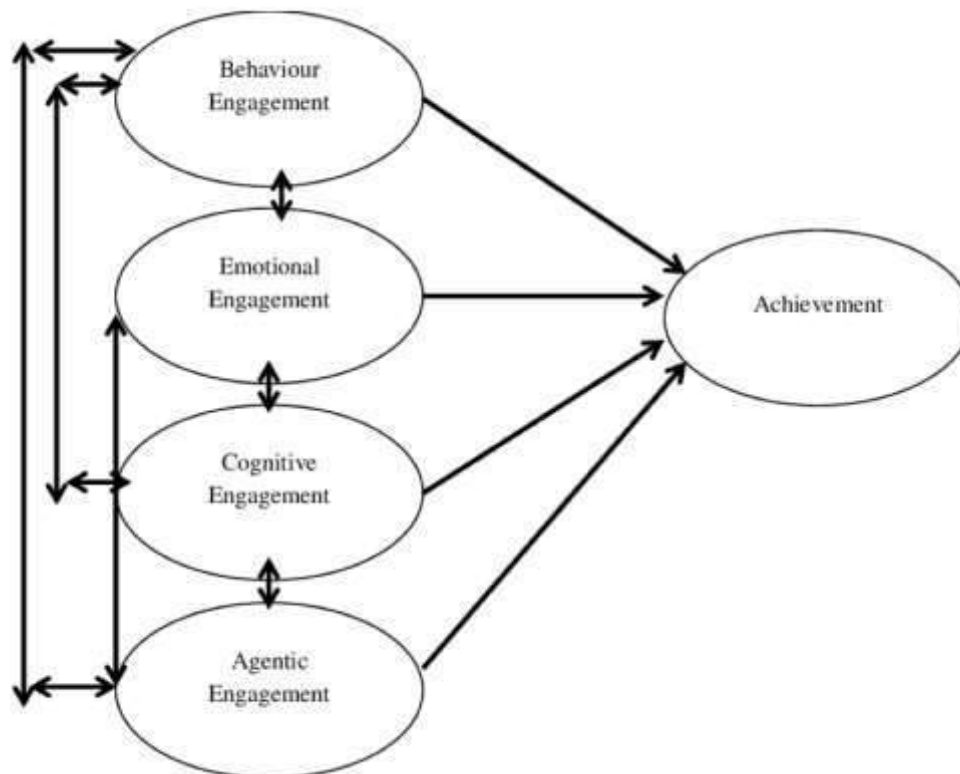
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TWO CURIOUS DEFINITE INTEGRAL

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ABSTRACT
In this paper we have established two definite integral in the form of hypergeometric function.
KEY WORDS :*Elliptic Integral,Gauss hypergeometric function, Boolean Algebra.*
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1. INTRODUCTION
Yurry A. Brychkov[Brychkov p.155-156(4.1.6)] has established the following formulae

$$\int_0^a \frac{1}{\sqrt{(a^2-x^2)}} \sin^{-1}(bx)\, dx = \frac{1}{2}[Li_2(ab) + Li_2(-ab)], \quad [|\arg(1-a^2b^2)| < \pi]. \quad (1.1)$$

$$\int_0^a \sqrt{(a^2-x^2)} \sin^{-1}(bx)\, dx$$
$$= \frac{a}{4b}\{\frac{1-a^2b^2}{2ab}\ln\frac{1+ab}{1-ab} + ab[Li_2(ab) - Li_2(-ab)] - 1\}, \quad [|\arg(1 - a^2b^2)| < \pi]. \quad (1.2)$$

$$\int_0^a x\, \sqrt{(a^2-x^2)} \sin^{-1}(bx)\, dx$$
$$= \frac{a^2}{9b}[2(1-2a^2b^2)D(ab) - (1-3a^2b^2)K(ab)], \quad [|\arg(1-a^2b^2)| < \pi]. \quad (1.3)$$

$$\int_0^a \frac{x}{\sqrt{(a^2-x^2)}} \sin^{-1}(bx)\, dx = a^2b[K(ab) - D(ab)], \quad [|\arg(1-a^2b^2)| < \pi]. \quad (1.4)$$

A generalized hypergeometric function $\alpha F_\beta(a_1,\ldots,a_\alpha; b_1,\ldots,b_\beta; z)$ is a function which can be defined in the form of a hypergeometric series, i.e., a series for which the ratio of successive terms can be written

$$\frac{c_{\zeta+1}}{c_\zeta} = \frac{P(\zeta)}{Q(\zeta)} = \frac{(\zeta+a_1)(\zeta+a_2)\ldots(\zeta+a_\alpha)}{(\zeta+b_1)(\zeta+b_2)\ldots(\zeta+b_\beta)(\zeta+1)} z. \quad (1.5)$$

Where $\zeta + 1$ in the denominator is present for historical reasons of notation[Koepf p.12(2.9)], and the resulting generalized hypergeometric function is written

$$
{}_\alpha F_\beta \begin{bmatrix} a_1, a_2, \cdots, a_\alpha & ; \\ & z \\ b_1, b_2, \cdots, b_\beta & ; \end{bmatrix} = \sum_{k=0}^{\infty} \frac{(a_1)_k (a_2)_k \cdots (a_\alpha)_k z^k}{(b_1)_k (b_2)_k \cdots (b_\beta)_k k!} \tag{1.6}
$$

where the parameters $b_1, b_2, \cdots, b_\beta$ are positive integers.
The complete elliptic integral of the first kind K is defined as

$$
K(\eta) = \int_0^{\frac{\pi}{2}} \frac{d\theta}{\sqrt{1 - \eta^2 \sin^2 \theta}} = \int_0^1 \frac{dt}{\sqrt{(1-t^2)(1-\eta^2 t^2)}}, \tag{1.7}
$$

In power series

$$
K(\eta) = \frac{\pi}{2} \sum_{n=0}^{\infty} [\frac{(2n)!}{2^{2n}(n!)^2}]^2 \eta^{2n} = \frac{\pi}{2} \sum_{n=0}^{\infty} [P_{2n}(0)]^2 \eta^{2n}, \tag{1.8}
$$

where P_n is the Legendre polynomial.
In terms of the Gauss hypergeometric function, the complete elliptic integral of the first kind can be expressed as

$$
K(\eta) = \frac{\pi}{2} \; {}_2F_1(\frac{1}{2}, \frac{1}{2}; 1; \eta^2) \tag{1.9}
$$

The complete elliptic integral of the second kind E is defined as

$$
E(\eta) = \int_0^{\frac{\pi}{2}} \sqrt{1 - \eta^2 \sin^2 \theta} \; d\theta = \int_0^1 \frac{\sqrt{1 - \eta^2 t^2}}{\sqrt{1 - t^2}} \; dt. \tag{1.10}
$$

It can be expressed as a power series

$$
E(\eta) = \frac{\pi}{2} \sum_{n=0}^{\infty} [\frac{(2n)!}{2^{2n}(n!)^2}]^2 \frac{\eta^{2n}}{1 - 2n}. \tag{1.11}
$$

In terms of the Gauss hypergeometric function

$$
E(\eta) = \frac{\pi}{2} \; {}_2F_1(\frac{1}{2}, -\frac{1}{2}; 1; \eta^2). \tag{1.12}
$$

The fundamental operations of Boolean algebra are as follows:
AND (conjunction), denoted $\xi \wedge \omega$, satisfies $\xi \wedge \omega = 1$ if $\xi = \omega = 1$, and $\xi \wedge \omega = 0$ otherwise.
OR (disjunction), denoted $\xi \vee \omega$, satisfies $\xi \vee \omega = 0$ if $\xi = \omega = 0$, and $\xi \vee \omega = 1$ otherwise.
NOT (negation), denoted $\neg \xi$, satisfies $\neg \xi = 0$ if $\xi = 1$ and $\neg \xi = 1$ if $\xi = 0$.
The dilogarithm $Li_2(z)$ is a special case of the polylogarithm $Li_n(z)$ for $n = 2$.
The dilogarithm can be defined as

$$
Li_2(z) = \sum_{k=1}^{\infty} \frac{z^k}{k^2}. \tag{1.13}
$$

Main Formulae of the Integration

$$\int_0^a \frac{x \ \cos^{-1}(cx)}{\sqrt{a^2 - x^2}} \ dx = -\frac{1}{4}\pi \ a[ac \quad _2F_1(\frac{1}{2},\frac{1}{2};2;a^2c^2) - 2] \ for \ c \in R \wedge Re(a)$$
$$> 0 \wedge Im(a) = 0. \tag{2.1}$$

$$\int_0^a \frac{x^3 \ \cos^{-1}(cx)}{\sqrt{a^2 - x^2}} \ dx = \frac{1}{48}\pi \ a^3[16 - 9ac \quad _3F_2(\frac{1}{2},\frac{1}{2},\frac{5}{2};\frac{3}{2},3;a^2c^2)] \ for \ c \in R \wedge Re(a)$$
$$> 0 \wedge Im(a) = 0. \tag{2.2}$$

Derivation of Main Formulae
Derivation of (2.1)

$$\int_0^a \frac{x \ \cos^{-1}(cx)}{\sqrt{a^2 - x^2}} \ dx = -[\frac{\sqrt{a^2 - x^2}\{E(\sin^{-1}(cx)|\frac{1}{a^2c^2}) + \sqrt{1 - \frac{x^2}{a^2}} \ \cos^{-1}(cx)\}}{\sqrt{1 - \frac{x^2}{a^2}}}]_0^a$$

$$= -\frac{1}{4}\pi \ a[ac \quad _2F_1(\frac{1}{2},\frac{1}{2};2;a^2c^2) - 2] \ for \ c \in R \wedge Re(a) > 0 \wedge Im(a) = 0$$

Derivation of (2.2)

$$\int_0^a \frac{x^3 \ \cos^{-1}(cx)}{\sqrt{a^2 - x^2}} \ dx$$

$$= [\frac{1}{9\sqrt{-\frac{1}{a^2}} \ c^3\sqrt{a^2 - x^2}}\{-\sqrt{-\frac{1}{a^2}} \ c^2(a^2 - x^2)(3c(2a^2 + x^2)\cos^{-1}(cx)$$
$$- x\sqrt{1 - c^2x^2}) +$$

$$+\iota(5a^2c^2 + 2)\sqrt{1 - \frac{x^2}{a^2}} \ E(\iota \sinh^{-1}(\sqrt{-\frac{1}{a^2}} \ x)|a^2c^2) +$$

$$+2\iota(3a^4c^4 - 2a^2c^2 - 1)\sqrt{1 - \frac{x^2}{a^2}} \ F(\iota \sinh^{-1}(\sqrt{-\frac{1}{a^2}} \ x)|a^2c^2)\}]_0^a$$

$$= \frac{1}{48}\pi \ a^3[16 - 9ac \quad _3F_2(\frac{1}{2},\frac{1}{2},\frac{5}{2};\frac{3}{2},3;a^2c^2)] \ for \ c \in R \wedge Re(a) > 0 \wedge Im(a) = 0$$

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SIMULATION OF 5 LEVEL THREE PHASE CASCADE H-BRIDGE MULTI LEVEL INVERTER

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1. ABSTRACT

The traditional inverters have the drawbacks of Harmonics as well as Total Harmonic Distortion (THD). In Multilevel inverters (MLI), Cascaded H-bridge(CHB) Multilevel inverter is most efficient topology for medium and high voltage applications that reduces the Total Harmonic Distortion. The mode of operation for suggested inverter topology has been described. The design of the proposed 3-phase 5-level CHB inverter and simulation outcomes are performed by the MATLAB/Simulink.

KEY WORDS: *Total Harmonic Distortion (THD), Multilevel inverters (MLI), Cascaded H-bridge(CHB),Pulse width modulation(PWM),etc.*

2. INTRODUCTION

A device that converts DC power into AC power at desired output voltage and frequency is called an Inverter. Phase controlled converters when operated in the inverter mode are called line commutated inverters. But line commutated inverters require at the output terminals an existing AC supply which is used for their commutation. This means that line commutated inverters can't function as isolated AC voltage sources or as variable frequency generators with DC power at the input. Therefore, voltage level, frequency and waveform on the AC side of the line commutated inverters can't be changed. On the other hand, force commutated inverters provide an independent AC output voltage of adjustable voltage and adjustable frequency and have therefore much wider application.

Inverters can be broadly classified into two types based on their operation:
• Voltage Source Inverters(VSI)
• Current Source Inverters(CSI)

Multilevel inverters continue to receive more and more attention because of their high voltage operation capability, low switching losses, high efficiency and low output of Electro Magnetic Interference (EMI). The term multilevel starts with the three-level inverter introduced by Nabae et ala(1981). Now a days, multilevel inverters are becoming increasingly popular in power applications, as multilevel inverters have the ability to meet the increasing demand of power rating and power quality associated with reduced harmonic distortion and lower electromagnetic interference. A multilevel inverter has several advantages over a conventional

two-level inverter that uses high switching frequency pulse width

Modulation (PWM). The most attractive features of a multilevel inverter are as follow

1. They can generate output voltages with extremely low distortion and lower dv/dt.
2. They draw input current with very low distortion. 3) They generate smaller common mode (CM) voltage.
3. They can operate with a lower switching frequency.

Multilevel Power Inverter (MPI) represent a valid alternative in spite of converter". The use of MPIs is now very widespread in that applications with medium voltage and high power because for medium and high voltage power applications, power semiconductor switches present operative limits. Moreover, these types of converters are widely used to interface with the electrical grids the renewable energy systems like PV systems, wind farms, Fuel Cell based systems and are also used in electrical drive systems. One of the main advantages of this kind of converters is the low harmonic content in output voltage waveforms. In literature, the harmonic content reduction in output voltage and current waveforms of the converters have been largely discussed in the last years. Many modulation techniques, i.e. the pulse width modulation based ones, uses triangular waveform as carrier signals. In some studies, have been developed new modulation techniques in which the carrier signals are changed. In particular, the use of carrier signals with different harmonic content, respect triangle waveform, allows to change the harmonic content in the output voltage waveform of the converter.

The operation of CHB MLI and gating signals generation are explained in chapter-3(Methodology), Designed Simulation circuit for 3-phase CHB MLI and the results are explained in chapter-4 (Simulation Circuits And It's Results). Lastly conclusion and references given in chapter-5 and chapter-6 respectively.

3. METHODOLOGY
- ### CASCADED H-BRIDGE MULTI LEVEL INVERTER

In a five level cascaded H-bridge multilevel inverter The inverter consist of two H-bridge with series connection and each H-bridge having separate dc source. Which is fed by self-sufficient dc voltage source. In this figure two H-bridge consist of 8-MOSFET switches each H-bridge having 4MOSFET switches. This two H-bridge switches are worked as two H-bridge series connection. So, first H- bridge switches are S1, S4 and second H-bridge switches are S1', S4' open at time S2, S3 same as second bridge S2', S3' are off. So output will be wave form of staircase. If number of level increase the number of dc source increases. It will be effect on cost of dc

source and switches with complexity of inverter design circuit. This is disadvantages. The multilevel inverter are used where the demand of high power and power quality are essential, for example UPS, photo voltaic power conversion and hybrid power trains. Fig3 show the methodology of 5-level inverter analysis in matlab. First we have taken modulation index that is indicates of the ratio of peak magnitude of the modulation waveform and carrier waveform. It is relates the inverter dc-link voltage output of inverter. The modulation signal and magnitude of triangular signal vary between the peak magnitude and lower magnitude. The ratio of peak magnitude of modulation wave and the carrier wave is define as modulation index. Then comes to comparison of sine and triangular wave. In this comparison sine wave is fixed and four triangular wave vary by the modulation index. It will be given wave form of pulses. Then comes to PWM (pulse with modulation) generation . That is indicates comparison of sine and triangular wave form and it gave wave form of pulses that is given to switches. After then comes to FFT analysis.
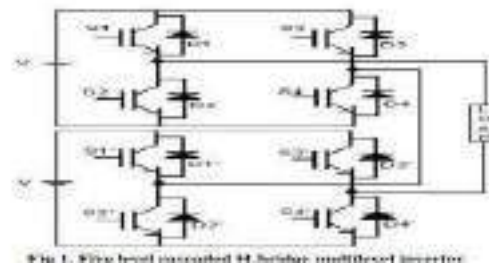
Fig 1. Five level cascaded H-bridge multilevel inverter

- ### SINUSOIDAL PULSE WIDTH MODULATION

In sinusoidal PWM instead of maintaining the width of all pulses the same as in the case of multiple PWM, the width of each is varied in proportion to the amplitude of a sine wave evaluated at the same pulse. The distortion is reduced significantly compared to multiple PWM . A high frequency triangular wave, called the carrier wave, is compared to a sinusoidal signal representing the desired output, called the reference wave. Usually, ordinary signal generators produce these signals. Whenever the carrier wave is less than the reference, a comparator produces a high output signal, which turns the upper transistor in one leg of the inverter on the lower switch off. In the other case the comparator sets the firing signal low, which turns the lower switch ON and upper switch OFF. The number of pulses per half cycle depends on the carrier frequency. Within the constraint that two transistors of the same arm cannot conduct at same time, the instantaneous output voltage is shown in Figure the same gating signals can be generated by using unidirectional triangular carrier wave as in Figure this method is preferable and easier to implement. The output voltage can be varied by

varying the modulation index 'm'. The area of each pulse corresponds approximately to the area under the sine wave between the adjacent mid points of off-periods on the gating signals

The The SPWM, which is most commonly used, suffers from certain drawbacks like low fundamental output voltage.

MULTI CARRIER PWM

Multiple Pulse Width Modulation Technique is used in three level or more than three levels. These are classified into two types: - Level Shift, Phase Shift.

Level Shifted PWM (LS-PWM)

N-1 carrier signals are used which are vertically shifted to each other. A level-shifted PWM can be classified in three types:

1. Phase Disposition (PD-PWM)
2. Phase Opposition Disposition (POD-PWM)
3. Alternative Phase opposition Disposition (APOD-PWM)

1.Phase Disposition (PD-PWM): In Phase Disposition all the carrier signals are in same phase.
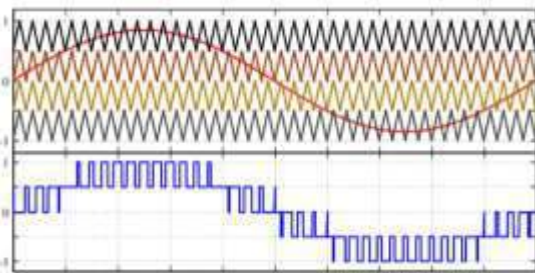
2.Phase Opposition Disposition (POD-PWM): In Phase Opposition Disposition all the carrier signals above the zero are out of phase with those below the zero by 180º.
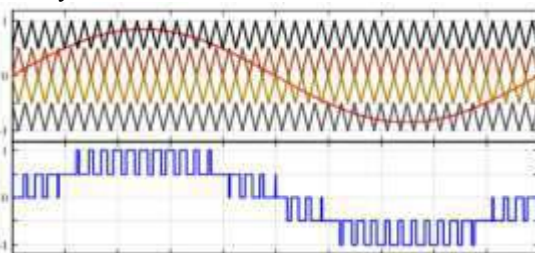
3.Alternative Phase opposition Disposition (APOD-PWM): In Alternate Phase Opposition Disposition all the adjacent carrier signals are out of phase by 180º.
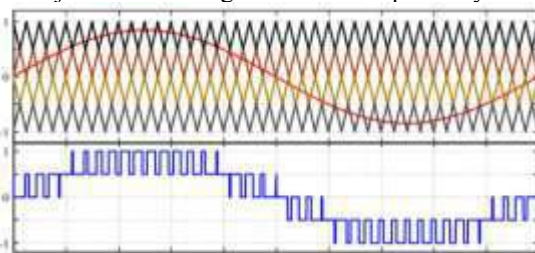
In this paper, Phase disposition PWM technique is used to get the gating signals for MOSFETS.

4. SIMULATION CIRCUITS AND IT'S RESULTS

The multilevel cascade inverter synthesizes its output nearly sinusoidal voltage waveforms by combining many isolated voltage levels. A series of single-phase full bridges makes up a phase for the inverter. A single-phase multilevel cascade Inverter topology is essentially composed of single identical phase legs of the series-chain of H-bridge inverter, which can possibly generate different output voltage waveforms and offers the potential for ac system phase-balancing. This feature is impossible in other Voltage source control topologies utilizing a common dc link. Since this topology consists of series power conversion cells, the voltage and power level may be easily amplified. The dc link supply for each full bridge inverter is provided separately, and this is typically achieved using diode rectifiers without using the single-phase transformer. The converter topology is based on the series connection of single-phase inverters with separate dc sources the resulting phase voltage is synthesized by the addition of the voltages generated by the different cells. For example in a five level cascaded inverter each single-phase full-bridge inverter generates five voltages at the output:+Vdc, + 2vdc, 0,-Vdc and -2Vdc. As Multilevel inverter is made up of semiconductor switches which are very sensitive to disturbances and become less tolerant to power quality problems such as under voltage and over voltage. So a suitable controller is required to maintain constant voltage. The existing model shows the H-bridge configuration of a 5 level multilevel inverter. Based on the triggering gate pulses the switches conduct. Thus output is obtained in form of levels. [12] In our paper we are presenting a H-bridge inverter model working on three phase AC supply. For real time implementation we are using MOSFET/IGBT as the switches. The control strategy is simple pulse width modulation technique (PWM) is used to control the gate pulses. Our model uses 7 H-Bridges of four power switches for synthesising a phase voltage.Each switch conducts for a particular time period based on the firing angle given to them. At any point of time only one switch is in conduction from one leg. No two switches from the same leg are in conduction at the same time. A pulse generator is implemented to provide width modulation and controlling the gate pulses. The initial source for the inverter is existing AC supply. Using a three phase rectifier the AC voltage is converted to DC voltage. Suitable filters are used to get a undistorted wave form. This is fed to each inverter leg. Separate DC sources are added to each leg. The output voltage is the cumulative sum of phase voltage across each leg. In this way different legs are cascaded to synthesise the levels. Thus the

H-bridge topology produces voltage levels obtained as a summation of individual voltages.

A capacitor may be added sometimes to split the DC source Voltage into two halves. The voltage across each capacitor is VDC/2. In the proposed model 15 levels are synthesised using 7 sublevels of H-bridge with 28 switches for each phase of the three phase output. This comprises the circuit for DC to AC conversion using cascaded H-bridge inverter. Suitable filters are designed and added to the output so that a near sinusoidal three phase waveform is obtained The gate pulses are controlled using simple PWM technique. A pwm pulse generator is used to provide gate pulses for the gates of the switches. In this technique the width of the pulses are varied to vary firing angles of the thyristors. In pwm method the carrier wave and reference wave are superimposed on each other and compared. This logic serves as the difference in conduction of switches resulting in a pulsating AC output.There are many forms of modulation used for communicating information. When a high frequency signal has amplitude varied in response to a lower frequency signal we have AM (amplitude modulation). When the signal frequency is varied in response to the modulating signal we have FM (frequency modulation). These signals are used for radio modulation because the high frequency carrier signal is needs for efficient radiation of the signal. When communication by pulses was introduced, the amplitude, frequency and pulse width become possible modulation options. In many power electronic converters where the output voltage can be one of two values the only option is modulation of average conduction time.

The basic principle used for the pwm technique is: PWM signal = sgn (r(t)-g(t))Where r(t) – reference signal g(t)-carrier signal.
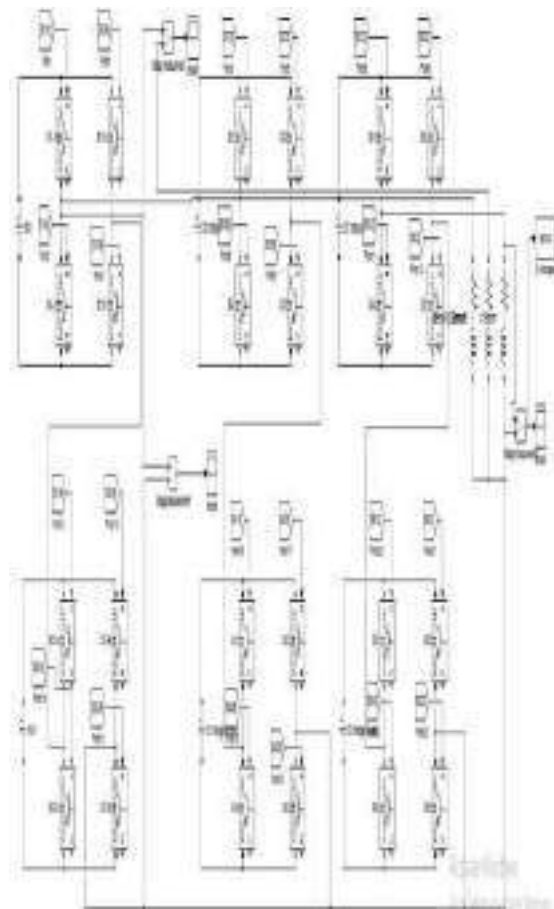
Fig:Simulation circuit of 3-phase 5-Level CHB MLI
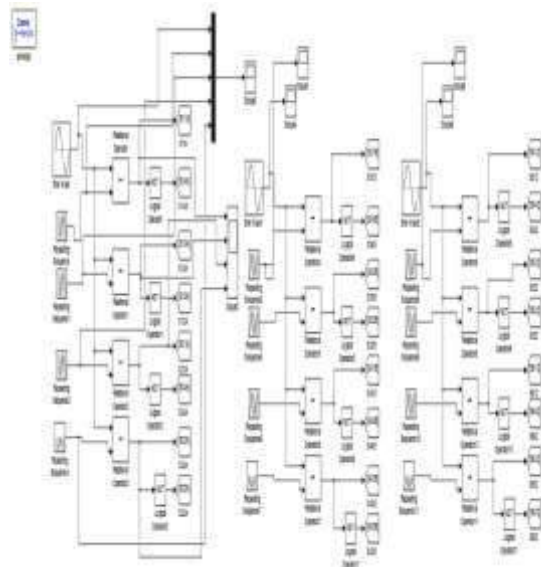
Fig: Control circuit for 3-phase 5-Level CHB MLI

In three phase 5-level CHB MLI, the THD is 5.63% , which is shown in FFT window.
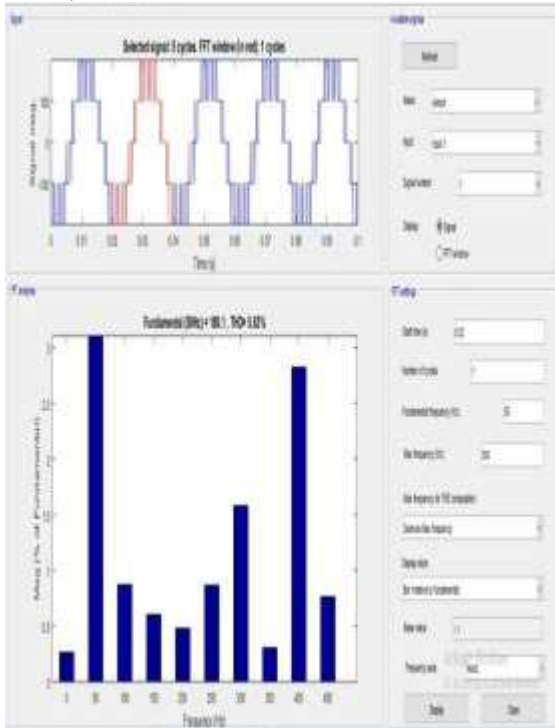
Fig: THD analysis of 3-phase 5-Level CHB MLI

In the Output Phase voltage wave form of 3-phase 5-Level CHB MLI, we got 5 levels i.e. 0V, +100V, +200, - 100V, and -200V.
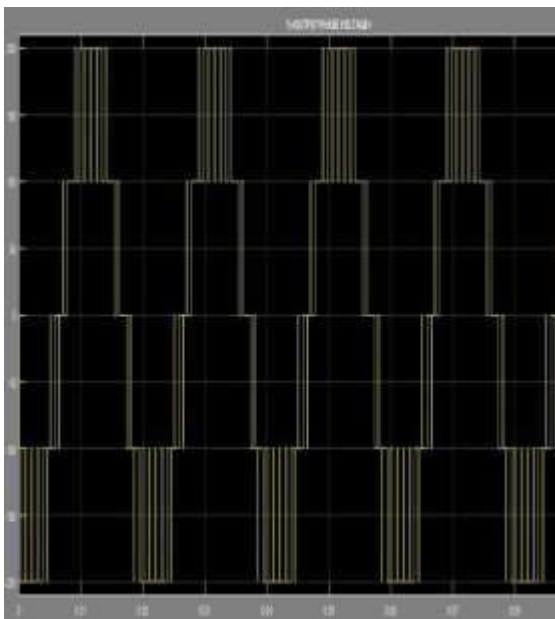
5. CONCLUSION

In this paper, Designed a circuit for three phase 5 level Cascaded H-Bridge Multi Level Inverter, the gate signals were generated by Sinusoidal Multi carrier Pulse width modulation technique (Phase disposition PWM) and simulated in matlab/simulink. In the output phase voltage waveform, we got five levels and analyzed the THD analysis.

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Fig: Output Phase voltage wave form of 3-phase 5-Level CHB MLI

REVIEW ON EARLY STRENGTH CONCRETE

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ABSTRACT

A brief literature review about the influence of mineral admixture (alccofine), chemical admixtures on the fresh concrete, and their effect on strength and durability behaviour of concrete is reported and discussed in this paper. Literature regarding mix proportioning of high early strength concrete is also discussed.

KEY WORDS: *Early strength concrete, Alccofine, Chemical admixtures*

1. INTRODUCTION

High early strength concrete achieves its specified strength within a short time. High strength at an early age is desirable for high-speed cast in-place construction, fast track paving, rapid form re-use in winter construction to reduce the length of time temporary protection is required for and many other uses. The additional cost of high-early-strength concrete is often offset by earlier use of structure, earlier reuse of forms and removal of shores and savings in the shorter duration of temporary heating. In road pavement maintenance and rehabilitation, strength at an early age is beneficial when early opening of the pavement is necessary.

2. PREVIOUS STUDIES ON HIGH EARLY STRENGTH CONCRETE

The following is brief information from previous studies

2.1. Research of Products Application Department PT. Semen Indonesia (2015)

In 2015, Research of Product Application PT. Semen Indonesia, developed a high early strength concrete that was called Rapid Strength Concrete (RSC). In this study, effect of various dosages of high range water reducing admixture based polycarboxylate ether were studied. Its composition and strength properties are presented in the Table 1 below:

Table 1. Composition and Strength Properties of Concrete for Various Concrete Mixes [1]

Materials	Mix proportions			
Cement (Kg/m³)	740	740	740	740
Fine aggregate (Kg/m³)	542.50	542.50	524.50	542.50
Coarse aggregate (Kg/m³)	1007.50	1007.50	1007.50	1007.50
W/C Ratio	0.25	0.2	0.25	0.2
Polycarboxylate ether (%)	0.8	0.8	0.6	0.6
Slump (mm)	60	56	56	50
Compressive strength (MPa)				
8 hours	17.99	25.06	21.91	22.48
24 Hours	64.19	65.11	58.22	58.89

2.2. High Early strength concrete by Federal Highway Administration (2001)

In 2001, Federal highway administration conducted various experiments for making high early strength concrete with several types of mix designs. The compositions along with other information are presented in the Table 2 below.

Table 2. Mix design of high early strength concrete by federal highway administration [2]

Materials	Mix Proportions				
Cement (Kg/m³)	400	350	450	400	450
Coarse aggregate (Kg/m³)	1070	1010	780	830	1070
Fine aggregate (Kg/m³)	600	830	780	810	610
Fly ash (Kg/m³)	-	-	50	45	-
W/C Ratio	0.45	0.41	0.4-0.48	0.4-0.48	0.4
Air Entraining agent (%)	6	6	6	6	6
Water Reducer	-	-	Use	Use	-
% Cacl₂	-	-	-	-	1.0
Open Traffic in Time	4-6 hours	4 hours	12-24 hours	24-72 hours	4 hours

2.3. High Early strength concrete by Strategic Highway Research Program (1993)

In 1993, Strategic Highway Research Program provided some data on material specifications, mix designs, and mechanical properties from four different regions in America: Crushed Granite (CG), Marina Marl (MM), Rounded Gravel (RG), and Dense Crushed Limestone (DL). Its composition and strength properties are presented in the Table 3 below:

Table 3. Mix design of High Early strength Concrete by Strategic Highway Research Program [3]

Materials	DL (Van Buren)	MM (Lilington)	RG (Memphis)	CG (Lilington)
Type III cement (Kg/m³)	522	522	522	522
Fine aggregate (Kg/m³)	618	588	540	576
Coarse aggregate (Kg/m³)	1008	942	990	1032
W/C Ratio	0.34	0.32	0.34	0.32
Naphthalene based HRWR (mL/100 kg cementitious materials)	16	26	26	26
Air Entraining Agent (%)	4	1	1	9
Calcium Nitrite (%)	2.4	2.4	2.4	2.4
Slump (mm)	7.7	17.2	17.8	2.54
Compressive strength for 1 day (MPa)	36.5	38.7	39	37

3. POZZOLANS IN HIGH EARLY STRENGTH CONCRETE

With the emergence of industrialization, industrial solid waste generation has increased in huge amount and the industries are facing difficulty in dumping and disposal of the solid waste generated. Non-engineered industrial waste disposal impacts the atmosphere, which in turn damages the environment. Lot of research is being performed to identify the ways to utilize the industrial solid waste in the construction industry. From the various researches, it can be concluded that the industrial solid waste with pozzolanic nature can be used as replacing material for cement and other ingredients. Efforts are being made to reduce the usage of cement by encouraging the use of industrial waste or by-products, such as Fly Ash (FA), Silica Fume (SF), Ground Granulated Blast Furnace Slag (GGBS), Alccofine (AF), Rice Husk Ash (RHA), Red Mud, Sugarcane Bagasse Ash (SBA), etc., as admixtures in concrete [4].

Most of the admixtures are pozzolanic in nature and help in enhancing strength and durability properties of the concrete with age. The combination of different admixtures with cement may lead to many benefits such as reduction in usage of cement, recycling the solid waste produced from industries, improvement in physical characteristics along with the enhancement of rheological properties, mechanical properties and durability of concrete and reduced environmental impact through reduction of greenhouse gases [5].

3.1. Techniques Used in Attaining Early Strength

High early strength concrete can be achieved by using one or a combination of the following techniques:

- High Early Strength cement
- High conventional cement content
- Low water - cement ratio (water to cement ratio of 0.3-0.45 by mass)
- Chemical admixtures
- Mineral admixtures
- Steam or autoclave curing

The above listed techniques can be used interchangeably or combined to achieve the desired strength. High early strength gain is not limited to the use of special cements such as Type III cement. It is now possible to achieve early strength by using locally available Portland cements, aggregates, and selected admixtures. This research uses a combination of Type III-High Early Strength Cement and chemical admixtures on one hand and a low water-cement ratio and/or high conventional cement content on the other hand to attain early strength and will compare the combination of these techniques and of the individual techniques used [6].

3.2. Chemical Admixtures in Early Strength Concrete

Calcium chloride is perhaps the most efficient and economical accelerator for use in concrete. Several theories have been suggested on its accelerating action. Calcium chloride accelerates the hydration of tricalcium silicate. There is evidence that calcium chloride exists in different states in the C_3S paste. Based on thermal analysis and leaching studies, Ramachandran (1995) has concluded that depending on the time of hydration, the chloride may exist in the free form (extractable by ethyl alcohol), or may be incorporated strongly into the C-S-H phase (unleachable with water) or may be chemisorbed or in interlayer position (leachable with water). From the literature review, it has been found that $CaCl_2$ improves the early strength of concrete, mortar and cement paste [7].

Shideler's (1952) work suggests that at 2% $CaCl_2$ in Type II cement at different cement contents, the strengths are always higher in chloride-containing concrete up to 5 years [64-67]. The strength development in concrete depends on the amount of initially added CaCl2. Higher amounts decrease strength. The optimum dosage suggested varies between 1 and 4%. Most practitioners, however, recommend a dosage not exceeding 2% flake $CaCl_2$ or 1.5% anhydrous $CaCl_2$. The acceleration of strength development is also achieved at temperatures lower than the ambient temperature. Figure 2.1 shows the relative strengths developed in concrete cured for periods 1, 3, 7 and 28 days and at random temperatures of -4.0, -4.5, 13 and 23^0C.

Alccofine is a new generation, ultrafine, low calcium silicate product, manufactured in India. It has distinct characteristics to enhance 'performance of concrete' in fresh and hardened stages. Alccofine performs in superior manner than all other mineral admixtures used in concrete within India. Due to its inbuilt calcium oxide (CaO) content, Alccofine triggers two-way reactions during hydration [8].

- Primary reaction of cement hydration.
- Pozzolanic reaction: ALCCOFINE also consumes by product calcium hydroxide from the hydration of cement to form additional C-S-H gel

Workability of concrete requires a balance between W/B ratio and required strength. Comb-shaped copolymers are the last-generation super plasticizers (SPs) and were introduced in the mid-1980s. This category includes many types of SPs exhibiting the same common comb-like structure. The structure of comb-shaped SPs generally consists of a main chain called backbone, bearing carboxylic groups, to which non-ionic side chains made of polyethers are attached. These superplasticizers are also called polycarboxylate ethers or polycarboxylate esters or polycarboxylates. The carboxylic groups when mixed with water confer a negative charge to the backbone. The negatively charged backbone is responsible for the adsorption of the superplasticizer on to the positively charged cement particles. The dispersing ability of polycarboxylate ethers comes from the non-adsorbing side chains, which are responsible for the steric hindrance effect [9].

Binder paste is required for binding the inert aggregate and for filling the void space between the aggregate. In this way, the stress concentration can be reduced, leading to an increase in strength, Chang and Peng (2001).

Marine structures are subjected to aggressive environment. Durability is the subject of major concern in the marine environment. Ocean structures are exposed to seawater directly. Therefore, coastal and offshore structures are exposed to simultaneous action of several physical and chemical deterioration processes. The effect of sulphuric acid was analyzed in alccofine added concrete with and without chemical admixtures to find out the mass loss and strength deterioration factors. It was observed visually that alccofine added concrete cubes were more affected than chemical admixture based alccofine added concrete [10].

Sulphate attack on the concrete is a result of chemical disintegration mechanism where sulphate ions attack components of cement paste. The compounds responsible for sulphate attack in concrete are water-soluble salts such as alkali (potassium and sodium) and alkali earth (magnesium and calcium) sulphates that are capable of chemically reacting with concrete components (Bogues compounds) [11].

After soaking in Na_2SO_4 solution for a long time, the sample surfaces have high concentrations of sulphate. This results in gypsum crystallization/erosion occupying the dominant position because of relatively low sulphate concentration in the internal part causing ettringite crystallization. Initially, there was no sulphate penetration in the core of the hardened cement paste. Also, there was no gypsum and ettringite. The destruction of the porous structure, and the growth of the ettringite crystal can lead to crystallization pressure and water absorption swelling, with fine needle-like and flaky crystals. The increase in the internal stress causes expansion of cracks in the cement-based material. On the other hand, crystallization of the gypsum can induce two adverse effects: (i) the volume of gypsum crystal increases by about 124%, causing the expansion and cracking of cement-based materials and (ii) the hydration product calcium hydroxide (CH) contributes to the mechanical properties of the hardened paste. As the reaction of sulphate and hydration product produce gypsum, the consumption of CH result in decrease of strength and durability, inducing decrease in the mechanical properties of the paste, which ranges

from lacking edge or even resulting in the collapse of the structure [12].

The alkali-silica and alkali-carbonation reactions in mortar or concrete cause expansion. Silicious gel formed by reaction between the cement alkalis and silica minerals absorb water and exert a swelling pressure. The factors that affect the reactivity of silica include cationic nature of hydroxide $(OH)^-$ in solid solution, the micropore structure, internal strain and the degree of crystalline disorder. The reaction mechanism of reactive silica with alkalis is generally described as involving the penetration of hydroxyl ions into the aggregate to break siloxy linkages between sulfate (SO_4) tetrahedra or to react with terminal acidic silanol groups. The negative charge of silicate fragments is electrically balanced by positive ions of sodium and potassium from the cement paste pore fluid forming a sodium-potassium-silicate gel. The gel imbibes water and swells upto cracking limit thereby generating sufficient hydraulic pressure in surrounding concrete [13].

The formation and distribution of hydration products of hydrated cement paste for the concrete mix proportions are pictured below. The microstructure of the different mixes was examined and compared with the reference mix. The microstructure and strength properties of all the concrete mixes were correlated based on the hydration products formed after 28 days. The reason being that the strength of concrete was analyzed and explained based on the growth of hydration products in the microstructure of concrete mixes [14].

HRWR admixtures are mainly classified into two groups based on their generation. Those are

- Second generation Type F admixtures are reduced water reduction by 20% (Gluconate, Ligno Sulphonate, melamine and Naphthalene Sulphonate)
- Third generation Type F admixtures are water reduction by 40% (Polycarboxylate Ether, Modified Polycarboxylate and Vinyl Copolymers)

HRWRA are polymers capable of chemically and physically interacting with cement particles. The physical interaction happens for the dispersion of cementitious power while utilizing the HRWRA into concrete. There are mainly three ways of interacting happen in physical interaction [15].

- Due to Van der waals and Electrostatic forces, the superplasticizer molecules are absorbed on the cement particles.
- Induction of interparticle repulsive forces owing to the negative charge transmitted to the particles (dispersion) and reduction of attractive forces between opposite charged particles (defloculation) by the adsorbed charged particles.

- Steric hindrance effects between adsorbed polymer molecules and adjacent particles.

4. CONCLUSION

We can conclude from some of the explanations in this document

- HESC was developed to address the setting time issues that arise in buildings and construction industries. It usually takes 7 to 14 days to complete concrete hardening and achieve the minimum strength of 0.7 to $0.85 f_c^|$. HESC implies that the concrete's compressive strength at 24 hours after site pouring could achieve structural concrete pouring (Compressive strength > 21MPa).
- There are four significant variables to consider including cement type, cement quantity, type of admixture and W/C ratio.

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A STUDY ON THE HYPERBOLA
$Y^2=14x^2+1$

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ABSTRACT
The binary quadratic equation $y^2=14x^2+1$ is considered and a few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration, a few remarkable observations are illustrated.
KEYWORDS: *Binary quadratic, hyperbola, integral solutions, pell equation.*

INTRODUCTION

Any non-homogeneous binary quadratic equation of the form $y^2-Dx^2=1$, where D is a given positive non-square integer, requiring integer solutions for x and y is called Pellian equation (also known pell-Fermat equation). In cartesian co-ordinates, the equation has the form of a hyperbola. The pellian equation has infinitely many distinct integer solutions as long as D is not a perfect square and the solutions are easily generated recursively from a single fundamental solution, namely, the solution with x, y positive integers of smallest possible size. One may refer [1-9] for a few choices of Pellian equations along with their corresponding integer solutions.

The solutions to Pellian equations have long been of interest to mathematicians. Even small values of D can lead to fundamental solutions which are quite large. For example, when D=61, the fundamental solution is (1766319049, 226153980). The above results motivated us to search for integer solutions to other choices of Pellian equation. This paper concerns with the Pellian equation $y^2=14x^2+1$, a few interesting properties among the solutions are presented. Employing the integral solutions of the equation under consideration, a few remarkable observations are illustrated.

METHOD OF ANALYSIS

The hyperbola represented by the non-homogeneous quadratic equation under consideration is

$$y^2=14x^2+1 \qquad\qquad (1)$$

The smallest positive integer solution is $x_0=4$, $y_0=15$

If (x_n , y_n) represents the general solution of (**1**),then

$X_n=(1/2\sqrt{D})g_n$ (2)

$Y_n=(1/2)f_n$ (3)

where

$f_n=(15+4\sqrt{14})^{n+1}+(15-4\sqrt{14})^{n+1}$

$g_n=(15+4\sqrt{14})^{n+1}-(15-4\sqrt{14})^{n+1}$

A few numerical solutions to (**1**) are presented in table below:

Table: Numerical solutions

n	X_n	Y_n
0	4	15
1	120	449
2	3596	13455
3	107760	403151
4	3229204	12081075
5	9768360	362029099

Observations
- The values of x_n are even whereas the values of y_n are odd
- $x_n\equiv0\pmod 4$, $y_{2n}\equiv0\pmod 3$
- A few interesting relations among the solutions are given below:

- $x_{n+2}-30x_{n+1}+x_n=0$
- $y_{n+2} -30y_{n+1}+y_n=0$
- $4y_n=x_{n+1}-15x_n$
- $4y_{n+1} =15x_{n+1} -x_n$
- $4y_{n+2} =449x_{n+1} -15x_n$
- $y_{n+2}=112x_{n+1}+y_n$
- $2 (y_{n+2} -y_{n+1})=217 x_{n+1}-7x_n$
- $8y_{n+1}=x_{n+2}-x_n$
- $56x_n=y_{n+1}-15y_n$
- $56x_{n+1}=15y_{n+1}-y_n$
- $56x_{n+2}= 449y_{n+1}-15y_n$
- $y_{n+2} -56x_{n+1}=15y_{n+1}$

> Expressions representing square integers:
> - $\frac{1}{2}(x_{2n+2} -15x_{2n+1} +4)$
> - $2(y_{n+1}+1)$

> Expressions representing cubical integers:
> - $\frac{1}{2}[x_{3n+3} -15x_{3n+1}+3x_{n+1}-45x_n]$
> - $2(y3_{n+2} + 3y_n)$

> Expressions representing biquadratic integers:
> - $\frac{1}{2}(x_{4n+4} -15x_{4n+3})+4f_n{}^2-2$
> - $\frac{1}{2}(x_{4n+4} -15x_{4n+3})+4[\frac{1}{2}(x_{n+1}-15x_n)]^2-2$
> - $2y_{4n+3}+ 4f_n{}^2-2$
> - $2(y_{4n+3} + 4y_{n+1} +3)$

> Employing linear combinations among the solutions, one obtains solutions to other choices of hyperbolas

Example1: Let $X=x_{n+1}-15x_n$, $Y=x_n$
$$X^2=224Y^2+16$$
Note that (X, Y) satisfies the hyperbola

Example2: Let $X=y_n$, $Y=y_{n+1}-15y_n$
$$224(X^2-1) =Y^2$$
Note that (X, Y) satisfies the hyperbola

> Employing linear combinations among the solutions, one obtains solutions to other choices of parabolas

Example3: Let $X=x_{2n+2}-15x_{2n+1}+4$, $Y=x_n$
$$X=112Y^2+8$$
Note that (X, Y) satisfies the parabola

Example4: Let $X=y_{n+1}+1$, $Y=x_n$
$$Y^2=112(X-2)$$
Note that (X, Y) satisfies the parabola

> considering suitable values of X_n & Y_n, one generates 2nd order Ramanujan numbers with base integers as real integers

For illustration, consider

$$X_1=120=1*120=2*60=3*40=12*10=6*20 \qquad\qquad (*)$$

Now, $1*120 = 2*60$
$$\rightarrow (120+1)^2 + (60-2)^2 = (12-1)^2 + (60+2)^2$$

$\rightarrow 121^2 + 58^2 = 119^2 + 62^2 = 18005$

$1*120 = 3*40$
$\rightarrow (120+1)^2 + (40-3)^2 = (120-1)^2 + (3+40)^2 = 16010$

$1*120 = 12*10$
$\rightarrow (120+1)^2 + (12-10)^2 = (20+1)^2 + (12+10)^2 = 14645$

$1*120 = 6*20$
$\rightarrow (1+120)^2 + (20-6)^2 = (20+6)^2 + (120-1)^2 = 14837$

$2*60 = 3*40$
$\rightarrow (2+60)^2 + (40-3)^2 = (60-2)^2 + (40+3)^2 = 5213$

$3*40 = 12*10$
$\rightarrow (3+40)^2 + (12-10)^2 = (12+10)^2 + (40-3)^2 = 1853$

$3*40 = 6*20$
$\rightarrow (3+40)^2 + (20-6)^2 = (20+6)^2 + (40-3)^2 = 2045$

Note:
$2 * 60 = 12 *10 \rightarrow 31^2-29^2=11^2 -1^2$
$\rightarrow 31^2+1^2=11^2+29^2 = 962$

$2 * 60 = 6 * 20 \rightarrow 31^2-29^2=13^2-7^2$
$\rightarrow 31^2+7^2=29^2+13^2 =1010$

$12 *10 = 6 *20 \rightarrow 11^2-1^2=13^2-7^2$
$\rightarrow 11^2+7^2=13^2+1^2=170$

Thus 18005,16010,14645,14837,5213,1853,2045,962,1010,170 represent 2nd order Ramanujan numbers

➢ Considering suitable values of x_n & y_n, one generates 2nd order Ramanujan numbers with base integers as guassian integers

For illustration, consider again x_1 represented by (*),

Now, $1*120 = 2*60 \rightarrow (1+i120)^2 + (60-i2)^2 = -10803$
Also, $1*120 = 2*60 \rightarrow (120+i)^2 + (2-i60)^2 =10803$

Note that **-**10803 & 10803 represent 2nd order Ramanujan numbers with base integers as gaussian integers.

In a similar manner, other 2nd order Ramanujan numbers are obtained.

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PECULIARITIES OF INTERCONNECTION OF GLOBALIZATION AND NATIONAL IDENTIFICATION

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ABSTRACT

The article explores the concepts of globalization and global development that are different, since global development is a global political, economic, social, cultural, ecological, informational and social phenomenon, which has a systemic impact on human development, as a complex of psychological transformations. The positive aspects of national identification including self-awareness, national interests, national identity, and respect for preservation of national identity as well as national similarity as the result of a complex, controversial process of national identity are studied.

KEY WORDS: *globalization, global development, human activity, economic, social, cultural, ecological, informational, psychological changes, national identity, national similarity, process.*

INTRODUCTION

At the end of the 20th and early 21st century, the world became a single system consisting of interconnected elements. This has transformed the globalization process into a major factor in international politics and international relations, and this phenomenon has been widely accepted as a paradigm of global politics. So, in the aforementioned periods, globalization has become a major factor and tendency for any development. Because the developmental laws and the main tendencies of each age, the development law of the information society we live in is a phenomenon of globalization. The essence of today's situation is that no state can survive in the conditions of an autarchy in an external environment, that is, it cannot achieve success. There are also some urgent issues that cannot be solved in the range of one or two countries. It needs attention of the international community. This leads to the naturalization of nations in the process of globalization. Obviously, the law cannot be changed.

Globalization is the author of free international trade. The global economy is the most effective way to improve the welfare of the world, as well as to liquidate social issues. Even in the field of environmental protection, positive trade results can also be achieved because of the strong competition pressure, which creates a cautious attitude to resources and makes it rational to deal with nature. More importantly, this process can lead to personal development. The reason for the introduction of new technologies, the improvement of production methods and tools creates the need for intellectually qualified personnel. As a result, people are given enough impetus to develop innovation and intellectual capacity. Strong competition forces them to improve themselves and adapt to existing conditions. Finally, it leads to the rise of the intellect in the whole society. Globalization, on the one hand, is becoming a leading factor determining the world community's life, international politics and international relations, and, on the other, the need to co-ordinate the domestic policy of individual countries and regions. That's why scientists in various fields are trying to express their attitude to globalization processes, to interpret the effects of these processes, and to explore the impact of the future.

LITERATURE REVIEW

Scholars and politicians are bound to begin the process of globalization in different periods, with changes in socio-economic and political life. The well-known German sociologist Ulrich Beck writes: "The question of when global economic globalization has started has led to a barrier-fisted jungle. Some scholars (Immanuel Wallenstein) associate the

beginning of the "capitalist world system" with the evolution of colonialism at the beginning of the sixteenth century, and the emergence of internationalized convergence. Some experts say that globalization has begun with a cancellation of a strong exchange rate or a downturn in the eastern bloc"[1, p.42].

The vast majority of views on the origin and reasoning of the globalization process are related to the diversity of ideas about its essence. For example, scientists who interpret globalization as broadly inter-state and interconnected with the expansion of inter-regional relations link it with the time of the Great Silk Road, which ensured the expansion of ties between the East and the West. One of the well-known scholars exploring globalization issues, I. Wallerstain, wrote that the emergence of the global economy (the "global capitalist economy") was dated to the sixteenth century, whereas R. Robertson thinks that this process began in the 15th century, from 1870 to the mid-20th century, after the end of the war, began to gain a new direction. Russian scientist V.M.Ruminen separates three stages of globalization and connects each stage with certain events that occur in the world. In his opinion, the first phase of the end of the 15th century - the beginning of the 16th century - was the result of the great geographical discoveries (the discovery of America, the opening of the sea to India, etc.), the second stage - the industrial revolution and the expansion of market exchange (XVIII century) emerged as the only place in the world marketplace (XVIII century), and the third stage was the fact that modern information technologies that emerged in the late 20th century violated the strict boundaries between countries and peoples. Of course, these and other ideas about globalization have given a certain degree of evidence. In our opinion, when globalization is interpreted as a global integration process and event, it seems reasonable that it is not a new phenomenon. Indeed, the merger of the East and West in the Middle Ages, or the appearance of a knitting machine in the UK led to the disintegration of millions of weavers in India, and the emergence of French nationalist ideologies weakened the power of individual sovereigns in the East, for example, in Decembrists in Russia.

There is a saying that the world is governed by the benefits. In this context, it is impossible to imagine the essence of globalization processes without the improvement of capitalist relations that generate profit. This, in turn, requires a public-political system and liberalization of the economy. Researcher B.Umarov writes: "The science of liberalism in scientific literature is evaluated as the result of the Renaissance and the Newtonian scientific revolution. Indeed, the progressive ideas and teachings of that time have been the core of the ideology of the feudal society and the bourgeoisie that emerged during the liberation movement. Initially, the most developed country in the 17th century - Britain's educational ideas began to spread gradually in countries like France, Germany and the Netherlands"[2,p29].

By continuing with B.Umarov's ideas, the wide-ranging educational campaign in Europe in the eighteenth century was aimed at organizing social life on the basis of new rules, which initiated the Great French Revolution of 1789-1794 and laid the foundation for radically fundamental reforms. Under the influence of the ideology of liberalism, the intellectual movement of Arab nations, Turkey and Iran, and finally, in Central Asia, has become an educational movement that has been transformed into a subject and object of global processes.

Based on these views, we can conclude that globalization processes in our time are a new stage in the evolution of global development, a great deal of interdependence between different countries and regions, and a significant change in all aspects of human life and activity. In this context, it can be said that globalization today is an objective and natural process in the life of humanity, which forms a "world society" that denies national and state borders.

There is also a lack of coordination among experts on the nature of globalization. The diversity of concepts related to this process, first of all, relates to the process involving different spheres of social life (spiritual, cultural, social, economic, political), secondly, the approach to the issue, the distinction between researchers' goals and ideological views by weight.

Belarusian scientist E. Mashaykina thinks that "globalization is one of the most characteristic events of the world economy at the end of XX century at the beginning of XXI century. Significant changes in the global distribution of labor and the international distribution of labor have become global and have led to adaptive processes involving most countries"[3, p.59].

It focuses on the economic aspects of globalization issues. Russian scientist V.D. Dianova, as one of the representatives of the modern world states, "One of the characteristic features is not only an active division between cultures, but also diffusion, convergence, intimacy, assimilation, creative interaction and so on which embody the interconnection of cultures"[4, p.93].

Of course, any culture has not developed independently in the history of mankind. They have long been engaged in dialogue, interacting, enriching each other. In addition, any kind of national culture can develop actively in the context of interaction and interaction. Today, however, globalization influences on technological, economic, political and public life gradually removing nations from national interests, national traditions, values and ethical standards.

These processes, which encompass the whole world can be interpreted as a cultural revolution, have led to two conflicting opposite movements. On the other hand, the countries that are leading the world and seek to actively manage this process (mainly the developed western states and the United States) want the only global culture. "Today, the whole world is becoming a huge "house" for cultivating national cultures"[5].

In this way, globalization loses the originality of national cultures, causes more people to forget their language, and even lead to disappearance. At the same time, one of the manifestations of a global culture becomes "mass culture". At present, concepts such as "economic of culture", "culture of industry" are often used. The wide spread of national production and the introduction of national products into the world market, such as "Mercedes", produced in Turkey, Japanese technology produced in China, "McDonald's" and "Coca-Cola" all over the world, are within the scope of these concepts through the world. Mass production of cultural symbols and cultural information has led to the emergence of "global culture". It is clear that strong states use all means to protect their vital, primarily cultural symbols, such as disseminating their "living standards" and cultures to other regions. In other words, it interferes with the world through the intervention of cultural symbols. In this regard, Manuel Castels' ideas are remarkable: "In an information society," he writes, "power goes into the cultural codes at the bottom of the line. People and institutions, by means of them, imagine life and make a decision, including political decisions. In that sense, power will be incomplete when it is real"[6, p.502.].

Cultural unification and cultural denominatorial attempts to undermine cultural diversity, in turn, seek to preserve cultural identity.

Finally, globalization explores global political processes, globalization and anti-globalization, globalization and territorial contexts associated with the establishment of a new world order.

Despite the overwhelming views, trends, epochs, stages and problems of globalization, today's processes are not yet fully understood and evaluated. Therefore, a deeper study, theoretical justification and scientific evaluation are needed to address the increasingly complex issues and contradictions in the context of globalization. Indeed, although some of the above-stated views are unreasonable, extensive interpretation of globalization or linking it to a certain aspect of society's life prevents historical summarization and decisive conclusion. For example, it can be assumed that global problems exist throughout human history. However, the question arises: why, then, the concepts of globalization began to appear more recently in the 60s and 70s of the 20th century? If such problems and processes existed

before, it would have been impossible for the intellectuals of the past to ignore or describe it. Thus, a number of scientists could not come to one point about globalization along the whole human history. It is worthwhile to conclude that today's problems are "the ideas and the deep meaning of globalization only in terms of their past spiritual and social processes". Because the history of humanity is a continuous process and new phenomena cannot be properly evaluated without resorting to the past. From this point of view, D.V. Ivanov notes: "If we go after Robertson, Waters, and especially Terrebonne, in XV century, especially at the beginning of XVIII century, any international, intercultural dialogue and geo-discovery of Europeans were considered as globalization, then "globalization" to express the desired phenomenon and not to mention a certain thing at the same time. Equating a variety of different, qualitative and qualitative phenomena transforms the "globalization" into an absorbing fact, such as the concrete scientific conception of the processes that take place today, as well as the results of people's relocation and the results of their activities on the planet"[6, p.508].

Indeed, in the above analogy we can say that it is unreasonable to speak about the phenomenon of globalization, in connection with the "birth" period. It would be more accurate to link the "birth" of the phenomenon to the second half of the 20thcentury. Specifically, the concept of "globalization" and its broader accession have been associated with the name of R. Robertson, an American sociologist who used the word "globality" in one of his articles published in 1983. (In some sources, this term was first mentioned by an American scientist T. Leavitt in his 1983 article in the Harvard Business Review magazine)[7].

There are positive and negative aspects of globalization as a new phenomenon that determines the post-industrial cycle of human development. There are hundreds of works by foreign scholars on the globalization process, its features, and its main directions. In the current research, the issue of the impact of the globalization on peoples' cultures and the spiritual world has been discussed in different ways, sometimes even contradicting ideas. Despite the fact that this issue is of great importance today, they have not been studied separately. Moreover, taking into account the negative impact of the globalization on the spiritual, educational, and social life of Uzbekistan,it is necessary to deeply study and analyze the essence, directions and characteristics of globalization. It is possible to make the right choice and make decisions by deeply analyzing this process.

Today, when globalization, integration and information exchange are on the rise, our comprehensive upbringing of the younger generation is not only necessary for the future of our country, but also the demand of the time. The 21st century has

come to our lives with complex processes, with science and technology, along with the achievements of developed humanity. Today, this can be illustrated by a number of disturbing situations. In particular, the growing national integration has created not only a single state and nation but also a complex situation for all humanity. In addition, ethnic and national identity, which is now seen as a social process, plays an important role in educating the younger generation.

In general, identification is understood as the process of shaping the idea of the individual about himself / herself, his / her role in the universe, his / her position, and his / her attitude to reference groups. Identification problems are particularly relevant in the era of turbulence and crisis in the history of countries. Self-identification is manifested in the activities of social groups and political institutions, and depends on their social status and role. It is also determined by the individual's personality. Identification can now be seen as an important process, such as ethnic identity, religious identification and national identification. In particular, in many countries today, self-identification is a separate process.

National identity –is not only understanding the roots of self-sacrifice in the context of historical, material and spiritual values in a struggle to unite, in developing national economy, politics, and new life initiatives but also a time of reversal of the deficiencies in the composition of traditional thinking based on the traditional progressive and economic shifts to integrate into the development of the world. It is also important for the future of our country to be fully aware of the nation as a whole. Particularly, today the formation of such concepts as national consciousness, national identity, national pride and national interest plays an important role in upbringing harmoniously developed generation.

Professor Mbeki calls the globalization process a business for antidemocratic purposes. According to him, with the advent of globalization, the financial transparency of the business has completely disappeared and wages have declined. It brought a new form of Western slave service. The characteristic of this slavery is that the "master" becomes impersonal[7].

Another American anti-globalist, Professor of American University in Cairo, Arui Mafele, underlines the globalization under the slogan: "Join the world capitalists!" In his view, globalization is not a natural process but a political one. The main opponent of globalization is national opposition[8, p.102].

Of course, the negative consequences of the globalization process cannot be overlooked. Especially its cultural standardization, informatization and the processes of universalization of values create a national identity crisis. However,

the most effective way to prevent these negative situations is to be a subject, not just an object of influence. Today, virtually all countries of the world, regardless of some countries, are the objects of globalization. For example, Japan is the subject and the object of this process. As an object of globalization, adopting western values and adapting them to the other Asian countries as a subject.

From this point of view, national consciousness and self-consciousness have given the enslaved peoples a chance to preserve and strengthen their traditions, to be proud of their customs, culture and language. In modern societies, migration and overseas emigration, political and economic growth are eroding national self-consciousness processes and complicate national identification, and represent a growing number of cultural and national communities. In this case, the opportunity to use a community cultural experience to adapt to the needs of another is expanding. It is a national identity that a person realizes that he is a proxy in multinational groups. Human identity is as humane and powerful as to how different people can be (in terms of culture, racial, religious and other features and characteristics)[8]. Therefore, national identification as a social process today is that the education of the younger generation is reflected in the following aspects: self - awareness as a nation; to distinguish themselves from certain national groups and to feel their national identity; aspiration to national ideals; feel the national identity, etc.

When a person is self-identifying, he first addresses his to "ego", and then he realizes that he is of the same national consciousness and national identity. In some cases, human beings associate their national identity with national ideals. Of course, language, culture, and religion play an important role here. In this sense, it is important to note that national identification can be considered as a struggle for adaptation and survival to an extraordinary process together with economic development and achievement of great successes (economy, politics, sports, arts, culture, etc.). In addition, national identification forms the negative and positive aspects of the current generation. As for the negative aspects, it can be seen that the representatives of one nation ignore the citizens of low-income economies. In this case, national identities can be regarded as alienation of humanity.

CONCLUSION

In conclusion, we can say that, firstly, the concepts of globalization and global development are different, since global development is a global political, economic, social, cultural, ecological, informational, and social phenomenon, which has a systemic impact on human development, as a complex of psychological transformations. Secondly, the positive aspects of national identification include

self-awareness, national interests, national identity, and respect for preservation of national identity. Today, it can be seen that more features that are negative characterize the national identification process. However, the person does not identify himself only on national traits, so the national identity can be on the periphery of personal motivation. National similarity is the result of a complex, controversial process of national identity. As long as the meaning of "nationality" and, accordingly, "national" concepts are different, the outcome may be of two different character. Because of the socialization process in which the indivisible component is identifying the individual, it is primarily a person to feel as if he is a member of a certain ethnic group or a specific nation. In a case where a person feels the sense of nationality, that is, his or her identity as a state, there is no question of special "national" rights.

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LANGUAGE, SPEECH CULTURE AND EDUCATION

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ANNOTATION

The use of language tools in speech activities requires adherence to certain social, more precisely, enlightenment and cultural norms established by society. Withdrawals from them have not always been approved by language owners. Where there is a norm, there has always been culture. Normality in language and speech is referred to in linguistic theory and practice as linguistic culture, or rather, language and speech culture. These are relevant and unexplored areas not only in linguistics but also in linguodidactics.

KEYWORDS: *language, culture, phenomenon, system, education, speech culture, ethnoculture, linguodidactics*

DISCUSSION

Language is interrelated with the relationships of people in society and the processes of spiritual and material production, and at the same time is relatively independent. One of the peculiarities of language is the division of language units into certain parts: sentences, phrases, words, morphemes, and etc.

According to experts, in order to separate the social thing from the personal thing, the historically evolving system from the separate activity of man, the following definition was created: "The next history of language is the history of the liberation of speech from practice, the history of speech as an independent activity ...".

Language, which forms a unified dialectical unit and serves mainly communicative purposes in society, and its dynamic state, speech, is one of the most complex and multifaceted linguistic and philosophical categories. As unique social phenomena, each of them is also a unique and unique product of the cultural sphere, which forms the basis of the development of society.

The pursuit of the correct and appropriate use of language and speech units, which are the most universal linguistic (verbal) means of communication, has led to the formation of notions of civilized language and speech, scientific views.

The study of the question of the interdependence of language and cultural phenomena has been complicated by the lack of a clear definition of the concept of culture, which in many cases is a complex, multifaceted, multifaceted social phenomenon. There are now hundreds of definitions of culture, including contradictory definitions of culture as a norm and a change in standards,

adaptation and overcoming social inertia, accumulated experience, and self-improvement.

"Language cannot exist outside of culture. It is a collection of practical views and ideas that define our socially inherited way of life." It has been repeatedly emphasized by F.V. Humboldt.

Vocabulary (also from a culturological point of view) is important within the levels of the language system. It expresses, describes, and describes the being around man and his inner world, and can motivate him by defining the behavior of the owner of the language. The lexical structure of the national language preserves the peculiarities of ethno-sociocultural norms and transmits them from generation to generation, thus ensuring the stability and coherence of the ethnic mentality. By studying the peculiarities of the use of words, we can obtain information about the spiritual health of a nation: by accurately assessing the facts, recording them in a consistent manner, determining the direction of dynamics, to some extent, we can predict the stages of development of this nation.

Certain phenomena are perceived by people on the basis of linguistic skills and norms formed in their society. Each language has its own view of the world. The difference between worldviews is also as much different as the languages are. But it is also doubtful to say that different languages show us worldviews. It deprives you of the opportunity to know what the world really looks like. Language simultaneously embodies the external features of being and the inner essence of thinking.

The emergence of a literary language as a result of the regulation of the national language on the basis of a number of linguistic and extralinguistic norms is also not a coincidence but a law. Many intralinguistic and extralinguistic factors (e.g., the

division of labor, man's perception of the world, and the creation of different worldviews based on different perspectives, etc.) played an important role in this.

It is true that valuing the language like any other cultural heritage, passing on its unique and beautiful examples to future generations, enriching it with new life content and meaning, constantly preserving and striving for the language of the people as a literary language is both convenient, useful and spiritual. This allows not only the language of the people, but also the original social image of the speakers, the preservation of the status quo, not only in the solidification of the literary language itself, but also in a comprehensive dialogue, in a dynamic form - literary speech. The aspiration of the people to express their national identity through their mother tongue and its supreme example, the literary form, and to perfection inherent in human nature and never to perish, is manifested in the form of a culture of speech in the scope of its linguistic activity.

Raising the level of speech culture has attracted the attention of intellectuals at all stages of language development. Its solution depends on the right attitude to the literary language, the solution of a number of issues, such as its preservation, enrichment, the struggle for purity.

In many studies, literary language has a number of distinctive features, it is recognized by all language owners, it is the highest form of the national language they know, and it is subject to certain linguistic norms, grammatical rules, manifested in written and oral forms, and therefore mandatory for all. such considerations have been acknowledged.

The fact that the literary language is divided into methodological branches determines another important feature of it - its polyvalence, polyfunctionality. This indicates that its scope and fields of service are much wider than those of dialect, slang, slang, and other common types. Literary language serves as a convenient, necessary, useful, important and powerful means of communication in all aspects of speech activity. The regular use of literary language has led to the development of special rules, certain norms, which ensure the effectiveness of this activity. This, in turn, plays an important role in the creation of the doctrine of modern speech culture.

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also in a comprehensive dialogue, in a dynamic form - literary speech.

The current information age requires its educated, enlightened representatives to be extremely responsible in their speech when speaking in public. Such linguistic responsibility requires the acquisition of simple, essential skills and competencies that form the basis of a demanding speech culture.

Speech culture means, first and foremost, speaking without error in any communicative situation. Right thinking, right speech is recognized as a sign of culture. Being able to write without mistakes means "spelling, this is literacy. Literacy is a sign of culture. "

Each type of speech culture has its own characteristics, which are determined by the ability of speech owners to speak. In particular, the culture of elite speech is an example of literate speech. Speakers of such speech should not violate the rules of communication: they should avoid rude, forbidden words and phrases, and, if necessary, use euphemisms and slang. But their open speech is like speech, made up of simple, lively sentences. It is not typical for the owners of an elite speech culture to respond rudely to any question or objection of the interlocutor. They show their respect for the listener with their speech. " They will always have a good attitude towards their speech. To do this, he skillfully uses various means of artistic representation. However, such intellectuals are declining year by year. Even high school and media workers are not able to rise above the ranks of the carriers of the average literary speech culture.

The term elite type of speech culture should be distinguished from the concept of "good speech". Good speech can be observed not only in elite speech culture, but also at lower levels, such as average literary speech or simple speech, in the levels of speech in a literary language.

The characteristics of the average literary speech culture are as follows:

- The general cultural level of the owner of this type of language is much lower than the owner of the culture of elite speech:

- owners of such speech use two or three functional styles, do not know the rest well;

- in relation to the text, entertainment literature and other media texts are an example for them;

- this type of communicators can violate the norms of speech-ethics, (ie, moral) in relation to their addressee (use rude expressions instead of swearing), confuse the norms of oral and written speech, deviate from orthoepic, orthographic, grammatical norms, sometimes use foreign words in large quantities (sometimes). even without realizing it).

The high frequency of errors in this type of culture-specific communication practice, according to researchers, is the result of the formation of

language on the basis of new norms. The prevalence of an average literary speech culture among educated people is of concern to experts. Because this is one of the signs that the level of general speech culture in the society is declining.

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MAIN STAGES OF UNDERSTANDING THE LAW IN A PHILOSOPHIC WAY

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ABSTRACT
The article gives the main stages of the philosophical understanding of law in ancient, medieval, modern and most recent times. A new stage which is the importance of a dialectical cultural understanding of history, including law, has been highlighted.
  KEY WORDS: *methodology, law, culture, understanding.*

DISCUSSION

The methodology of knowledge of law is divided into philosophical and non-philosophical levels. Philosophy acts as the most general methodology of knowledge of law. Because the subject of law, legal events are the aspects and manifestations of a whole nature and this world. The most general laws of existence are also manifested and prevail in legal being. Social philosophy is the social philosophical methodology of knowledge of law. As legal life is an integral part of society. The general laws and driving forces of society also prevail and apply in legal life. That is why philosophy and social philosophy constitute the philosophical methodological level of knowledge of law. The philosophy of law, on the other hand, occupies an intermediate distance between the philosophical and non-philosophical methodologies of knowledge of law. It is an intermediate methodological science.

The non-philosophical methodology of knowledge of law includes the theory of state and law and other legal disciplines. The methodological nature of other legal disciplines in the study of law occurs in relation to each other. In particular, the science of criminal law is not for the theory of state and law, but a non-philosophical methodology for a number of criminal law disciplines - criminal procedure, criminal law, criminology and criminalistics.

In addition to philosophical and non-philosophical sciences, doctrines and concepts, legal methodology also includes special methods of scientific knowledge used in general and legal sciences. However, the application of these methods depends on the content of the methodology, and the methodology depends on certain stages of the way of thinking which is thought to be understanding.

There has been a great deal of research in the scientific literature on the history of the stages of philosophical understanding of law.

1. The first stage of the philosophical understanding of law consists of the period. It started in the ancient East. In the ancient East, the approach to law, whether it was a legitimacy or a natural-philosophical direction, had its starting point, first of all, mainly religious-mythological worldview, and then simple secular views. In practice in the countries of the ancient East, formal law and law were established through religion, through which religious morality is inextricably linked.

Being originated in ancient Greece and Rome, legislative or natural-legal views were fed by one or another type of philosophical understanding of reality that existed at that time or was developed by the thinkers themselves. In other words, they went from religious-mythological, objective and subjective idealistic, simple materialist and spontaneous dialectical teachings about existence to their views on society and from it to legal teachings.

2. The second stage of the philosophical understanding of law dates back to the Middle Ages. In the Middle Ages, the primary basis for the understanding of law by thinkers was the Christian theology in Europe, especially by Aurelius Augustine and Thomas Aquinas, and in Central Asia, the

Islamic pantheistic approach to the teachings of Farobi, Beruni, Sino, Navoi.

3. The third stage of the philosophical understanding of law applies to European countries in the new era. During this period, there were two directions in the field of understanding the law.

The first is the existence of legal views of the Indepedants, German and Italian enlighteners under the influence of the Middle Ages, which were not freed and refined from Christian reform.

The second is the beginning of the development of the concept of natural law, as a result of which philosophy, under the influence of the development of natural science, especially mechanics, began to take on a natural-philosophical, mechanical character. But we see that the pantheistic understanding of the philosophical basis of the legal views of the representatives of the concept of natural law, such as Hugo Grotius, Benekdet Spinoza, the legal views of Francis Bacon and the subjective idealistic understanding of the philosophical basis of Thomas Gobbs legal positivism, the philosophical basis of John Locke's legal views.

Chizare Becceria (1738-1794), the founder of the "classical school" of criminal law in Italy in the 18th century, also described his doctrine of natural law in his book On Crime and Punishment (1764). In early eighteenth-century Russia, The secular views of A.N.Radishchev and other enlighteners play a certain positive role in the history of philosophical, political and legal views. The philosophical basis of the political and legal views of the French enlighteners E. Voltaire and S.L. Montesquieu, who founded the geographical direction in sociology, was formed mainly by a deistic point of view.

In the 18th century, the achievements of the natural sciences served as the basis for the emergence of the views of Lametri, Diderot, Helvetius and Golbach in France. J.J. Russo's socio-political, legal views are nourished by his philosophical idea that God does not create or destroy matter, but that matter derives its action from God and then develops according to its own law.

I. Kant, a representative of German classical philosophy, tried to derive the rights of the individual not from his natural state, but from the world of a priori concepts. I. Fikhte derives rights from the mind of the subject. Hence, law is manifested through self-awareness. However, law is determined not by the individual will, but by the interactions between "intelligent beings." This is the starting point in his legal views.

G. Gegel, the greatest representative of German classical philosophy, is also the starting point for the legal views of the two sides of his teaching - dialectics and idealism. G. Gegel interprets the law as the second stage of the spontaneous development of the absolute soul - one of the

incarnations of the objective spirit in the following form:
1.Law as freedom ("The idea of law");
2.Law as a certain stage and form of freedom ("Private Law");
3.Law as law ("Positive Law").
"Civil society," he said, "is created only in the modern world, but they are created according to all the rules of the idea."

Thus, it is self-evident that the legal views of the representatives of German classical philosophy - I. Kant, I. Fikhte, and G. Gegel were based on an objective idealistic dialectical understanding of history, including law.

The representatives of the historical school that emerged in Germany at the end of the XVIII century – Y.G. Gerder, G. Hugo, K. Savini and G. Puchtalar sought the source of law not from existing social, including material, political and spiritual relations, but the spirit of the people from purely subjective processes. Hence, the bullet root of their legal views is a subjective idealistic understanding of history and law.

It is known that positivism was founded by Auguste Comte in the 1930's. Representatives of positivism believe that the main task is to systematize knowledge based on "positive", that is, positive, clear evidence. Christian scholasticism and jurisprudence played a major positive role in that period.

Political and legal doctrines in Russia in the XIX century were developed by M. Speransky, N. Karamzin, P. Pestel, N. Muravyov. The initial foundations of their legal views differ from each other in their diversity. For example, N. Karamzin came out as a supporter of the theological concept of natural law. P. Pestel, on the contrary, advocated the secular concept of natural law.

One of the manifestations of positivism in law which are the subjective, psychological understanding of law, was formed the basis of the legal views of the representatives of sociological jurisprudence. Another manifestation of positivism in law has become legal positivism, or dogmatic doctrine that studies the laws and acts of analytical jurisprudence. Philosophically, he went to follow agnosticism and idealism. As long as the legal norms depend on the authority of the sovereign authority, they can be both man and God as a subject. Here are the basics of legal positivism in understanding law.

In the second half of the XIX - early XX centuries in the territory of colonial Turkestan there was Jadidism, which embodied a feudal-clerical theological, secular approach to law, and the concept of law based on a dialectical materialist understanding began to spread.

4. The fifth stage of the philosophical understanding of law is the Marxist stage. We also call it a materialist understanding of history,

including law.   It originated in the second half of the 19th century and spread throughout the world in the 20th century. Since the production of material goods is the basis of the existence and development of society, it is also the basis of law. Law is the ascension of the will of the ruling class to the level of law. This is a class and legalistic approach to law. This is the essence of the Marxist understanding of law. The Marxist understanding of law was based on historical materialism. It also consists of its stages of improvement.

5. The sixth stage of the philosophical understanding of law is the most recent period - the subjective idealism and neotomism objective idealist currents, such as neo-Kantianism, neo-Hegelianism, neo-positivism, existentialist, anthropological, pragmatic approaches, which spread in European countries in the twentieth century.

4. The seventh stage of the philosophical understanding of law is the dialectical cultural understanding of history, including law. Humans modify events, including nature, to ensure their existence, and find their food in this way. Existence, created by processing a cultural being, is the core of the existence of society. As it develops, so does society. Society has a legal culture. It is a processed part of legal life designed to regulate social relations. Law is the main link between social subjects, which requires a degree of obligation and guarantee of social relations, such as equality, justice, freedom. This relationship is legal. Hence, legal culture is a processed and created part of the existing legal system in all spheres of social life. That is why in the history of law we see that in different countries there are different types and levels of legal lifestyles, trends and attitudes as legal life is processed under different ideologies. According to this concept, just as legal culture is the core of legal life, material culture becomes the core parts of material life, spiritual culture becomes the core of spiritual life, and political culture becomes the core parts of political life. Man and his micro and macro units are also the products of cultural processes, such as socialization, including "juridization". Hence, material, spiritual, political and legal cultures are interpreted as aspects of human social units, and they are correlatedly and functionally connected to each other to form a cultural entity as a whole system. In other words, being consists of natural and social beings, and social being consists of cultural being and the social tendencies and laws that underlie it. Without a cultural being, there would be no society.

"Value" means important, it is divided into natural and social values. Cultural values include only social objects, events, and relationships that are processed by man as an integral part of social values. The definition of cultural values is relative because a legal norm that is currently valuable to any nation may be irrelevant to other peoples. Or the Legal norm, which was valued in the long past of every nation, may now be merely a cultural monument, even of a conservative nature.

As with any value, the way to know cultural values is to determine their quality characteristics. Establishing cultural values is currently the main goal of countries. We need to be able to go this way of knowing and get the cultural values of all nations. In the words of the first President of the Republic of Uzbekistan   I.A. Karimov, "it is the firm position of the Republic to choose our own path of socio-economic and political-legal development without rejecting all the best practices of the world and our own practice."

At the present time, science is faced with the task of studying three groups of laws which are the laws specific to the elements of the cultural being, specific to the level of the parts and specific to the whole cultural being. Knowledge of these laws concerning the core parts of society and each of its branches will undoubtedly enrich the legal sciences methodologically with new theoretical generalizations.

FEATURES OF TRANSLATION OF ANTHROPONYMS IN FICTION

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ANNOTATION

The article states about anthroponyms and their translation in fiction. As well the article analyses today's aspects of translation and transition of anthroponyms in fiction, their methods and traditions.
KEY WORDS: *onomastics, anthroponyms, genre, personage, fiction, translation, method, transcription, transliteration, semantics*

DISCUSSION

Nowadays, there is a growing interest and attention to fiction, and at the same time translations of masterpieces and samples of foreign literature in different genres for an audience of readers of different ages are on the bookshelves of thousands of our readers.

It should be noted that it takes a lot of work of translators to get our readers a copy of the masterpieces of various genres of foreign literature in our native language. This is because the translator will have to convey the meaning and content of the original text to the reader as in the original text. This requires tremendous skill on the part of the translator. At the same time, a clear, comprehensible, and textual translation of anthroponyms in a literary text is important.

Anthroponym is an individual name given to real and mythological individuals. In other words, an anthroponym is a name given to a person at birth, his or her surname, cognomen, nickname and even byname.

In onomastics, the branch that studies anthroponyms (people's personal names, surnames, patronymics, nicknames, nicknames, and cryptonyms) is called anthroponymy. Anthroponymy also studies the names of characters in works of art, fairy tales, myths, and folklore.

The anthroponym in a work of art helps the reader to form an idea of the hero's age, gender, nationality and place in society, spiritual values and qualities. The complex of anthroponyms in a work of art is called literary onomastics, and its dictionary is called anthroponymicon.

Personal names in the text of fiction have an artistic-stylistic and characteristic character. There are also real-life names in fiction, as well as names invented by the author.

If we analyze personal names in different genres, in this case, the image of any fictional hero is associated with his name, and he represents a certain character and his characteristics in the imagination of the reader. There are many examples of this, such as "Robin Hood", based on English folklore by Alexander Duma, and at first glance an unarmed reader will inevitably accept the protagonist's name as "Robin Good." Judging by the protagonist of the work, it is natural that the name creates such an image. But in fact, if we pay attention to the fact that the name of the protagonist is written in English - not "Robin Good", it is written "Robin Hood" and the word "Hood" in English - means "the hood-clothing element" and it comes not from the protagonist's character but from the clothing element name.

Winnie-the-Pooh, a superhero created by Alan Milne and loved by children and adults alike, is a fluffy bear that was first published on December 24, 1925 in the London newspaper The News of London. The reason for the creation of this work was the favorite toy of Christopher Robin, son of Alan Milne. Initially, the bear's name was not *Winnie –the- Pooh*, but Edward

(Edward Bear), but Milne's son was influenced by a bear named Winnie (Winnipeg) whom he met at the zoo and began to call him Winnie. The name **Pooh** is derived from the name of a swan that lived in a family that was a close acquaintance of the Milnes. In the original text, he used **the** article between Winnie and Pooh, such articles were mainly used in the names of English monarchs and fictional-historical characters.

To the Russian-speaking reader, the name Winnie the Pooh means Russian pooh (*пух*), which means fluffy, and because it sounds like Russian pooh (*пух*), it can form the concept of fluffy bear, but English Pooh does not mean fluffy and the author did not mean it.

It is clear from the anthroponyms analyzed above that the characters in a work of art embody imaginative, that is, expressive information. In this case, the translator uses the method of transcription and transliteration of translation by the author in the translation of names that do not exist in real life, that is, he created.

There is no problem in translating personal names because there is an idea that they do not require any transformation in translation. In fact, if we look at the names of any heroes from English literature, such as Gatsby → Gatsby, Charles → Charles, it seems to be the same as real anthroponyms because real anthroponyms are either transcribed or transliterated.

But if we talk about anthroponyms, which usually require semantic translation in fiction, the above methods negate the semantic essence of the word.

Before considering the cases in which transcription and transliteration methods of translation are used, let us comment on these methods.

Transcription - According to S.G. Barkhudarov, phoneme-level translation, in which "foreign phonemes are replaced by phonemes that are close in terms of articulation and acoustics in the target language" (Jack - Жэк, Джек), the unit of translation is not words, but phonemes [1].

Transliteration - (giving letters in one writing system with letters in another language) According to S.G. Barkhudarov, we understand the spelling of the original word in the text, that is, giving it a graphic form. In such cases, the graphic form (appearance) of the word is given. For example: German Schiller - Uzbek "Shiller" "Шиллер".

According to S.G. Barkhudarov, translators in practice use transliteration in conjunction with more transcription (Newton →Ньютон).

A.A. Kalashnikov In his article on the "Translation and Tradition of Character Names in the Literature" writes about the widespread use of a mix up of transcription and transliteration in English translation [2].

There is also a combination of transcription and semantic translation in the translation of anthroponyms in fiction, in which case both the phonetic form and the meaning of the anthroponym are

conveyed. T.A. Kazakova in her book " PRACTICAL BASIS OF TRANSLATION " Dj. Heller cites attempts to translate the character's name in the novel: Chief White Halfoat's name can be translated in a variety of ways, such as transcription - Chif White Hafout; semantic translation - Vojd Belyy Oves (Sardor Oq Arpa); mixed translation - Vojd White Hafout (Sardor White Hafout). In the novel, the name is translated mixed [3].

It should be noted another young and readable genre of literature - fantasy literature. Fantasy literature was formed in the early twentieth century. Fantasy is a type of fantasy literature that is based on myths and fairy-tale motifs. The predecessor and father of this genre is considered to be John Ronald Reuel Tolkien. The English term fantasy literature became popular in 1954-1955.

The genre of "fantasy" has now become very popular and has received a wide range of readers. Fantasy works become the basis of movie scripts and computer games. Despite the great popularity of this genre, literary critics are faced with the problem of accurately defining the concept of "fantasy literature".

A certain difficulty for the translator is represented by the three mentioned features of the fantasy genre: the presence of an invented world that has the properties of the impossible in our reality; the presence of magic and magical creatures, phenomena; the complete freedom of the author.

Having considered different views, we have come to the conclusion that in today's translation practice it is common to use a mixture of transcription and semantic translation in relation to transliteration, such a combination is called mixed translation and is the most advanced method of translating anthroponyms in fiction.

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A STUDY ON SUSTAINABLE LIVELIHOOD SECURITY OF RURAL RAIN-FED FARMERS IN ARSIKERE TALUK, HASSAN DISTRICT OF KARNATAKA

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ABSTRACT

India is focusing on the strategy for improving the sustainable livelihood security of the economically and socially backward rural farmers. This research paper is an attempt to find out the extent of sustainable livelihood security the rural rain-fed farmers through their different means of livelihoods. The present study is being conducted samples respondents of Arsikere taluk from Hassan district of Karnataka. A total of five blocks (hoblis) and twenty villages from each block are being selected randomly. Ten respondents from each village, and in total of 200 respondent's information are enable the researcher to measure the sustainable livelihood security of the rain-fed rural farmers, an index developed Hari Ram Barela and others used with modifications. The four index of sustainable livelihood security, of which, basic livelihood index, financial livelihood, farming supportive livelihood index and health security livelihood index, are used in the study to evaluate the extent of the sustainability.

KEYWORDS: *Sustainability, Farming Supportive Livelihood Index, Health Security, Food Security.*

INTRODUCTION

In developing countries like India where a majority of families derive their livelihoods from agriculture, sustainable agriculture cannot be discussed in separation of sustainable rural livelihoods. However, in predominantly rural economies like India, growth of agriculture is critical to the achievements of goals of poverty reduction and household food-security. Sustainable rural livelihood is a versatile concept and refers to enhancement of access of rural families to food and income-generating activities on a long-term basis. Food and Agriculture Organization (FAO) (Encyclopedia, n.d) has defined sustainable agriculture as the management and conservation of resource base and the orientation of technological and institutional changes in such a manner that ensures attainment and continued satisfaction of human needs of present and future generations. World Food Summit 1996 (Shaw, 2007) declared that food security represents "a state when all people at all times have physical and economic access to safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

The sustainable livelihood idea was first introduced by the Brundtland Commission on Environment and Development as a way of linking socio-economic and ecological considerations in a cohesive, policy-relevant structure (Brundtland, 1985). In the year 1992, Robert Chambers and Gordon Conway in their paper, Sustainable Rural Livelihoods: Practical concepts for the 21st Century, they proposed the following composite definition of a sustainable rural livelihood " A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term" (Chambers & Conway, 1992).

The Sustainable Livelihood approach has three insights into poverty which strengthen this new approach. The first is the realization that whereas economic growth may be necessary for poverty reduction, there is not an automatic relationship between the two since it all depends on the

capabilities of the poor to take advantage of expanding economic opportunity. Secondly, there is the realization that poverty is not just a question of low income, but also includes other extents such as bad health, illiteracy, lack of social services, etc., as well as a state of helplessness and feelings of hopelessness in general. Finally, it is now documented that the poor themselves must be involved in the plan of policies and project intentional to better their group.

Ninan and Chandrasekhar (1993) observed that while irrigated crops and those with access to modern farm technology have dominated the growth process, dry crops and drought-prone regions like Karnataka in south India too have shared the gains of agricultural growth (Ninan & Chandrashekar., 1993).

The existing system of panchayat raj system (Rao & Deshpande., 2002) has become so unwieldy and unsustainable and that the time has come to review it, especially in the context of panchayat raj institutions (PRI) and the role they are expected to play in regard to the rural poor. With the help of illustrative data from two drought-prone districts of Karnataka, and demonstrate the feasibility of a decentralised system operated by PRI based on the local staples consumed by the poor. The result seems encouraging enough to suggest that it would be worthwhile to have more substantive investigation as also pilot projects to test the workability of the decentralised system. Agarwal examines how poor rural families in India cope with the food insecurity associated with seasonal troughs in the agricultural production cycle, and with calamities such as drought and famine; the effectiveness of the coping mechanisms they adopt; the intra-household sharing of the burden of coping; and the appropriate state and non-state interventions that would strengthen the survival mechanisms adopted by the families themselves (Agarwal, 2010).

The study by Katiyar S C. et.al (2012) is conducted in four clusters of villages of Uttar Pradesh during 2008 to 2012 to assess the livelihood security of rural people living in deprived areas. Low productivity of crops and animals, extensive land degradation, poor resource management and socioeconomic situation problems existed in the clusters.

The study of (Turton, 2000) finds that Western India Rain-fed Farming Project I and II covered three neighbouring districts of three States - Gujarat, Madhya Pradesh and Rajasthan. These districts were undulating and semi-arid, with a majority of rain-fed farming. The project was located in areas of widespread poverty, having high density of Scheduled Tribes, and from which round about 50% of adults migrate for search of seasonal employment. Phase-I and II of the study focuses on ensuring food security and emphasis on increasing the micro-enterprise activities respectively.

The health status, education status and livelihoods in low-income rural systems were studied (Joffe, 2007), the world population was living with hunger, food insecurity, and under- nutrition has decreased, but the absolute number remains stubbornly large. An even larger number of people have enough to eat but suffer from severe micronutrient deficiencies. The predicament of poor households can be represented in terms of a self-reinforcing cycle involving nutrition, health, and productivity. The degree of poverty limits the quantity and quality of food intake. Macro and micronutrient deficiencies interfere with child growth and development and impair immune function, resulting in a predisposition to infectious diseases. Health status strongly influences the quantity and quality of labour and achieved educational status.

Both Surva Shikshana Abhiyana (SSA) and Right to Education (RTE) are great landmarks in the policy timeline of basic education in India. Ever since these initiatives were rolled out, major developments have occurred. Though there is still a long way to go in meeting the aspirations of the nation through education and skill development essentially through elementary education (Srivastava & Noronha, 2016).

The Human Development Index (HDI) is a statistic combination index of life expectancy, education and per capita income indicators, which are used to construct human development rank. Nations that rank higher on this index have a higher level of education, a higher life expectancy or life span, and a higher GNP per capita than nations with a lower score. United Nations Development Programme (UNDP) was recently released rankings (UNDP, 2019) India was ranked 129th, with index value of 0.647, considering that 189 countries are taken into account. Indian states by their respective HDI, as of 2018, Kerala state stands first in HDI among the states of India. Karnataka stands 19th place in HDI and its come under medium human development index 0.682, considering that total 36Indian states and union territories are taken into account (Wikipedia, 2018).

PROFILE OF THE STUDY AREA

Karnataka, India's seventh largest State in terms of geographical area with 191791 sq. km. According to 2011 census total population was 6.11 crore, accounting for 5.05 percent of India's population. As per 2011 census state has 133.57 lakh households. The State's population has grown by 15.7 percent during the last decade. In 2011, its density of population was 319 and the sex ratio was973. The literacy rate of the State is 75.4 percent in 2011 which is above the National Average of 73.0 percent. Karnataka is India's seventh most urbanised state with 38.7 percent of population living in urban areas and 61.3 percent population living in rural areas.

Karnataka State is on the mission to promote faster and inclusive growth. This is evident from the achievements in various key economic and social sectors, through inclusive programmes and policies.

Arsikere taluk is situated in the southern part of the Hassan district, Karnataka State. The geographic area of the taluk of Arsikere was1265 Sq. Km. It is, situated between 13.310455 North latitude and 76.253708 East longitudes and lies in the south western part of Karnataka. The Taluk which has 5 hoblies and 394 villages and population is 315339 and the average rainfall is about 1031 mms annually. The District Human Development Report (DHDR) aims at estimating inter-taluk disparity in different extent of human development and identifying the developmental gaps to be addressed at the district level and also across different taluks in the district. Preparation of District Human Development Report provides a sound support for designing and implementing district plans from the human development point of view and also for proper allocation of funds. Taluks with 100 percent of Grama Panchayats' performing above the State average 0.4392 of GPHDI. (ANSSIRD & PR, 2018). The third State HDR is brought out in 2019. HDI is estimated using the Global Goal posts by UNDP (2014) based on 2012 data. Bengaluru Urban stands first with HDI value 0.729, Hassan stands with eleventh position with HDI value of 0.639 and Yadgir, district in the last position with HDI value 0.495. District Composite Development Index and Composite Taluk Development and computed. The details of the Human Development Index for each of the Grama panchayats' in the taluk of Hassan district are given in the Table 1.

Table 1 shown that Alur and Sakleshpur taluks with 100 per cent of Gramapanchayats' performing above the State average GPHDI (0.4392), Holenarsipur taluk has less index value in the district, even though all the taluks are above the state average GPHDI.

Table 1: Profile of the Taluk as per HDI

Name of the taluk	No. of Gram panchayats		% of Gram panchayats	
	Above the state average HDI	Below the state average HDI	Above the state average HDI	Below the state average HDI
Alur	15	0	100.00	0.00
Arakalgud	27	9	75.00	25.00
Arsikere	28	17	62.22	37.78
Belur	26	11	70.27	29.73
Channarayapatna	27	13	67.50	32.50
Hassan	38	1	97.44	2.56
Holenarsipura	12	14	46..15	53.85
Sakleshpur	26	0	100.00	0.00
Hassan District	**199**	**65**	**75.38**	**38.31**

Source: (ANSSIRD & PR, 2018)

Table 2: Livelihood Indicators of Arsikere Taluk

Livelihood	Indicators	Statistics	
Basic facilities	PDS	82365	
	Toilets	99.1%	
	Drinking water	Tube wells	3854
		Piped water supply schemes	178
		Mini water supply schemes	423
	LPG	60381	
	Literacy rate (2011 census)	78.96	
Financial facilities	Bank loans to Agricultural Sector (in lakhs)		
	RRBs	62407	49 branches
	PSBs	726	32
	DCC banks loans	7695.96	5
	KSCARD/PLD	19.92	1
	SHGs	1463 (no, of groups)	22858 members 1.35 crore (Loan)
	Pensions(beneficiary No's)	(Old age + Widow + Disable +Sandya Suraksha)	27289
	Irrigation (NIA-in ha)	4145	

	Cattles (in no's)	57619	
	Veterinary Hospitals (No's)	36	
	Subsidized Seeds (in qntls)	2834	
Health and Family welfare	24/7 working hospitals	3	5 Hospitals
	Deliveries	221	
	JSY	718	
	Ambulance	7216 (beneficiaries)	6
	Hospitals (G+P)	37	
	Immunisation given to children	16131	

Source: Hassan District at a Glance, 2018-19, District Statistical Office, Hassan

METHODOLOGY AND MEASUREMENT

Livelihood and health are the prime theme of the core of human development. Providing broader avenue for livelihood and better prospective of health, enhance the empowerment of the people. In this direction, the present research work made an attempt to capture the people perception and opinion on livelihood facilities and health facilities offered in the study area. However, livelihood is a multifaceted and multi-dimensional, the present takes into account of three livelihood measures namely Basic Livelihood Index, Financial Livelihood Index and Farm Supporting Livelihood Index along with Health Index. To capture the level of livelihood in the stated dimensions, Livelihood Index is constructed. These indices are constructed on the basis of scale of the measured indicators under each of the dimensions. The Livelihood and Health Index is a summary of key dimensions. It measures the people perception on availability of facilities of basic livelihood, financial livelihood, farming supporting livelihood, and health facilities. The following description explains the methodology of calculation of the various empowerment indices and Table 1 indicates the brief note on each of the indicators under livelihood index and scale of measurement.

KEY ASPECTS OF LIVELIHOOD INDEX

Basic Livelihood Index: The dimension of Basic Livelihood is constructed by using three items related to necessities, government facilities and farm education.

Financial Livelihood Index: The dimension of Financial Livelihood is constructed by using three items related to financial facilities, procedure of bank loans and food prices at market.

Farming Supporting Livelihood Index: The dimension of Farming Supporting Livelihood is constructed by using three items related to basic needs of human being in terms of HYVs', prices for farm produce and fluctuations of farm prices.

Steps to calculate the Health Index: The dimension of Health Index is captured by using five items related to health facilities in terms of availability of services at primary health centre, services of vaccination for children, availability of 24 hours' facility, availability of services of ambulance facility, and availability of health insurance.

The items of these four indexes are three point scaled questions from the scale of 1, indicates the lack of facility, to scale of 3, index the availability of services. On the basis of the responses provided by the respondents to the stated thee items the total score is obtained. The total score of the respective index is the sum of responses by the respondents to the stated items. This total score is termed as actual score. By using this actual score, the Index is constructed for each of the respondents. Minimum and maximum values are fixed in order to standardize the scores of the items, and for converting the indices value between 0 and 1. The maximum value is the 9 and minimum score is 3. The very high scale of 3 for three items gives 9 as maximum value and the very low scale of 1 for three items gives 3 as minimum value. Having defined the maximum and minimum score, the Index is calculated as follows:

$$\text{Livelihood Index} = \frac{\text{Actual Score} - \text{Minimum Score}}{\text{Maximum Score} - \text{Minimum Score}}$$

The methodology for deriving the stated above formula holds for Basic Livelihood Index, Financial Livelihood Index, Farming Supporting Livelihood Index and Health Index value for each of the respondents. The arithmetic mean of all four livelihood index value of each of the respondents of the study helps in deriving the livelihood indexes of the study. These indexes value also lies between 0 and 1. The value closer to 0 indicates the low level of livelihood and value closer to 1 indicates the high level of livelihood facilities.

Table 3: Indicators of Livelihood Index and Health Index

Sl. No	Index – Key Dimensions	Indicators	Level of Measurement	Observations and Scaling		
				1	2	3
1	**Basic Livelihood Index**	Basic Necessities	Ordinal	Not at all provided	Inadequately provided	Adequately provided
		Securing Government Benefits	Ordinal	Very difficult	Difficult	Easy
		Farm Extension Education	Ordinal	Not at all provided	Inadequately provided	Adequately provided
2	**Financial Livelihood Index**	Financial Facilities	Ordinal	Not at all provided	Inadequately provided	Adequately provided
		Bank Loan Procedures	Ordinal	Very difficult	Difficult	Simple
		Food Prices at Market	Ordinal	Very high	High	Reasonable
3	**Farming Supporting Livelihood Index**	High Yield Varieties	Ordinal	Not at all available	Inadequate	Adequately Available
		Prices for Farm Produce	Ordinal	Not remunerative	Fair	Very good
		Fluctuations of Farm Prices	Ordinal	Extremely unstable	Unstable	Very stable
4	**Health Index**	Service at Primary Health Centre	Ordinal	Not good	Fair	Good
		Service of Vaccination for Children	Ordinal	Not good	Fair	Good
		24 Hours of Service Facility	Ordinal	Not good	Fair	Good
		Service of Ambulance Facility	Ordinal	Not good	Fair	Good
		Health Insurance Service	Ordinal	Not good	Fair	Good

Table 3 of indicators of livelihood index and health index represents the key dimensions of the four index, their respective indicators and the level of measurement of the indicators. The provided scale and its indicators with observed description is also represented in the Table3. As indicated in the table, basic livelihood index, financial livelihood index and farming supporting livelihood index are consisting of three indicators and health index consisting of five indicators. In total all these indicators are measured in ordinal scale of 1 to 3 values.

COMPARISON OF LIVELIHOOD INDEX OF ARASIKERE TALUK

The performance of all the hobli of Arasikere in terms of livelihood and health facilities are assessed and compared by comparing the descriptive statistics of livelihood index and health index. Table 3 projects the various descriptive measures of livelihood index and health index.

Table 4: Descriptive Statistics on Index Values of Various Hobli of Arasikere Taluk

Index	Hobli	N	Mean	Std. Deviation	Std. Error	Min.	Max.
Basic Livelihood Index	Banavara	40	.595852	.0834568	.0131957	.5000	.6667
	Kanikatte	40	.587512	.1251217	.0197835	.3333	.8333
	Javagal	40	.583357	.1687920	.0266884	.1667	1.0000
	Kasaba	40	.587515	.1360368	.0215093	.3333	1.0000
	Gandsi	40	.520840	.1695877	.0268142	.1667	.8333
	Total	**200**	**.575015**	**.1415414**	**.0100085**	**.1667**	**1.0000**
Financial Livelihood Index	Banavara	40	.645840	.1470813	.0232556	.5000	1.0000
	Kanikatte	40	.650010	.1181447	.0186803	.5000	.8333
	Javagal	40	.691680	.1944644	.0307475	.1667	1.0000
	Kasaba	40	.629170	.1485307	.0234848	.3333	.8333
	Gandsi	40	.579170	.1886657	.0298307	.1667	1.0000
	Total	**200**	**.639174**	**.1643665**	**.0116225**	**.1667**	**1.0000**
Farming Supporting Livelihood Index	Banavara	40	.458335	.1719326	.0271849	.00000	.66670
	Kanikatte	40	.537503	.1032821	.0163303	.33330	.83330
	Javagal	40	.491663	.1409772	.0222905	.16670	.83330
	Kasaba	40	.500000	.0533867	.0084412	.33330	.66670
	Gandsi	40	.554170	.1093091	.0172833	.33330	.83330
	Total	**200**	**.508334**	**.1258760**	**.0089008**	**.00000**	**.83330**
Health Index	Banavara	40	.997500	.0158114	.0025000	.9000	1.0000
	Kanikatte	40	.995000	.0220721	.0034899	.9000	1.0000
	Javagal	40	.997500	.0158114	.0025000	.9000	1.0000
	Kasaba	40	.995000	.0220721	.0034899	.9000	1.0000
	Gandsi	40	.997500	.0158114	.0025000	.9000	1.0000
	Total	**200**	**.996500**	**0.184241**	**.0013028**	**.9000**	**1.0000**

The basic livelihood index value of Banavara is relatively higher (.595852) with the least standard deviation (.0834568).The performance of Banavara in creating basic livelihood is highest in Arasikere taluk. The financial livelihood index value of Javagal is relatively higher than other hobli (.691680), however the standard deviation is low for Kanikatte (.1181447). The performance of Javagal in creating financial livelihood is highest in Arasikere taluk. The farming supporting livelihood index of Gandsi is relatively higher than other hobli (.554170), whereas the standard deviation is low for Kasaba (.0533867). The performance of Gandsi in creating farming supporting livelihood is highest in Arasikere taluk. However, the value of health index of all the hobli do not differ much between them, where Banavara, Kanikatte, Javagal and Gandsi stands in the same position with the same value (.997500). The standard deviation of Banavara, Javagal, Gandsi is also same (.0158114). The performance of Banavara, Kanikatte, Javagal and Gandsi remain same in creating health facilities. The four index values of all these five hoblis' are presented in multiple bar diagram in Figure 1. The statistical difference between the mean values of four indexes is tested by using ANOVA and presented the result in Table 5.
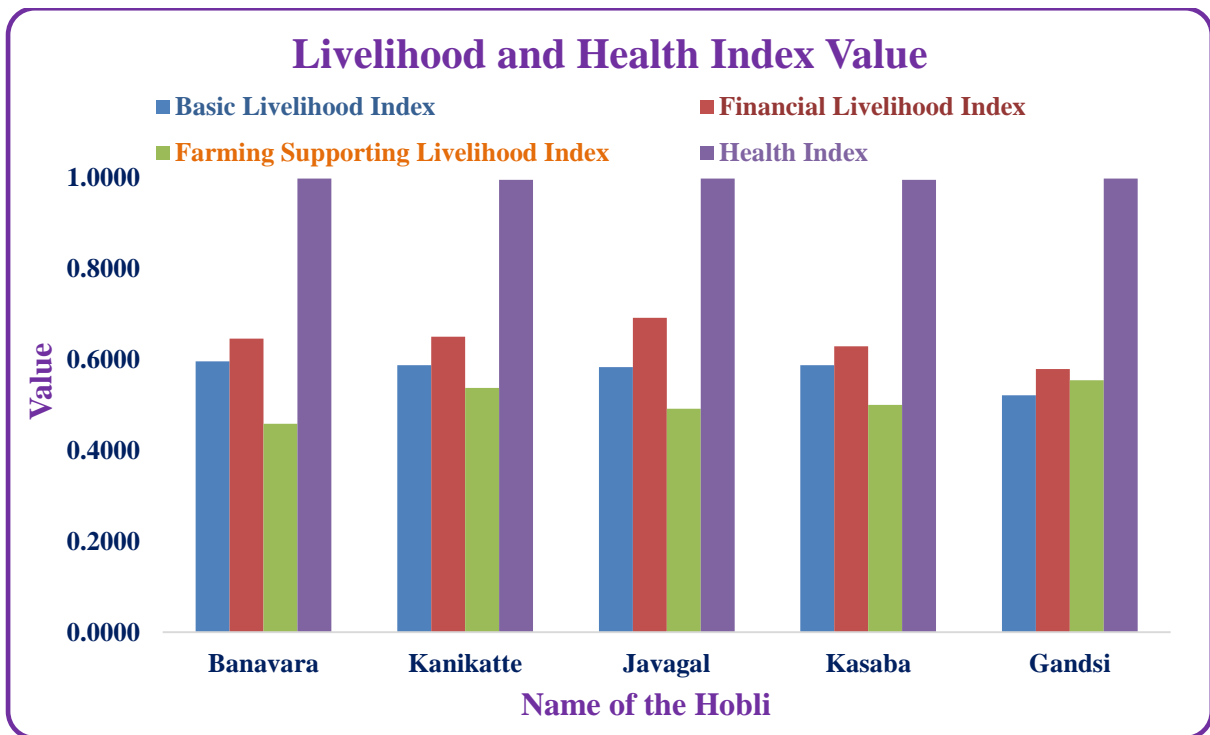
Figure 1: Livelihood Index and Health Index of Five Hobli of Arasikere Taluk

Table 5: ANOVA of Index Values of Various Hobli of Arasikere Taluk

Index	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Basic Livelihood Index	Between Groups	.150	4	.037	1.902	.112
	Within Groups	3.837	195	.020		
	Total	**3.987**	**199**			
Financial Livelihood Index	Between Groups	.251	4	.063	2.388	.052
	Within Groups	5.125	195	.026		
	Total	**5.376**	**199**			
Farming Supporting Livelihood Index	Between Groups	.238	4	.059	3.972	.004
	Within Groups	2.916	195	.015		
	Total	**3.153**	**199**			
Health Index	Between Groups	.000	4	.000	.217	.928
	Within Groups	.067	195	.000		
	Total	**.068**	**199**			

The hypothesis of there is no significant difference between the average value of livelihood index and health index across the hobli's testing by using One-way ANOVA. The mean sum of square between the group (.037) of basic livelihood index across the hoblis' is relatively higher than the mean sum of square of within the group (0.020). However, the F ratio with 4 and 195 is 1.902, and its p value of .112 is statistically insignificant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of five hobli's of Arasikere taluk in basic livelihood is cannot be rejected. Therefore, it can be concluding that the performance of all five hobli's in basic livelihood index is remaining same.

The mean sum of square between the groups (.063) of basic financial livelihood index across the hoblis' is relatively higher than the mean sum of square of within the group (0.026). However, the F ratio with 4 and 195 is 2.388, and its p value of .052 is statistically insignificant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of five hobli's of Arasikere taluk in financial livelihood is cannot be rejected. Therefore, it can be concluding that the performance of all five hobli's in financial livelihood index is remaining same.

The mean sum of square between the group (.059) of farming supporting livelihood index across the hoblis' is relatively higher than the mean sum of square of within the group (0.015). However, the F ratio with 4 and 195 is 3.972, and its p value of .004 is statistically significant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of five hobli's of Arasikere taluk in basic livelihood is can be rejected.

Therefore, it can be concluding that the performance of all five hobli's in basic livelihood index doing not remain same.

The mean sum of square between the group (.000) of basic livelihood index across the hoblis' is relatively higher than the mean sum of square of within the group (0.000). However, the F ratio with 4 and 195 is .217, and its p value of .928 is statistically insignificant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of five hobli's of Arasikere taluk in health index is cannot be rejected. Therefore, it can be concluding that the performance of all five hobli's in health index remain same.

Comparison of Livelihood Index of Arasikere Taluk

Table 6: Descriptive Statistics on Index Values of Various Villages of Arasikere Taluk

Villages	N	Basic Livelihood Index					Financial Livelihood Index					Farming Supporting Livelihood Index					Health Index				
		Mean	Std. Dev.	Std. Error	Min.	Max.	Mean	Std. Dev.	Std. Error	Min.	Max.	Mean	Std. Dev.	Std. Error	Min.	Max.	Mean	Std. Dev.	Std. Error	Min.	Max.
Aggunda	10	0.6334	0.0703	0.0222	0.5000	0.6667	0.6833	0.1459	0.0461	0.5000	0.8333	0.5000	0.0000	0.0000	0.5000	0.5000	0.9800	0.0422	0.0133	0.9000	1.0000
Bendekere	10	0.5000	0.2079	0.0657	0.3333	1.0000	0.6000	0.1956	0.0619	0.3333	0.8333	0.5000	0.1111	0.0351	0.3333	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Byadarahalli	10	0.6000	0.0861	0.0272	0.5000	0.6667	0.6167	0.0805	0.0255	0.5000	0.6667	0.5000	0.0000	0.0000	0.5000	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Byarehalli	10	0.6667	0.1361	0.0430	0.5000	1.0000	0.8333	0.1361	0.0430	0.6667	1.0000	0.6000	0.1165	0.0369	0.5000	0.8333	0.9900	0.0316	0.0100	0.9000	1.0000
Chagachagere	10	0.5500	0.0805	0.0255	0.5000	0.6667	0.5833	0.1800	0.0569	0.3333	0.8333	0.5000	0.0000	0.0000	0.5000	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Haranahalli	10	0.6167	0.0805	0.0255	0.5000	0.6667	0.6500	0.1230	0.0389	0.5000	0.8333	0.5000	0.0000	0.0000	0.5000	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Honnagatta	10	0.5667	0.0861	0.0272	0.5000	0.6667	0.6500	0.0946	0.0299	0.5000	0.8333	0.5333	0.0703	0.0222	0.5000	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Javagal	10	0.4334	0.2383	0.0754	0.1667	0.6667	0.5334	0.2049	0.0648	0.1667	0.6667	0.4167	0.1179	0.0373	0.1667	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Kolagunda	10	0.6167	0.0805	0.0255	0.5000	0.6667	0.6667	0.1571	0.0497	0.5000	1.0000	0.4833	0.0946	0.0299	0.3333	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Koranahalli	10	0.5333	0.1721	0.0544	0.3333	0.8333	0.6833	0.1230	0.0389	0.5000	0.8333	0.6000	0.1406	0.0444	0.3333	0.8333	1.0000	0.0000	0.0000	1.0000	1.0000
Kudukundi	10	0.5833	0.1416	0.0448	0.3333	0.8333	0.6833	0.1995	0.0631	0.3333	1.0000	0.6333	0.1315	0.0416	0.5000	0.8333	1.0000	0.0000	0.0000	1.0000	1.0000
Lalanakere	10	0.3833	0.1933	0.0611	0.1667	0.6667	0.5333	0.1532	0.0484	0.3333	0.8333	0.5833	0.1179	0.0373	0.5000	0.8333	0.9900	0.0316	0.0100	0.9000	1.0000
Medarahalli	10	0.6334	0.0703	0.0222	0.5000	0.6667	0.6000	0.0861	0.0272	0.5000	0.6667	0.5000	0.0000	0.0000	0.5000	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Nagasamundra	10	0.5667	0.0861	0.0272	0.5000	0.6667	0.6333	0.1315	0.0416	0.5000	0.8333	0.3167	0.2881	0.0911	0.0000	0.6667	0.9900	0.0316	0.0100	0.9000	1.0000
Sarikehalli	10	0.6167	0.0805	0.0255	0.5000	0.6667	0.7334	0.1610	0.0509	0.5000	1.0000	0.4667	0.1721	0.0544	0.3333	0.8333	1.0000	0.0000	0.0000	1.0000	1.0000
Sathanagare	10	0.6167	0.1372	0.0434	0.3333	0.8333	0.6667	0.1571	0.0497	0.5000	0.8333	0.5167	0.1230	0.0389	0.3333	0.8333	0.9800	0.0422	0.0133	0.9000	1.0000
Siddarahalli	10	0.6000	0.1166	0.0369	0.3333	0.6667	0.5834	0.1179	0.0373	0.3333	0.6667	0.5000	0.0000	0.0000	0.5000	0.5000	1.0000	0.0000	0.0000	1.0000	1.0000
Srirampura	10	0.5667	0.1792	0.0567	0.3333	0.8333	0.5167	0.1995	0.0631	0.1667	0.6667	0.5000	0.0786	0.0249	0.3333	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Thippaghatta	10	0.6000	0.0861	0.0272	0.5000	0.6667	0.6000	0.1405	0.0444	0.5000	0.8333	0.5167	0.0527	0.0167	0.5000	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Yarehalli	10	0.6167	0.0805	0.0255	0.5000	0.6667	0.7333	0.1956	0.0619	0.5000	1.0000	0.5000	0.1111	0.0351	0.3333	0.6667	1.0000	0.0000	0.0000	1.0000	1.0000
Total	**200**	**0.5750**	**0.1415**	**0.0100**	**0.1667**	**1.0000**	**0.6392**	**0.1644**	**0.0116**	**0.1667**	**1.0000**	**0.5083**	**0.1259**	**0.0089**	**0.0000**	**0.8333**	**0.9965**	**0.0184**	**0.0013**	**0.9000**	**1.0000**
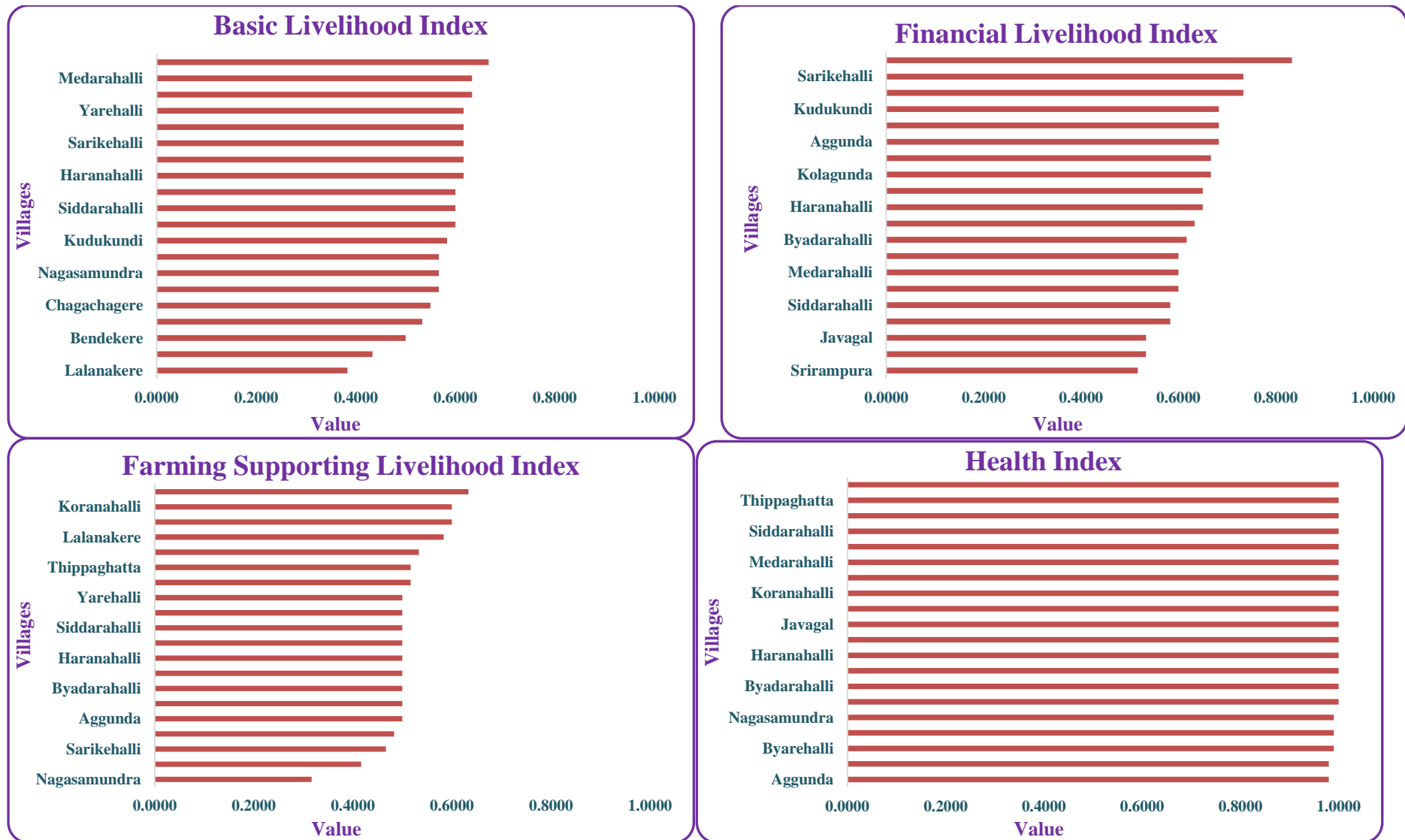
Figure 2: Livelihood Index and Health Index of Twenty Villages of Arasikere Taluk

As per the output of descriptive statistics of Table 6, the basic livelihood index value of Byarehalli is relatively higher (.0.6667). The performance of Byarehalli in creating basic livelihood is highest in Arasikere taluk. The financial livelihood index value of Byarehalli is relatively higher than other villages (.0.8333). The performance of Byarehalli in creating financial livelihood is highest in Arasikere taluk. The farming supporting livelihood index of Gandsi is relatively higher than other hobli (0.6333), whereas the standard deviation is low for Kasaba (.0533867). The performance of Kudukundi in creating farming supporting livelihood is highest in Arasikere taluk. However, the value of health index of majority of the villages do not differ much between them, the four index values of all these twenty villages are presented in multiple bar diagram in Figure 2 and the results of is presented in Table 6.

Table6: ANOVA of Index Values of Various Villages of Arasikere Taluk

Index	Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Basic Livelihood Index	Between Groups	.908	19	.048	2.796	.000
	Within Groups	3.078	180	.017		
	Total	**3.987**	**199**			
Financial Livelihood Index	Between Groups	1.118	19	.059	2.488	.001
	Within Groups	4.258	180	.024		
	Total	**5.376**	**199**			
Farming Supporting Livelihood Index	Between Groups	.870	19	.046	3.607	.000
	Within Groups	2.284	180	.013		
	Total	**3.153**	**199**			
Health Index	Between Groups	.009	19	.000	1.373	.145
	Within Groups	.059	180	.000		
	Total	**.068**	**199**			

The hypothesis of there is no significant difference between the average value of livelihood index and health index across the villages is testing by using One-way ANOVA. The mean sum of square between the group (.048) of basic livelihood index across the villages is relatively higher than the mean sum of square of within the group (0.017). However, the F ratio with 19 and 180 is 2.796, and its p value of .000 is statistically significant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of twenty villages of Arasikere taluk in basic livelihood is can be rejected and concluding that the performance of all twenty villages in basic livelihood index is do not remain same.

The mean sum of square between the group (.059) of basic financial livelihood index across the villages is relatively higher than the mean sum of square of within the group (0.024). However, the F ratio with 4 and 180 is 2.488, and its p value of .001 is statistically significant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of twenty villages of Arasikere taluk in financial livelihood is can be rejected. Therefore, it can be concluding that the performance of all twenty villages in financial livelihood index is do not remain same.

The mean sum of square between the group (.046) of farming supporting livelihood index across the villages is relatively higher than the mean sum of square of within the group (.013). However, the F ratio with 4 and 180 is 3.607, and its p value of .000

is statistically significant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of twenty villages of Arasikere taluk in basic livelihood is can be rejected. Therefore, it can be concluding that the performance of all twenty villages in basic livelihood index do not remain same.

The mean sum of square between the group (.000) of basic livelihood index across the villages is relatively higher than the mean sum of square of within the group (0.000). However, the F ratio with 4 and 180 is 1.373, and its p value of .145 is statistically insignificant at 5%. Hence, the hypothesis of there no significant difference in the mean value of performance of twenty villages of Arasikere taluk in health index is cannot be rejected. Therefore, it can be concluding that the performance of all twenty villages in health index remain same.

CONCLUSION

The three livelihood index of the present study helps in concluding the provision, accessibility and availability of livelihood activities in the study area. The three indexes are thematically different; however, they are the core for sustaining the decent life. The higher health index value of the study has helps to draw remarks that health facilities are prominently occupying the higher position in the study than the farming supporting, financial and basic livelihood index. The lower value of farming supporting and basic livelihood index value reveals to draw conclusion that there is enough provision for

absorbing facilities of farm supporting and basic livelihood index in the study area, thus, the initiatives and policy actions of the government in this direction inevitable and more appreciated.

There were variations in status of sustainable livelihood securities at various level, government has to assess impact of programmes on specific issues of livelihood securities at the gross root level, as well as identify the strengths and weaknesses of the existing policies and has to integrate sustainable development objectives such as larger inflow of funds to low livelihood securities regions in policy formulation. The government has to take comprehensive holistic view of the sustainable livelihood development, outside the regular governmental functioning.

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THE KARAKALPAK LEGEND "MAZLUMKHAN SULU" AND ITS SUBJECT PARALLELS IN THE KHOREZM FOLKLORE

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ABSTRACT

The article is devoted to one of the little-studied themes of Karakalpak folklore - the problem of migration of folklore scenes. The author of the article, based on an analysis of folklore material, attempted to link the history of the origin and formation of the legend of Mazlumkhan Sulu with the parallels found in Khorezmian folklore, as well as to identify the historical and traditionally epic prerequisites for the migration of the plot to Karakalpak folklore.

KEY WORDS: *legend, plot, motive, migration, parallels, folklore, tradition, source, epic.*

INTRODUCTION

The Khorezm oasis, as one of the centers of the ancient civilization, played a significant role in the cultural life of the peoples inhabiting it, including Karakalpak, which for long historical periods was in close economic and cultural relationship with the peoples of Khorezm. Traces of this relationship are especially clearly seen in Karakalpak folklore. The composition of the Karakalpak folk legends, as well as other Turkic peoples, was enriched by borrowing, both from neighboring peoples, and their own - autochthonous ones. Plots of Khorezm folklore had a great influence on the design of individual Karakalpak legends.

DISCUSSION

One of the most interesting and unique of them is the plot "princess and builder slave", which left a deep and bright mark in enriching the subject of Karakalpak folk legends.

The toponymic legend with the plot "Mistress and a slave builder" was timed to the mausoleum of Mazlumkhan Sulu, a religious building located in the territory of the Khodzheli district of the Republic of Karakalpakstan. This religious building to this day is a place of pilgrimage for local residents. The construction of the mausoleum, according to experts, dates back to the end of the XII - the beginning of the XIV centuries. [1, p. 569-585]. The first studies of this monument were made by A.Yu. Yakubovsky in 1928-1929, then repeated studies were carried out in the interval 1940-1980. archaeologists Yu. V. Knozorov, VN Yagodin, and G. Chojaniyazov, who focused their attention also on the content of the legend. One of the first records of the legend was made by the famous Karakalpak ethnographer H. Yesbergenov. In 1964, he recorded with the informant, the text of the legend, however, this text was not given in the article he prepared. According to legend, Mazlumkhan Sulu was the daughter of a ruler, to whom the peoples of India, Front and Central Asia were subordinate. The territory of Khorezm was the lot of Mazlumkhan Sulu. One of the slaves, who was a builder from India, fell in love with Mazlumkhan Sulu. Mazlumhan also fell in love with a young man. However, knowing that her father would not agree to give her for a slave, and also to check the truth of his feelings, she told him to build a barn (palace), which should not be like all other existing ones. A slave built this palace for her. Seeing the palace, she loved him even more. Knowing that during their earthly life

they would never unite, Mazlumkhan Sulu told him: "If you really love me, then throw yourself from the roof of this palace." The slave obeyed and died. Following him, Mazlumkhan herself rushes and dies. Both of them were buried in the palace, which became a mausoleum [2, p. 77]. Numerous versions of the legends that existed among the people, the fact of the presence of a gravestone with fragments of a poem, gave thought to many researchers. A fragment of the poem was translated by experts, and on its basis H. Yesbergenov tried to recreate the real story about Mazlumkhan Sulu, which formed the basis of the legend.

On the basis of data collected from the local population, the palace, now functioning as the mausoleum of Mazlumkhan Sulu, was built in the period when India and Khorezm were ruled by a single ruler. According to the ethnographer, the construction of the palace dates back to the reign of Mahmoud Ghazni (998-1030), whose power stretched from the borders of northern India to the southern shores of the Caspian Sea, including areas of present-day Afghanistan and northeastern Iran. Ghaznavid state played a large role in the fate of Iran and Central Asia, in particular Maverannahr. During his reign, Mahmud of Ghazni made seventeen trips to Punjab, Kashmir and other areas of northern India. On one of his trips, Mahmud took out 20 million dirhams, 57 thousand slaves and 350 elephants from the city of Kanauja [3, p. 359]. It can be assumed, - the scientist writes, - that some of these slaves participated in various constructions in Khorezm, including the construction of the Mazlumkhan Sulu mausoleum [4, p. 69]. The ethnographer, based on the above data, relates the construction of the mausoleum to the 9th - 11th centuries. Relying on another version of the legend and the content of the poem from the tombstone, translated by A. Nekrasov, H. Esbergenov tries to connect Mazlumkhan Sulu with a cult widespread in Central Asia since antiquity - the cult of the Holy Virgin. As proof of his conclusion, he cites the text of the above-mentioned poem, which reads:

Oh my close ...
Be proud of me!
Do not think that I am unhappy in the cell of the dust.
Know that I am an approximate sanctuary of holiness.
And consider me to be one of the hermits of paradise.
Paradise servant [4, p. 66].

As can be seen from the content of the poetic lines, it is clearly enough noted that Mazlumkhan Sulu died of a virgin. According to the ideas of many Turkic-speaking (Turkic) peoples, including Karakalpaks, innocent girls after death must go to heaven. The conclusion of the researcher, to some extent coincides with the opinion of the orientalist A. Nekrasov, which he mentions several times in his article. The orientalist drew attention to the word "mhshate", which according to him in India is called a matchmaker, and in Persia - women, whose duties include combing the bride's hair before a wedding, decorating her [5, p. 584]. Apparently, Mazlumkhan Sulu before the burial was removed as a bride. The custom of burial in wedding decoration was in ancient times widespread among many nations of the world. Its origins are connected with the cult of the Eternal Virgin [4, p. 67]. The tradition of the Karakalpaks on the special status of girls in society, which has survived to this day, served to strengthen the ethnographer's conclusion, to some extent.

After the discovery of a gravestone in 1971, an ethnographic expedition in the area of Keten Kala, located not far from the Mazlumkhan Sulu mausoleum, and after his research by H. Esbergenov, new facts are discovered concerning this mausoleum. In this regard, in 1976, an article appeared in the press devoted to the content of the poetic text similar to that of Mazlumkhan, from a gravestone monument from Keten Kala [2, p. 77]. The poetic texts of both gravestones belong to the representatives of the Mu'tazilite Sufi sense. Sufism, which arose much earlier in the VIII century. on the territory of Iraq and Syria, to the XI- XII centuries. widespread in Central Asia. In the lower reaches of the Amu Darya, one of the centers of Sufism was undoubtedly the cult construction of Mazlumkhan Sulu. In addition to the eponymous mausoleum with the grave of the martyr (the word "mazlum" translates as "martyr") [6, p. 86] Calender Khan, the hostel of dervishes and the ruins of the Erezhep Halfa mosque, one of the devotees of the Dervish Order, remained on this hill. All the findings of the researcher lead us to the fact that the prototype of the legend, that is, Mazlumkhan Sulu, buried in the mausoleum that bears her name, is a representative of Sufism. As evidence, he cites another version of the legend, which is supported by data obtained from informants, according to which Mazlumkhan Sulu led an ascetic lifestyle, and spent her life alone [4, p. 69]. This ethnographic survey of Mazlumkhan Sulu, was the key in determining the origins of the formation of the legend and its variants.

A comprehensive study of the formation of legends on a regional scale, which includes the folklore of the peoples of Khorezm and Karakalpakia, in our opinion, gave us significant conclusions about the traditional ways of its design as a legend. The Khorezm variant of the legend is known to us from the work of G. P. Snesarev, who studied the religious cults of the Khorezm region [7, p. 160-161]. The scientist wrote down the text of the legend with Sheikh Mazar Divanai Burkh in Kunya-Urgench, but the name of the informant is not mentioned in the work. For clarity, in a comparative study with the text of the legend of Mazlumkhan Sulu, we give it in its most complete form. "When

Tyuryabek was building, the building of the present mausoleum Sheikh Sheref unexpectedly drove up to the construction site on the donkey of some unknown sofa, and addressed the owner with the strange question:" Will you sell me this palace, Tyuryabek? ". Having understood the joke, the beautiful woman answered: "Well, but only this whole building is in gold!". Divan, and this was someone other than Saint Sheikh Sheref, climbed the dome of the mausoleum and shook his right sleeve over the hole in the ceiling. Gold poured from the sleeve and rained down until the whole tomb filled them. "Release this mazar from gold now," said the Sheikh, and Tyuryabek carried out his order. "Why did I just sell the palace," Tyuryabek doubted, "No one will remember me now, since I voluntarily lost this building!" In tears, she fell asleep and saw in a dream that wonderful building that is in paradise. Awakened from sleep, she personally drafted his plan and ordered the construction to begin. Masters built it for seven years.

With builders Tyuryabek paid off with gold, received by it from the Sheikh. Only one master, a young slave builder Kul Gardan, flatly refused to take the money, and demanded the love of Tyuryab. "If you rush from the height of this beautiful portal, I will believe that you love me," the beauty replied. Kul Gardan did not hesitate to prove his love and died. She put the head of the deceased in her lap and said: "We will see you in the next world." She buried the master near the building he had constructed "[7, p. 160-161]. According to another version of the plot, which was also recorded by G. P. Snesarev, Tyuryabek herself chooses death [8, p. 114]. The similarity of the content of the text of the legend obviously claims to be variant with the legend of Mazlumkhan Sulu, with the exception of having a motive in it related to another character in the person of Sheikh Sheref. In both legends, the main characters of the plot "princess and builder slave" appear, and it remains to be clarified which of them was the main source of variation of the plot and design of another legend. Based on historical sources, we will try to establish it. G.P. Snesarev himself, ignoring the legend of Mazlumkhan Sulu, turns his attention to another legend with the traditional plot "princess and builder slave", that is, the legend associated with Bibi-Khanym, where Timur's beautiful wife appears and a young slave in love with her , demanding in payment for his work a kiss hostess. "We take courage," writes the researcher, "that the origins of the Samarkand legend about Bibi-Khanym should be sought in Khorezm: the beginning was laid in Kunya-Urgench by the legend about Tyuribek Khanym and the master Kul Gardan. We know how easily the legendary plots cover the distance, but for this case there were historically quite real prerequisites for such a "movement" of the plot "[7, p. 166].

As is known, the construction of the Bibi Khanim mosque in Samarkand was carried out after the military campaigns of Timur in Khorezm. Urgench was conquered. Many masters as prisoners were transported to Samarkand. It is known that the masters of Khorezm in Shakhrisabz built the Aksaray Palace, the residence of Timur. Probably, they were also employed in the construction of other structures of Timurov time, in particular, the Bibi khanim mosque. "It is possible," G. Snesarev concludes, "that it was with captive Urgench masters that they came to Samarkand and the plot of the Khorezm legend [7, p. 167].

There are also historical prerequisites for the design of the plot "The Princess and the Builder of a Slave" to the legend of Mazlumkhan Sulu, the source of which, in our opinion, is the legend of Tyuryabek Khanym. Historical Tyuryabek lived in the first half of the 14th century, and was the wife of the Golden Horde governor Kutlug Timur [9, p. 169]. The capital of the governorship then was Kunya Urgench. This was the period of the new economic and cultural upturn of Khorezm, after the devastating raids of Genghis Khan's troops. Kutlug Timur, the governor of Khorezm was an approximate of the Golden Horde Khan Uzbek; besides, he was related to him, and contributed to his accession to the khan's throne. Kutlug was married to the daughter of Uzbek Khan - Tyuryabek Khanum. Khorezm, even before the Mongol invasion, was the center of the Islamization of the steppe and semi-settled people, and those tribes that moved to these places together with the Genghisides. The significance of Khorezm in the Islamization of the Golden Horde itself was great. A significant role in this was played by Kutlug Timur and his spouse. As B.D. Grekov and A.Y. Yakubovsky noted: "Kutlug Timur, giving support to Uzbek, demanded the last decisive turn towards the adoption of Islam" [10, p. 266-267]. In Khorezm, near Kunya Urgench, stands a grand minaret built by Kutlug Timur. His wife Tyuryabek, in turn, built a mosque in Urgench. Many spouses have done for the Sufi communities. Kutlug built two khanaks and established waqfs for the benefit of each of them, including extensive land and canals [9, p. 169-170]. It means that the real Tyuryabek, the wife of the governor of Khorezm, undoubtedly labored on the path of the builder of religious institutions. The popularity of this woman - the builder, patron of the arts, the patroness of Islam and its institutions, made her a legendary person during her lifetime and subsequent periods of the historical life of the peoples of Khorezm.

There is much in common in the legends about Tyuryabek Khanim and Mazlumkhan Sulu - both of them are representatives of the ruling stratum, the initiators of the construction of the palace mentioned in the legends are in the same position and slaves are builders in love with them. Proceeding

from this, and based on the specific methods of folk tradition in varying the texts of legends, we can conclude that we have two links to directly transmit the plot of the "princess and slave builder" from the Khorezmians to the Karakalpaks, that is, the legend of Tyuryabek xanim, with some changes , made by time, is dedicated to the mausoleum of Mazlumkhan Sulu. Tyuryabek Khanum was replaced by Mazlumkhan Sulu, and the young architect Kul Gardan from the Indian builder was replaced by a slave. The archaeologist G. Khojaniyazov, who studied the mausoleum in 1987–1990, notes that the monument in the XII-XIII centuries. used as a khanaka (hostel for dervishes), later to the XIV century. his premises were set aside for burial, and he was turned into a mausoleum [11, p. 20]. From this it can be assumed that the buried, young girl in the mausoleum is the prototype Mazlumkhan Sulu, according to legend, found shelter here not earlier than the end of the XIV century, and a gravestone monument with epigraphy was built by representatives of Sufism. In addition, among the Karakalpaks and Khorezmians there are other similar content legends about Tyuryak khanim and Mazlumkhan Sulu, where young women after the death of their loved ones choose an ascetic lifestyle, devoting themselves to serving God, and spend the rest of their lives alone, which is inherent in Sufism ideology. Based on the analysis of ways of variation of the plot "Mistress and slave builder" and the above conclusions of ethnographer Kh. Yesbergenov about the involvement of Mazlumkhan Sulu's personality in the Sufi current, it can be concluded that the burial of a young woman in whose honor this mausoleum was named was one of the objects of popularization ideology of sufism.

The legends of Tyuryabek Khanym and Mazlumkhan Sulu are not the only links in the migration chain of the "princess and builder slave" plot. The origins of the formation of legends in our research go back to the legend of Farhad, timed to the remnants of the ancient fortress of Devkala (the city of the giant), which has the name Sulayman Kala among the people. The famous Uzbek folklorist K. Imamov mentions the legend in his work. According to legend, the fortress of Dev Kala was built by a giant named Farhad. He falls in love with a daughter of Khorezmshah named Shirin, and sends his matchmakers to her father. He did not want to give his daughter for him, the Khorezm Khan, to ask the sorceress (zhodugar) for advice. She advises Khan to entrust the maiden with an impossible task - to build a fortress in the center of a deserted desert. Farhad proceeds to carry out the task: he drags stones from distant mountains on his shoulders and proceeds to the construction of a fortress. When the construction of the fortress comes to an end, frightened by this circumstance, the Khorezm Khan again calls the witch for help. She tells Khan to slaughter 9,000

camels, as many lambs and calves. Voices, animals that have lost their young reach the fortress that Farhad is building. Surprised, he asks the witch: "Where does this heartbreaking cry come from?" To which the evil witch replies: "Princess Shirin just died and everyone grieves for her." Having lost himself from the sudden news of death, and who did not want to live without his beloved maidens, Farhad takes a large stone, and, gathering all his strength, hurls him upwards. The falling stone falls directly on him. Hearing about the event, the princess rushes to the scene and finds Farhad dead. Unwilling to live without her beloved, Shirin kills herself with a knife [12, p. 69].

Another version of the legend confined to the Chilpyk hill associated with the maiden is mentioned by the Hungarian traveler Arminius Vamberi, who wrote it down during his trip to Central Asia. This legend is widespread among the peoples of Khorezm and Karakalpakstan. She tells that in ancient times it was a strong fortress, and that a certain princess, who fell in love with her father's slave, found refuge here; fearing the revenge of the infuriated father, she fled here with her lover. To get water, the slave had to drill a mountain all the way to the river; the underground passage still exists [13, p. 113-114]. Judging by the content of the legend recorded by Vambery, it is somewhat abbreviated. In another, full version of this legend, recorded by the author of this article from informant Ulbiyke (87 years old, resident of Nukus), the image of a virgin appears in it [14]. In the full version of the legend, fearing revenge on the father of the princess, nobody wanted to shelter lovers in their fortresses. Only one virgin, the owner of the fortress, on the hill Chilpyk, dares to do it, and protects lovers from their enemies.

In general, the virgin is a fairly widespread character of the legends of the Khorezm region, Karakalpak folklore is also replete with images, and he appears mainly in toponymic legends, telling about the origin or construction of some kind of fortress or artificially constructed hill, which served, according to researchers, the object of body burial the departed. This is explained by the fact that the Khorezmian version of the image of a virgin is quite clearly degraded, that is, it has one characteristic feature that is interesting in terms of genetic relationships with the ancient Iranian pandemonium. Here virgins are primarily builders of cities and fortresses [8, p. 62]. Apparently, the existence of the image of the virgin in the Khorezm and Karakalpak legend has already created a fertile ground for its further transformation into the images of the builders of slaves; first in the legend of Tyurabek Khanim in Quli Gardan and after, the legend of Mahalumkhan Sulu being analyzed by us as an Indian slave.

Our analysis of the legends (about Mazlumkhan sulu, Tyurabek Khanim, Farhad), as links of one migration chain, formed on the basis of

the plot "princess and builder slave", can disprove the opinion that the plot of the legend of Mazlumkhan Sulu arose independently among the Karakalpaks. In favor of our conclusion about its variation with the legend of Turebek Khanym, we will try to substantiate the following data. According to the stories of the archeologist G. Hochaniyazov, who participated in the study of the mausoleum, during the opening of the graves, according to popular data, to the prototypes of the legend of Mazlumkhan Sulu and the builder of the slave, the remains of the bones of a young woman aged about 18-20 years and a young man 25-30 years old, whose age is accurately shown in the legend. If we assume that the case really took place in reality, and the mausoleum erected in honor of the lovers became the reason for the creation of the legend about them, then a number of objective reasons can refute this. First, the structure erected above the grave is not a palace, but built as a khanaka - a hostel for representatives of the servants of Sufism. The burial of the bodies of the departed in these premises began somewhat later. Secondly, Mazlumkhan Sulu, the prototype of the legend, could not be the daughter of Khan, since the center of the governorship assumed in the legend was at that time in Kunya Urgench. Most likely, Mazlumkhan Sulu belonged to the family of a noble and wealthy representative of the local nobility, only a similar category of people could afford to be buried in such a luxurious building. Thirdly, if we take into account the opinions of scientists that the burial refers to a period not earlier than the 14th century, when the peoples of Khorezm, including the Karakalpaks, were completely Muslim, their way of life. They mainly obeyed the instructions of the Koran, in which suicide was a terrible sin, and the glorification of such cases would not be supported by the traditional morality of the society of that time. Most likely, it would be condemned. The situation is different with the folk epic tradition: "rumors" and "interpretations" about the tragedy of lovers were not "defended" in order to take shape into a legend. Over time, this echo of reality was replaced by the legend of Tyuryabek Khanum, already finished and preserved in folk tradition, only by changing names and geographical location.

CONCLUSION

Summing up our analysis of the borrowing of the plot of the legend of Mazlumkhan Sulu from Khorezmian folklore, we emphasize that the plot of this legend is not an exceptional case in the chain of borrowings. The Karakalpak people with Khorezm are linked by centuries-old historical, cultural and socio-economic relations that have left their mark on folk art, the study of which can reveal many facts of borrowing in Karakalpak folklore.

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EFFECTIVENESS OF MULTIMEDIA IN ENVIRONMENTAL STUDIES AT THE COLLEGES OF EDUCATION

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ABSTRACT

This article meticulously discusses on the theme of effectiveness of multimedia in environmental studies at the colleges of Education *by adopting an experimental design with a sample of 30 students. This study has used pre test-post test control group design. The main objective of this study is to test the effectiveness of the multimedia specialized for learning environmental studies at the college of Education. It has proved that there is a significant relationship exists among those hypotheses tested.*

INTRODUCTION

Nowadays, teaching and learning environment should be set in such a way that students could learn in an easier, economical, and attractive manner. If we want to create higher learning environment, we have to include the term "Multimedia" in it. In today's information age, multimedia has the potential to create high quality learning environment for everyone. This study focuses its area on College Level Environmental Studies prescribed under Pondicherry University Syllabus. Being a compulsory subject for all the disciplines, undue hardship is faced by the students to learn this subject of Environmental Science, especially by the Literature students. To evade their disinterest and disorientation, introducing multimedia course content in learning will inculcate interest in them and pave the way for easier assimilation. This study attempts to explore conceptual understanding about environment, and attitude towards multimedia in learning environmental Science and academic achievement at the college level.

NEED AND SIGNIFICANCE OF THE STUDY

There are many advantages in applying multimedia elements in education. One of it is that multimedia enable students to represent information using several different media. This proves to be helpful when students need to do their project. Moreover, multimedia approach also provide flexibility of where and when can they learn. This is because by using multimedia approach such as audio and video, student can record or make connection with one another for discussion or listening to the previous topic that they have recorded. Multimedia approach also helps the students to develop a higher order thinking skills. By using the multimedia elements, students use their own idea and creativity to combine the elements of multimedia to produce something fresh and new.

Furthermore, multimedia approach are also much more engaging compare to the traditional one. With multimedia, interactive learning can be done with live-action video, feedback, questions and answers to keep the students interested and help enhancing their skills.

OBJECTIVES OF THE STUDY
The following are the objectives of the study;

1. To find out the Effectiveness of multimedia and achievement in environmental studies at the colleges of Education .
2. To find out the significant difference in the multimedia and achievement in environmental studies at the colleges of Education.
3. To find out the significant relationship in the multimedia and achievement in environmental studies at the colleges of Education.

HYPOTHESES
1. The Effectiveness of multimedia and achievement in environmental studies at the colleges of Education is low.
2. There is no significant difference in the multimedia and achievement in environmental studies at the colleges of Education.

3. There is no significant relationship in the multimedia and achievement in environmental studies at the colleges of Education

Method of Study
This study adopts Pre test-post test control group design

Research Tools
The following research tools will be adopted
1. Achievement test

Population and Sample
Population of the study is first year students studying in the Educational Colleges under the control of Pondicherry University, Puducherry region. From the population the investigator selects 30 students in Pope Jahn Paul II college of education at Pondicherry using purposive sampling technique.

Statistical Techniques Used
This study utilizes descriptive, differential and correlation analysis

TESTING OF HYPOTHESES
Hypothesis: 1
1. The Effectiveness of multimedia and achievement in environmental studies at the colleges of Education is low.

Table: 1.1. Post -test scores of the Experimental group and Control group learnt through Technology integrated and through traditional method.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Through Multimedia	Post-test of Experimental Group	15	66.27	3.75	23.33	14.03	28	Significant
Through Traditional Method	Post-test of Control Group	15	42.93	7.05				

The mean of the post-test scores of the Experimental group learnt through technology integrated courseware is found to be 66.27 with an SD 3.75. The mean of post-test scores of Control group learnt through traditional method is found to be 42.93 with an SD 7.05. The Mean 23.33 is found to be significant at a 0.01 level for 28df with 't' of 14.03. Therefore, the hypothesis is rejected. It is concluded that the Effectiveness of multimedia and achievement in environmental studies at the colleges of Education in Puducherry region is high.

Hypothesis: 2
There is no significant difference in the multimedia and achievement in environmental studies at the colleges of Education

Table: 1.2.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Traditional Method	Post-test	15	42.93	7.05	2.73	1.25	28	Not Significant
	Pre-test	15	40.20	3.69				

The mean of the post-test scores of the Control group learnt through traditional method is found to be 42.93 with an SD 7.05. The mean of pre-test scores of Control group learnt through traditional method is found to be 40.20 with an SD 3.69. The Mean 2.73 is found to be significant at a 0.01 level for 28df with 't' of 1.25. Therefore, the hypothesis is accepted.

It is concluded that the post-test mean score for enhancing environmental science learning competencies through traditional method among the B.Ed., trainees is not significantly higher than the pre-test mean scores of the control group.

There is no significant relationship in the multimedia and achievement in environmental studies at the colleges of Education

Table: 1.3.

Variable	Test	N	Mean	SD	Mean Difference	t-value	df	Level of significance (0.01Level)
Multimedia Courseware	Post-test	15	66.27	3.75	26.47	15.41	28	Significant
	Pre-test	15	41.80	4.95				

The mean of the post-test scores and pre-test scores of the Experimental group learnt through technology integrated learning courseware is found to be 66.27 with an SD 3.75 and 41.80 with SD 4.95 respectively. The Mean 26.47 is found to be significant at a 0.01 level for 28df with 't' of 15.41. Therefore, the hypothesis is rejected.

It is concluded that the post-test mean score for enhancing environmental science learning competencies through multimedia among the B.Ed., trainees is significantly higher than the pre-test mean scores of the Experimental group.

EDUCATIONAL IMPLICATIONS
A few educational implications for the present study are as follows:
- The results of the study have proved that multimedia is more effective than the conventional method of learning environmental science to the college level students. Hence, it is recommended to utilize this technological innovation in the enhancement of environmental science learning competency at the colleges of education.
- Since the use of multimedia penetrates more deeply into the development of human cognitive system, it would help them to be best of learning environmental science.

CONCLUSION
In the light of the research findings, it is felt that the present research may contribute to the alleviation of the transactional competencies of college level students. Multimedia was found to be effective in achievement of environmental science learning competencies in all areas. This has also been realized by many educational experts; hence, there is an urgent need to gear national efforts towards the implementation of this innovative strategy in all colleges of education.

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THE ABILITY TO CREATE A CHARACTER OF ULMAS UMARBEKOV

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ANNOTATION
In this article Ulmas Umarbekov's ability to create a character has been analyzed basing on the novel which called "Hard to be a human". Along with it the system of choosing character ability to create them poetic imagery, the power of the effect on the reader, successes and failures, character, the image of speech, artistic detail, the atmosphere also have been noted.
KEY WORDS: *Artistic images, the poetic skill, creative method, detail, image, portrait, character's speech, didactics.*

ВОЗМОЖНОСТЬ СОЗДАНИЯ ПЕРСОНАЖА УЛЬМАСА УМАРБЕКОВА

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Аннотация
В этой статье проанализировано и искусство создание образа на основе романа УлмасаУмарбекова "Быть человеком трудно". Даны некоторые размышления влияние образа читателю, достижение и недостатки, характер и речь персонажа о влиянии художественной детали на образ.
 Ключевые слова: Художественный образ, поэтические навыки, творческий метод, деталь, портрет, персональная речь, дидактика.

DISCUSSION

U.Umarbekov's novel "Hard to be a human"[4] revealed new aspects of his work and warmly welcomed by readers. A famous writer Said Ahmad wrote in the preface of the book "Pure feelings of the song,". "Writer created in the novel "Hard to be a human "fate of the youth, young people's future, love and tragedy and dedicated it for them. Only the author in this novel changed his method of the image. There is no tragedy before the beginning of work as in his novellas, but all the events described in detail from beginning to the end of a quiet, calm, consistent description "[1].

In the works of U.Umarbekov the life of the people, have found the description convincing to readers quickly and easily because favorite for people. The fate and the behavior of each characters will never leave readers indifferent. The main part of the artistic work directly on the image, and so most readers will be impressed by the life and character of the hero. The writer created images which paid more attention to nationality and the lives of the people you will find out.

"The artistic image mean to be seen by the human eye and an ideal creative suppose otherwise processed. Of course, there are a lot of familiar things, but now we know that things are not the same, but the conditional basis of new artistic existence of accessible"[2.43]. U.Umarbekov created these things with great talent, the author wrote that "Hard to be a human" can be seen in the case of the novel's main characters.

We say Abdulla according to the artist's relationship with the esthetic ideal of is not positive image, according to creative method can be romantic image. Because when he saw Gulchekhra the young man with outpouring feelings fell in love with her. There was no greater feeling of love in this world for him, and he sincerely believed and considered himself that he is faithful lover and believes in love. But after a while because of nuclear physics professor who led him studies in the Institute Tursun's daughter Sayyora, Abdulla will be ready to give upon Gulchekhra. Abdulla competed only with the interests of his own this is the reason. Now it is not inappropriate to we call him with the description of a "faithful lover". Nevertheless, the author of this image explained the features of a romantic in him.

Artistic image is grouped according to the object and generalization the level and attitude and image layers. Based on this level of generalization Gulchekhra can be analyzed as which individual image. She has an unique character, speech, presents her as an unique character. Gulchekhra has rare characters loyalty, enthusiasm and aspiration as guys. She put honor above all concepts. The reason of it in that she was not only the family's, but the whole village's face and the pride. But she also was the same as Abdulla, she remained helpless in the face of love. However, this image's features has original strokes of the individual image that can serve as a basis for evaluating.

"Objection level is stipulated by the scale of what is known as described in the artistic image, this artistic reality consists of four levels: 1) detail characters;
2) the image of the events; 3) character and condition; 4) the image of the world and fate (artistic reality)"[2.46]. In the book "Hard to be a human"("Odam bo`lish qiyin") described in detail, portraits of Abdulla and Gulchekhra the union of their childhood, lifestyle details about the similarities shared goals, "the image of the movement includes internal or external events"[2.47] that caused the emergence of love between them and the cause of the outbreak. Two goals in a dream-world of the heart before giving the fruit of their efforts for the sake of profit, formed the basis of the mountain to create a bright future (Sayyora was the only daughter of Tursun aka) will cause the young man to pursue a different flow of life. "The movers and shakers behind the action" character and circumstances form "three layers"[2.47]. Now, the nature of Abdulla changed directly, depending on the circumstances. He made sure that his and Gulchekhra's ways were different. Abdulla hoped how she fall in love with him as like that she will forgot him. The rapid development of events became the fourth layer the image of "the fate of the world". A vain attempt to change the fate of the struggle for profit, the love and pity lie at the end of the work will be reason of Gulchekhra's tragic death and Abdulla's remorse.

The image of Tursun in "Hard to be a human" ("Odam bo`lish qiyin") of the hero of the novel depending on the degree of aggregation can be called character. In the period of social environment he is one of the most advanced and intelligent. Tursun has rare characters as good conscience, let alone appreciate the good, educated, respectable people have unique qualities such as honor. For this reason, he is grateful from Abdulla's father who once did him a favor. So when Abdulla graduated from high school in just Tursun aka advised him to enter the Institute of Nuclear Physics where he also working. For this high level of human qualities of character he rose the degree of hero.

"Hard to be a human" ("Odam bo`lish qiyin") novel interpretation of the characters written by the writers work, social system and could be seen during the horizons of young people. In addition, the image is perfect in every way, and full speech portrait, character's speech, artistic detail, the image of the atmosphere plays an important role. U.Umarbekov special attention to this important component of this novel. Through a single partridge details the writer described Gulchekhra as a kind, gentle and soft hearted girl. Gulchekhra did not give that injured partridge in the field to Abdulla who

hunting with his uncle and she cared the bird and she made at home stores in accordance with the promise to Abdulla. Or modern author to paint a portrait of Sayyora, who studying at the university, unlike the other girls who are more free and independent, and at the same time favorite that give readers an information about their parents. In addition, we may make conclusion like above that by the speech of character which given.

At the end of the work a character language "it is easy to be a wise, but hard to be a man," said the words to Abdulla. Writer began the novel with a story about Muslim, and his son - only the wrong people, after the fury of his life in solitude, sorrow about the prince. This is how the title of the stamping tool works through the work of art can realize their dreams. "Every trace of the language and knowledge of its parts have and a suitable title and author, the general shape is a sign of the chapter"[3.204]. Indeed, by the novel an unique edge of ability of U.Umarbekov was demonstrated. In addition, the work's didactic importance of scale and affects to readers signed the successes of the novel. Because in the novel unselected and relevance problems which according to for a period of time were described. When readers read the novel they will make summary for them and they try to avoid mistakes which associated with the life of the novel's heroes. This is the art of literature, one of the most important functions didactics where the factor will prevail.

In conclusion, when we read U.Umarbekov's novel "Hard to be a human" ("Odam bo`lish qiyin") we get acquainted with the experience of lyrical images, the work will go into the sequence of events. Abdulla and Gulchekhra are life heroes in the same period, now taking into account the importance of educational topics and received during the reference period, and the life that we see the artistic image. There author is careful to explore another perspective as an author.

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STUDY OF THE GENDER-PHRASEOLOGICAL CONCEPT "WOMAN" IN RUSSIAN AND ENGLISH LANGUAGES

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ANNOTATION
This article examines the issues related to the use of the phraseological concept "woman" in Russian and English.
KEY WORDS: *concept, phraseology, national ethnoculture, moral, ethical and aesthetic standards.*

ИЗУЧЕНИЕ ГЕНДЕРНО-ФРАЗЕОЛОГИЧЕСКОГО КОНЦЕПТА «ЖЕНЩИНА» В РУССКОМ И АНГЛИЙСКОМ ЯЗЫКАХ

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Аннотация
В данной статье рассматриваются вопросы, связанные с употреблением фразеологического концепта «женщина» в русском и английском языках.
Ключевые слова: *концепт, фразеология, национальная этнокультура, моральные, этические и эстетические стандарты.*

В XXI веке одним из основных определяющих направлений исследований во многих областях гуманитарных знаний, особенно в этнолингвистическом, была проблема выявления когнитивных, ментально-вербальных, семиотических, словообразовательных, семантических и прагматических механизмов формирования и развития языковой картина мира. В этом аспекте трактовка национальной фразеологии как этнокультурной константы представляется вполне адекватной и актуальной в связи с этнолингвистической и культурной спецификой этого явления (Буянова, Коваленко, 2004).

Анализируя национальную специфику фразеологизмов с гендерными лексическими компонентами в английском и русском языках, мы обнаружили, что лишь небольшая часть таких

ФУ содержит реалии, не свойственные другим народам или свойственные близкородственным языкам. В эту группу мы вошли следующие российские и английские фразеологиз:

1) фразеологизмы, содержащие имена собственные, служащие для наименования мужчин или женщин, с гендерными особенностями характера, например: Лиса Патрикеевна - «характеристика не просто хитрой женщины, Аннотация:а лукавого зверя; Иванушка-дурачок, где Иванушка - молодой человек, олицетворяющий тупого, легкомысленного, безрассудного человека »(Шанский, Зимин, 1993, с. 114); Баба-яга - «оценка злой, сварливой, некрасивой женщины, которая всегда готова ссориться и досадить другому» (Зимин, Спирин, 1996: 264); Смейтесь, как маленькая Одри (от души), тетя Эдна (театральный деятель с консервативными взглядами), Большая Берта (толстая женщина, толстушка), честный Эйб (это прозвище президента Авраам Линкольн);

2) фразеологизмы, основной компонент которых содержит уникальный для иностранной культуры образ, например: мартовский кот, кукушкины дети, вольный казак, невестке в отместку, ваш покорный слуга, в девках, раб божий; Тетя Табби (прозвище консервативной женщины, противницы женского равноправия), полковник Блимп (олицетворение застоя, упрямства, консерватизма) и Питер Пэн (человек, сохранивший детскую непосредственность и живое воображение), Королева-девственница (прозвище английской королевы Елизаветы I);

3) фразеология, отражающая особенности образа жизни мужчин и женщин в разные жизненные периоды (детство, юность, зрелость, старость; яркая юность (беспутный юнец), сладкая семнадцать (счастливая девичья пора), старый кот (старая) кошка, сварливая старуха), на старой скрипке сыграно много хорошей мелодии («На старой скрипке можно сыграть не одну хорошую мелодию» - о любящей, но пожилой женщине);

4) фразеологизмы, в основе образов которых лежат реалии, известные только одному народу (так называемые топонимы, антропонимы, гидронимы): рязанская баба (в городской среде слово баба чаще воспринималось как проклятие Рязанская баба называют сварливой, капризной, шумной); Отец Темза (старушка Темза), У каждого Джека есть своя Джилл (Всякому Джеку суждена его Джил) и т. Д.

Моральные, этические и эстетические стандарты, а также социальные и ролевые стереотипы, отраженные в языке, очень подвижны, динамичны и иногда очень противоречивы. Рассмотрим, например,

английского языка с «мужскими» гендерными лексическими компонентами. Отличительные особенности этих фразеологизмов подробно и тонко описаны в специализированных фразеологических словарях, поэтому оценочная маркировка и специфика таких фразеологических единиц представляют особый интерес.

При изучении фразеологического материала русского и английского языков бросается в глаза двойственное, а иногда и противоположное отношение к женщинам, закрепленное вербально. С одной стороны - наличие большого количества языковых единиц с положительной коннотацией и множеством оттенков положительной оценки. Оба языка отражают традиции уважения, прославления женщин и их красоты: женщина - воплощенная женственность, совершенство, святая, ангельская, благородная, мягкая, заботливая, чувствительная, безупречная, образованная и гордая. С другой стороны, женщина - это «воплощение дьявола», олицетворение всего плохого, темного, злого: хитрого, лестного, скандального, извращенного, завистливого, грубого, нервного, лицемерного, нечестного, злого, эгоистичного, ленивого.

Есть пословицы на английском языке, которые представляют собой особое распределение гендерных ролей в браке и в семье, когда счастье мужчины зависит от финансового положения его будущей жены, а брак рассматривается с точки зрения выгод:

«Самое большое счастье или худшее состояние мужчины - это жена» (Самое большое счастье и несчастье мужчины - это его жена); «Прекрасная жена без состояния - прекрасный дом без мебели» (Отличная жена без состояния, как хороший дом без мебели).

В то же время негативное отношение к браку и предпочтение холостяцкого образа жизни в английской лингвокультуре связывают с отрицательными чертами характера жены, которые прослеживаются в следующих пословицах и поговорках:

«Нет недостатка в жене» (Хочешь иметь проблемы - женись), «Если будешь счастлив на неделю, возьми жену»; «Если бы ты был счастлив на месяц, убей свинью; Если вы будете счастливы всю жизнь, посадите сад »(Хочешь быть счастливой неделю - женись; месяц - зарежь поросенка; хочешь быть счастливой всю жизнь - посади сад).

Некоторые пословицы отражают потребительское отношение к женщинам, когда даже от смерти жены мужчина может получить выгоду («гендерный» критерий материальной выгоды, материального благополучия):

«Мертвая жена - лучшее добро в мужском доме» (Смерть жены - самое большое счастье в доме мужчины), «Смерть жены и жизнь овец делают мужчин богатыми» (Смерть жены и жизнь овцы делает мужчину счастливым), « У каждого мужчины два хороших дня со своей женой - день, когда он женится на ней, и день, когда он ее ягодит »(Ср .: Дваждыженамилабывает: каквизбувведут, дакаквонпонесут!).

Английское понятие «Женщина» концептуализирует устойчивую тенденцию к определению социального статуса женщин с точки зрения их разделения на замужние и незамужние. Молодую, красивую и незамужнюю девушку, у которой есть поклонники, желающие взять ее в жены, выдвигает юная леди ФУ. Одинокая девушка, живущая самостоятельно, независимо от родителей и не имеющая друга (мужчины), характеризуется в пространстве концепта «Женщина» как холостяцкая девочка (холостяк, одинокая девушка; скрытое сравнение с девушкой). мужчина). К ней относятся с уважением, потому что она умеет обходиться без посторонней помощи, так как это актуальное качество для женщины в современном мире, характеризующее ее как сильную и независимую личность (сила и независимость всегда оцениваются положительно в мужчине).

Определенный смысловой оттенок придает лексические компоненты гендерного типа (например, англ. - леди, королева; рус. - королева, дама, царевна, принцесса, баба, хозяйка (социальный фактор). Установлено, что лексические компоненты английского языка гендерно-нейтральной окраски часто являются литературными. В русской фразеологической системе среди лексических компонентов с гендерным значением актуальны разговорный «баба» и разговорный «хозяйка». В русской фразеологической системе среди лексических компонентов с в значении пола релевантны просторечное слово «баба» и разговорный «хозяйка». Согласно словарю В.И. Даля, «баба» - 1) замужняя женщина из низших слоев общества, особенно после первых лет, когда она была молодой, молодая женщина или вдова; 2) «жена» - крестьянин редко будет звать жену в глаза, разве что хозяину; 3) оскорбительно назвал мужчину (пижонским). В стабильном сочетании «Баба-Яга» - сказочный жупел, ведьма, помощник Сатаны. В некоторых русских фразеологиях, а также в пословицах и поговорках с компонентом «баба» является обобщением его семантики, и такой фразеология используется для обозначения любого человека, так как компонент «баба» теряет значение женского начала и может относятся к характеристикам как женщин, так и

мужчин: «базарная баба» - о скандальном мужчине (гендерные характеристики отрицательных качеств, черты характера); Если оценочные признаки, стереотипно закрепленные за референтом - женщиной, передаются референту - мужчине, то часто возникает связь отрицательных эмоциональных оценок. Например, «драться как девочка» - «драться как баба», не иметь возможности постоять за себя (проецируется на лицо самца), т.е. с компонентом значения «женский», обращенным к мужчине - оскорбление (с женщиной ассоциируется «гендерный» признак «неумение бороться»).

Таким образом, изучение гендерно-фразеологического концепта «Женщина», закрепленного в культурно-вербальной памяти носителя языка, позволяет сделать следующие выводы: во-первых, влияет на восприятие женщины и ее оценка обществом. формирование национальных стереотипов, что находит отражение в лексических единицах и пословицах и поговорках; во-вторых, в идеальном и негативном образе, наделенном множеством отрицательных черт, можно проследить двоякое восприятие образа женщины.

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IMPORTANCE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN LEARNING FOREIGN LANGUAGES AT THE TEXTILE INSTITUTE

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ABSTRACT
Communication skills play a very important role effective learning a FL there are advanced communicative technologies are necessary to teach the students to communicate in English.This article deals with the problem of applying different communicative technologies to increase student motivation in teaching vocabulary. To intermediate and advanced level students. The article is of some practical value, as the authors suggest some practical recommendations on how to work with vocabulary.
KEYWORDS: *communication technology, motivation, foreign language, vocabulary of students.*

ВАЖНОСТЬ ИНФОРМАЦИОННЫХ И КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ В ИЗУЧЕНИИ ИНОСТРАННЫХ ЯЗЫКОВ В ТЕКСТИЛЬНОМ ИНСТИТУТЕ

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Аннотация
В данной статье речь идет об использовании коммуникативных технологий при развитии мотивации студентов к чтению. Так как чтение играет очень важную роль при изучении иностранного языка наряду с изучением устной речи. Статья также представляет определить практическую полезность, так как автор предлагает ряд практических рекомендаций по развитии мотивации студентов при изучении словарного состава языка.
Ключевые слова: коммуникативная технология,мотивация, иностранный язык, словарный запас студентов.

DISCUSSION

Language teachers' main concern, therefore, is to ensure that what is taught will be permanently retained in long term memory. In fact, retrieving vocabulary is an effective way of learning. In other words, for acquisition to take place, language learners must work with a word or phrase many times. Despite the abundant number of methods and techniques proposed to help learners learning the new vocabulary items at instruction phase, less attention is paid to techniques which may help the retention of those items. Learners are usually left with a large number of items they are expected to recall after the initial instruction on definition and use of the words, most of which fade away by the passage of time. Although research has been carried out on vocabulary teaching methods for language learners, research pertaining to providing opportunities to use new vocabulary in authentic contexts is limited. Thus, to contribute to the thriving body of research in this field, this study sought to investigate activities which can help encourage the above mentioned processes to occur and which can facilitate learning vocabulary. It aimed to examine the effect of narrative writing, games, role-play and other speaking activities on the vocabulary learning of elementary EFL students in order to find out which activity would be of more help in the vocabulary learning process.

It has long been known that vocabulary is a central component of a language and all language learners are aware of the fact that limitations in their vocabulary knowledge affect their communication skills. Communication breaks down when people do not know and do not use the right words and it stops when people lack the necessary words. [2]

This implies that different teaching approaches may be appropriate at different atges of acquisition of an item. As H.G.Widdowson has demonstrated, at the beginning, an explicit approach which focuses directly on establishing the form-meaning link can be most effective, while later, the exposure approach can be most beneficial in enhancing contextual knowledge. [7] The importance of writing good quality narrative has long been recognized in the field of education. Previous studies have assessed effects of writing target words in sentences or compositions. Several studies have drawn the conclusion that using new words to write a composition results in better word learning compared to reading a text for comprehension, regardless of whether new words are glossed or looked up. Ye.I.Passov found that learners writing compositions remembered a set of target words better than those who saw the words in a reading comprehension task, and learners who supplied missing target words in gaps in the reading text remembered more of those words than learners who read marginal glosses. In both comparisons, the "better kearning" case had higher involvement according to Ye.I.Passov's scheme. [6]

Needless to say, a problem in many ESL/EFL classes is how to provide opportunities for learners to engage in meaningful conversation practice. Conversational activities are often difficult to arrange in large classes and there may be no obvious motivation for learners to speak to each other in English. According to G.Makhkamova role plays are regarded as simulating more authentic situations J.Jalolov states, "Role-play exercises are essentially a means of bringing a broad range of experience into a narrow classroom learning situation, through stimulation of the learner's imagination and his interaction with other learners".[3]

W.R. Lee concluded that role plays are effective means of teaching, not better than other instructional methods on learning the subject though. However, they are more effective as aids to retaining the learned material and in instilling a positive attitude about the subject matter. The outcome of the research conducted by W.R. Lee on the effect of role-play in language teaching shows there are four crucial factors for its success: "the topic chosen should be real and relevant; the teacher needs to 'feed-in' the appropriate language; correct errors in a proper way; part of a teacher's role is being a facilitator, a spectator or a participant"[4.].

A factor in students' willingness to allocate their time and effort is their interest and motivation. Word games are obviously helpful because they can make the student feel that certain words are important and necessary because without those words the object of game cannot be achieved. By bringing gun to language classrooms, games help create a relaxed atmosphere, which plays a role in students' remembering things faster and better. H.G.Widdowson holds that most language games make learners use the language instead of thinking about learning the correct forms. [7]

S. Brumfit, K. Johnson have claimed that individuals wish for an optimal level of challenge. For them, we are challenged by activities that are neither too easy nor too difficult to perform. The optimal level can be obtained when there are clearly specified goals. W.R. Lee and G.Makhkamova suggest that factors such as difficulty levels, multiple goals, and a certain amount of informational ambiguity are required by games.

Ye.I.Passov identified one means of increasing student motivation to actively participate in word study activities as disguising instruction as play by using word games. In their study, Charlton et al. noted that word games provide repeated exposure to the target vocabulary words in an intrinsically and extrinsically motivating context which facilitate learning. Word games can provide a reason and a context for students to learn and actively use the target vocabulary. Further support comes from

J.Jalolov who maintained that vocabulary games can be designed to supplement teacher directed instruction and support student comprehension and mastery of important content. [6]

Current emphasis on oral acquisition in 1, 2 research highlights the importance of learner interaction and negotiation. H. G. Widdowson (2009) suggest asking a discussion question to promote student involvement, followed by a brief overview of any material. In his study on vocabulary learning and speaking activities. W.R. Lee (2001) found that when learners discussed the meanings of words from the worksheet with each other, the majority of words discussed resulted in useful and accurate information about the words. In a different study on S. Brumfit, K.Johnson (1997) sought to examine the effect of speaking tasks on vocabulary learning in group work. Over a period of three months every member of the class was audio-recorded and they all had to speak English. Each session all groups discussed the same topic. However, the group discussion included taking meaning from a written textbook, and it was not restricted to oral discussion. Setting time constraint as one of the rules, members were to take turns to speak, and therefore, opportunity was provided for all the members of the group to contribute. through the examination of journal entries and interviews. The data from the transcription showed that when the students encountered new words, they usually asked others. Some students recalled their experience of learning vocabulary in the group work. [1]

However, most language teachers or even material designers have doubts about using the right activity. The focus of the research in the area of vocabulary learning should be not only on the instruction phase, but also on the activities following the instruction to help the retention of the new material. However, as it has already been stated the type of the activity, the way it is applied, and the people who are subject to such activities are of great importance in this area. Although a large body of work has investigated the role of different activities, namely writing tasks, and games in the retention of newly-learned vocabulary items in ESL/EFL classrooms, there is a dearth of research assessing the effectiveness of speaking tasks, and role-plays in this regard or even one activity's superiority over the other, a gap which this study intends to bridge.

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PROFESSIONAL-ORIENTED APPROACH TO THE FORMATION OF STATE LANGUAGE COMPETENCE AMONG THE STUDENTS OF THE TEXTILE INSTITUTE

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ANNOTATION

This article discusses issues related to teaching the state language of Russian-speaking students at a technical university.
KEY WORDS: *Uzbek language, cultural heritage, intellectual training, scientific style of speech, methodology, motivation.*

ПРОФЕССИОНАЛЬНО-ОРИЕНТИРОВАННЫЙ ПОДХОД К ФОРМИРОВАНИЮ ГОСУДАРСТВЕННОГО ЯЗЫКОВОГО КОМПЕТЕНТНОСТИ У СТУДЕНТОВ ТЕКСТИЛЬНОГО ИНСТИТУТА

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Аннотация

В данной статье рассматриваются вопросы, связанные с преподаванием государственного языка русскоговорящих студентов в техническом вузе.
Ключевые слова: *узбекский язык, культурное наследие, интеллектуальная подготовка, научный стиль речи,методика,мотивация.*

DISCUSSION

This year we will celebrate the 31st anniversary of giving the Uzbek language the status of the state language. For history, this may not be a long time, but over the past time, the authority and prestige of the Uzbek language has increased even more, the number of people in the world who speak it has reached almost 50 million.

Therefore, the Uzbek language sounds louder and louder from the world's tribunes; in foreign countries, attention and interest in learning the Uzbek language is increasing. Also, our hearts are filled with pride from the fact that in prestigious universities in more than 10 countries of the world, such as the USA, South Korea, China, Japan, Turkey, Ukraine, Russia, Azerbaijan, along with the eastern ones, they also study the Uzbek language.

Indeed, the cultural heritage of any state is determined by its language. In this sense, the international music festival "Sharq Taronalari" and the conference on maqom art, international festivals on bakhshi art and applied arts held in our country make a great contribution to the development of the Uzbek language, glorification of increasingly developing Uzbekistan on the world stage. President of the country Shavkat Mirziyoyev said that if someone wants to feel all the charm, attractiveness and power of the influence of the Uzbek language, let them listen to the lullaby of our mothers, millennial dastans, immortal maqoms, magic songs of our bakhshi and singers.

The modern stage of civilization development requires specialists with a broad humanitarian thinking, capable of building competently professional activities according to the laws of harmonious development. But this is not only about the fact that an engineer and technical worker must have a sufficient level of intellectual training to be able to ensure the effectiveness of his work. No less important is the fact that it is humanitarian knowledge that gives such priorities as responsibility for universally significant values, ideological self-determination, general cultural competence, and personal self-actualization.[1]

At the Tashkent Institute of Textile and Light Industry, teaching Russian-speaking students the state language, we set ourselves the following tasks: deepening knowledge about the system and structure of the Uzbek language and its stylistic stratification; acquaintance with the basic laws of building effective speech communication; mastering the basic principles of business communication in oral and written forms; improving the skills of working with texts of different styles and genres; expanding the active vocabulary of students.

Students studying the Uzbek language at the Textile Institute not only get acquainted with the scientific style of speech, but with the language of the specialty in the system. The language of the specialty is the practical implementation of the scientific and official-business style of speech in the system of needs of a specific profile of knowledge and a specific specialty. What is a specialty language? Here are some definitions. The language of the specialty is "a language subsystem serving the sphere of professional communication and characterized by the wide use of terminology, the predominant use of words in their direct, concrete meanings, and a tendency towards specific syntactic constructions." "Language for special purposes is a specific kind of" language in general "that is used when communicating on a particular special topic." The language for special purposes is not homogeneous: on the one hand, it is as close as possible to everyday life, on the other, it contains specific vocabulary that has a specific conceptual orientation. These definitions complement each other.

Teaching the Uzbek language should involve all aspects of students' speech activity. "Speech activity is an active, purposeful process of sending or receiving a message, mediated by the language system and conditioned by the communication situation." This is a system of skills aimed at solving various communication problems. We are talking about communicative tasks, united on the basis of the following features: a) the form of speech - oral or written; b) perception or generation of speech. Traditionally, speech activity is divided into 4 types: listening (oral form, perception), speaking (oral form, production), reading (writing, perception), writing (writing, production).

In modern methods, there is a striving to bring the conditions of the educational process closer to the conditions of free communication. In this regard, much attention is paid to the development of skills in all four types of speech activity. There is such a term interconnected learning, which involves the parallel and balanced formation of four types of speech activity on the basis of common language material within their sequential-temporal relationship. Listening, speaking, reading and writing are both goals and means of learning. Work on these types of speech activity is carried out in a certain sequence within the framework of a practical lesson or a cycle of classes, in which general language material is mandatory. With the communicative-activity approach, the most common is the methodological unit of organizing linguistic material - a topic that is understood as "a fragment of reality reflected in our consciousness and fixed with the help of language." Within the framework of the topic, a certain lexical and grammatical material should be presented in all types of speech activity, which ensures a better assimilation of linguistic material through the activation of auditory, visual and motor analyzers. The formation of communicatively significant skills and abilities is carried out using a series of specially designed exercises in which the studied lexical and

grammatical material on a particular topic is presented.

Practical lessons contain a variety of exercises to practice and consolidate language skills. Imitative, substitutional, transformational, reproductive and speech tasks are aimed at developing the student's linguistic, speech and communicative competencies in their professional field.

The traditional method of teaching the state (Uzbek) language at the university paid great attention to literate writing. However, this violated one of the basic laws of psycholinguistics, which is that all types of speech activity in the learning process should be formed in unity and interconnection.

The term "listening" is contrasted with the term "listening". "Hearing" is the acoustic perception of the scale. The concept of listening, in turn, includes the process of perception and understanding of sounding speech. Listening is a complex speech activity. Many modern graduates of Russian-speaking students of a technical university practically do not have this skill. Mastering listening makes it possible to realize upbringing, educational and developmental goals. Through listening, we nurture a culture of communication. In addition, a person's auditory memory develops.

Listening is a powerful means of teaching a language, which makes it possible to master the sound side of the language being studied, its phonemic composition and intonation: rhythm, stress, melody. Listening as an action, which is part of oral communication, is actively used in any oral communication, subject to production, social or personal needs. Listening, as a feedback from each speaker while speaking, allows you to exercise self-control over speech and know how correctly speech intentions are realized in sound form.

A Zimnyaya distinguishes the following characteristics of listening as a type of speech activity: listening realizes oral and direct communication; it is a reactive and receptive type of speech activity in the process of communication; the main form of listening is internal, uneven. Listening is the basis of communication, from which the mastery of oral communication begins. It consists of the ability to differentiate perceived sounds, integrate them into semantic complexes, keep them in memory during listening, carry out probabilistic forecasting and, based on the communication situation, understand the perceived sound chain. At the same time, the process of perception takes place at a certain normal pace, characteristic of a given language, from different sources, with natural speech and non-speech interference.[2]

The listening process is motivated by the need not only to understand the speaker's speech message, but also to express one's opinion based on the understanding of what was heard. Undoubtedly, such

motivation creates an internal attitude of the listener, which is bringing "the perceptual scheme, that is, the reaction scheme, into a state of readiness." In turn, this state cannot but be expressed in concentration and concentration of attention, and, consequently, in the greater productivity of all mental processes.[3]

According to the definition of one of the researchers of the psychological nature of understanding Klychnikova, "the understanding of a text is an understanding of: a) the connections and relationships of objects and phenomena referred to in the message to objects and phenomena of reality; b) connections and relationships that exist between objects and phenomena referred to in the message; c) the relationship that the speaker has towards them, as well as d) the incentive volitional information contained in the message. "[4]

The highest level of understanding is defined by Klychnikova as the level of consistent understanding, when "the reader recognizes not only the logical and emotional, but also the volitional content of the text. The text is understood so deeply that the reader is transformed from a perceiving person into an empathic person. The strong-willed, motivating direction of the text turns into an incentive for its activity. "[4]

Learning listening, or semantic perception (understanding) of speech by ear, involves the implementation of exercises by trainees to form general auditory skills, speech exercises and subsequent educational work with audio text. Here are some examples of such exercises:

1. Listen to the beginning of the story and try to guess what happened next.

2. Make an outline of the statement for a given communication situation and listen to several fragments of the text to obtain the necessary information.

3. Listen to the sentences and say how many interrogative, affirmative, negative sentences you heard.

The modern linguaphone system allows teaching the listening of a coherent text on the basis of a differentiated approach and individualization of the learning activity of students. Each proposed task should be with clear instructions. Cards with differentiated tasks are distributed in advance to all students. The same time is allocated for the task.

Working with audio text consists of several stages: pre-text, text and post-text. Let's consider them.

The pre-text stage includes work with a whiteboard, handouts and audio-diotext fragments, as well as live educational communication. The main content of the stage: removal of the language difficulties of the audio text (control of understanding the most difficult sentences of the text, analysis of the meaning of individual words and phrases), training exercises based on the text, the introduction and

primary consolidation of new words, interpretation of the use of lexical units and grammatical phenomena in the text, listening to individual fragments text. Pretext orientation to listening comprehension consists in setting pretext questions, suggestions for heading the text, tasks to confirm or refute the statements suggested by the teacher, choose correct, approximate and incorrect statements from a number of data, choose the correct answer to the question, reproduce contexts with keywords, etc. .d.

The text stage includes listening to the entire text and alternately separate paragraphs, semantic blocks. In the process of repeated listening to the text, the trainees are offered the following types of work:

1. Selection of the title to the paragraph.
2. Reproduction of the keyword in context.
3. Paraphrasing.
4. Answers to questions.
5. Re-listening to text or fragments.

The post-text stage includes question-and-answer work, word-by-word, concise, oriented retelling, expansion and continuation of the text by students, composing a story by analogy, composing a dialogue on the topic of the text, etc.

It is important to achieve the desire of students to learn how to listen to speech and understand what is heard, to give them a sense of their capabilities, their progress. This increases their interest in learning a foreign language. In connection with listening, a monologue speech develops, when students speak after listening to the text, with an independent message and personal assessment, as well as the ability to speak in various situations within the educational-labor, social and socio-cultural spheres of communication is formed. With the help of active listening, a transition is made from speech at the sentence level to coherent monologue speech at the text level.[5]

Listening is the basis of communication, from which the mastery of oral communication begins. Listening proficiency allows a person to understand what he is told and to adequately respond to what has been said, helps to correctly state his answer to the opponent, which is the basis of oral speech. Thus, we see that teaching Russian as a non-native language is one of the necessary components of the educational process, including for the successful organization of independent work of students with a non-state language of instruction.

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ACTIVATION OF TEACHING ACTIVITY OF TRAINEES AND CREATIVE MASTERING BY TEACHING MATERIAL

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ABSTRACT

In the article a question is examined study of methods and methods that can bring in a large contribution to forming and development of intellectual skills among students in the assisting development of skills of independent creative activity and also increase of efficiency of educational process and process of educating at teaching of foreign language.

KEYWORDS: *foreign languages, teaching, methodology, scientific material, student activities, creative character, skill development.*

АКТИВАЦИЯ УЧЕБНОЙ ДЕЯТЕЛЬНОСТИ ОБУЧЕНИЯ И ТВОРЧЕСКОГО МАСТЕРИНГА УЧЕБНЫМ МАТЕРИАЛОМ.

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Аннотация

В статье рассматривается вопрос изучения методов и способов которые могут внести большой вклад в формирование и интеллектульных навыков среди учащихся, в свою очередь способствующих развитию навыков независимой деятельности, а также повышению эффективности учебного процесса обучения при преподавании иностранного языка.

Ключевыеслова*: иностранные языки,обучение, методика,ученый материал,деятельность студентов, творческий характер, развитие навыков.*

DISCUSSION

Foreign languages have been taught formally for centuries and records of language teaching materials have been around over 500 years. Teaching foreign language is connected with the development both` thinking and emotions and other spheres of a person. Independent work is considered to be the specific form of the school pupils' educational activity characterizing by all its features. As a matter of fact, it is the form of self-education connected with educational activity of the pupil in a class. Various kinds of individual and collective pupil's activity mean independent work.

The teacher in the modern environment is not only the source of the information and the academic facts – the helps students to understand the process of training, helps to find the information for them necessary for them, whether it corresponds to the set requirements and also to understand how to use this information for the answer to the out questions and decisions of challenges. The teacher is compelled to raise regularly today the qualification in the field of innovational technologies of training.

The modern system of training represents an information infrastructure which includes various technologies (the equipment, the software, remote terminal units and communication with the Internet) and the people possessing knowledge and practical experience whom they exchange with each other. Efficiency of formation always depended on level preparation of pedagogical shots. Today the teacher remains a critical link of process of training, however the interrelation of information technology and formation promotes formation of a new role of the teacher. Mastering a foreign languages is connected with the formation of pupils' pronunciation, lexical, grammatical, spelling and other skills. As far as it is known, skills are developed only during regular performance of certain actions of a teaching material, i.e such actions which allow to listen, say, read and write repeatedly in studied language.

However, teaching speaking is supposed to have certain stages for which independent work is the most adequate form. It is also necessary to include certain links of work on a language material in independent work – acquaintance to it and partially training in its usage.

In the psychological theory of training it is called as interactive. Based on psychology of human mutual relations. Those interactive training are considered as ways of mastering formations of skills in the course of mutual relations of the teacher and as subjects of educational activity. Use of the given technology in educational process allows:

- Creative mastering by students of a teaching material;
- Communication of theoretical knowledge with practice;
- Activation of teaching activity of trainees.

As to reading, this kind of activity is made by the reader mainly alone with itself, hence independent work quite corresponds to it. Attentive listening to English speech takes place now not only in a class, without preparation, in the presence of the teacher, from its voice or in phonorecord, but there are also audio texts for independent pupils' work in a class the first one is of more significance. Usage of works of art of the foreign literature at foreign language lessons improves pupils' pronunciation skills, provides creation of communicative, informative and aesthetic motivation.

The innovation presents itself a complex of the interconnected processes also grows out conception of the new idea directed on a solution of a problem and further to practical application of the new phenomenon. To innovate technologies of training of V.D.Simonenko carries: interactive technologies of training, technology of design training and computer technologies.

In interactive technologies of training roles training and trainees and also an information role essentially change.

Discussion - all round discussion of a question at issue in public meeting, in private conversation, dispute. In other words, discussion consists in collective discussion of any question, a problem or comparison of the information, ideas, opinions, offers. The purposes of carrying out of discussion can be various: training, diagnostics, transformation, change of installations, stimulation of creativity, etc.

At the discussion organization in educational process usually put at once some the educational purposes, both purely informative and communicative. Thus the discussion purposes are of course, closely connected with a theme. If the theme is extensive, contains great volume of the information, as a result of discussion can ne such purposes, as gathering and information streamlining, search of alternative, their theoretical interpretation and a methodological substantiation are reached only. If a discussion theme narrow discussion can end with decision making. Oral speech and first of all speaking practice is carried out directly in the presence of the interlocutors which role at school is carried out by the teacher and schoolmates.

The technology of design training is focused on creative self-realization of the person trained by development of its intellectual and physical possibilities and creative abilities.

The modern approach to studying of English language assumes not only getting of any sum of knowledge in a subject, but also development of own position, own relation to the reading. Pupils should be able to estimate the read works critically, to state thoughts in written form according to the put problem, to learn the defend their point of view and to make their own decision in an understanding way in a class. Such form of a lesson develops mental

pupils' functions, logic and analytical thinking and that is important, ability to think in a foreign language.

Independent work can be carried out in various organizational forms: individually, in pairs, in small groups and the whole class. Each of the names forms urged to create and develop organizational, information, informative and communicative abilities of pupils.

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A STRATIFIED APPROACH TO TEACHING ENGLISH TO STUDENTS OF NON-PHILOLOGICAL UNIVERSITIES

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ANNOTATION

In this article, the author discusses the advantages of the stratification method in teaching English to students in non-philological universities.
KEY WORDS: *Stratified approach, learning process, term, learning activity, methodology, didactic means.*

СТРАТИФИЦИРОВАННЫЙ ПОДХОД К ПРЕПОДАВАНИЮ АНГЛИЙСКОГО ЯЗЫКА СТУДЕНТАМ НЕФИЛОЛОГИЧЕСКИХ ВУЗОВ

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Аннотация

В статье автор рассматривает преимущества метода стратификации при обучении английскому языку студентов нефилологических вузов.
Ключевые слова: *Стратифицированный подход, процессе обучения, термин, учебная деятельность, методика, дидактические средства.*

DISCUSSION

The stratified approach to teaching is one of the urgent problems of the methodology of teaching foreign languages at the university. This problem is not new. However, the whole variety of its aspects, its entire significance in solving the whole variety of tasks in the learning process, is probably not fully disclosed.

The term "Stratified approach" itself is understood as a system of didactic means of organizing the educational process in a foreign language, which includes changing the form of the lesson, purpose, content, and process. An individual approach to teaching a foreign language is considered as a complex pedagogical phenomenon that determines the effectiveness of teaching a foreign language and assumes an active role of the subject of educational activity.

The main conditions for the implementation of an individual approach are differentiation, which is expressed in the assessment of the student's initial language training, setting goals that are personally significant for him, developing the skills of independent work and the ability to implement a systematic approach to mastering new knowledge. At first glance, this seemingly simple problem causes great difficulties for almost every second teacher who works at school. The main difficulty lies in the inability to find the optimal combination of frontal, individual and group forms of work when teaching a foreign language. The remaining difficulties are associated with the determination of the individual characteristics of the student's personality and the organization on this basis of the teacher's activities, which should be aimed at developing the mental abilities of each student.

An indisputable fact is the different degree of preparedness of students. To properly understand the reasons for uneven performance in the classroom, it is necessary to identify the reasons for everyone's lag and try to understand them. These reasons may be different: one missed lessons due to illness, another was inattentive in the lesson, and the third did not understand the teacher's explanation in the lesson. Many psychologists and methodologists believe that differentiation in teaching a foreign language is often based not on the individual characteristics of the student's personality, but only on individual gaps in his knowledge. However, it should be borne in mind that the ability to learn a foreign language is not the same: some language is given easily, others with great difficulty.

Studying students, their inclinations and interests, their learning opportunities, as well as analyzing the prospects for the development of these opportunities should serve as a starting point in an individual approach to teaching English. I have learned from my own experience that it is not easy to put this into practice. The main difficulty lies in the selection and use of tasks of a differentiated degree of complexity. When performing assignments with the same degree of difficulty, capable and less capable students can achieve the same result only for different costs of time. Knowledge of the individual characteristics of children allows one to predict the occurrence of possible conflict situations in the lesson, as, for example, in the case of a student's self-esteem mismatch with the teacher's assessment of his answer.

There are conditions in English lessons that allow developing the individual learning abilities of students. The linguistic abilities of students can be manifested not only in the ease, speed, and strength of mastering the educational material, but also in the forms of educational activity preferred and most successfully carried out by schoolchildren. Thus, students with a low level of learning in a foreign language prefer reproductive tasks, for example, retelling a previously learned text; the average level of learning allows children to combine what they have learned with elements of independent expression; sufficient learning is manifested in the fact that children willingly perform tasks that require independence; in cases of an increased level of learning in a foreign language, students resist reproductive forms of work and prefer creative independence. In turn, differentiated learning provides for such organizational forms in which each student works at the level of his abilities, overcoming a feasible, but quite tangible difficulty for him.

Thus, individualization of learning involves taking into account both the level of training of students and their potential capabilities. It follows that this or that series of exercises should include special tasks aimed at developing both individual and psychological characteristics of students. Differentiated learning is based mainly on the selection of individual tasks, depending on the preparation of students and the level of formation of speech skills and abilities. There are many forms of differentiated learning. These include the following: the use of assignments of varying degrees of difficulty, a different number of repetitions to complete the same assignment, the use of different variants of the same type of assignment, performing exercises on individual cards, providing various assistance to students when performing the same assignment, different length of pauses to perform tasks, various types of keys, supports, reading texts of varying difficulty. [2, 123]

For the successful implementation of an individual approach to teaching English, during the control of reading, the teacher needs to solve a number of organizational issues. First, based on the level of language training of students, namely, on the level of their skills and ability to read in a foreign

language, the class is conventionally divided into subgroups, equal in preparation. Secondly, it is necessary to have a psychological characteristics of the class, which should include the level of development of those individual psychological characteristics of students that determine the success of mastering the reading of foreign language texts. These features include the level of general development of students, memory, thinking, attention, and their areas of interest. Based on the psychological characteristics of students, the teacher develops their insufficiently developed mental functions. So, for the development of attention, the following tasks are given:

- tell me how many characters are in the story;
- listed successively the places in which the story takes place.

Assignments of this type direct the students' attention to the content side of what is being read.

The following tasks are also possible:

- read the sentences and name the elements (words) that distinguish them from each other.

To develop the memory of students, they can be offered the following tasks:

- Read the text. Arrange the objects (pictures) in the order indicated in the text. Arrange the sentences in the order in which they are in the text; read them.

For the development of linguistic guessing, predictive skills of students, tasks of the following type can be offered, aimed at guessing about the meaning of a particular complex derivative word, at guessing the meaning of a word using the context, at understanding a text in which there are international words unfamiliar to students, etc. For general development, you can name a few more words borrowed from the English language, or ask the guys to do it. The development of predictive skills is facilitated by tasks such as:

Read the beginning of the sentences and finish them; Make a coherent story out of the sentences below.

One of the most important points when studying English in groups is, of course, the development of oral speech and listening skills. But one should not overlook such an important aspect of learning a foreign language as writing. The programs devote very little time to learning grammar and spelling. What should a teacher do in such conditions? Apply the method of individual assignments, which is of great importance for the effective assimilation of new material by different groups of students. With the help of individual assignments, the teacher can fill the gaps in the knowledge of students, conducting a more thorough control of the assimilation of the studied.

Students complete individual assignments in the classroom. Typically, 3-4 students receive assignments written on cards and work on them for 5-10 minutes. The student who has completed the assignment hands over the notebook to the teacher and immediately receives a grade. The assignments can be the same for all students or completely different. However, do not forget that the main task of teaching foreign languages at a university is to teach students to speak the target language. The level of formation of the speech skills of their students should be assessed according to certain types of speech activity.

When performing an assignment on listening to the text, students encounter many difficulties: a large text, a lot of speakers. Experience shows that understanding the content of the text and the ability to show the teacher what is understood (that is, the content is revealed) is a significant difficulty for many students in completing the listening task. Therefore, strong students can be offered the performance of one exercise, and the weak another, then at the second listening, students can accordingly be offered the exercise given at the initial listening is strong to the students. Also, the individual characteristics of students are taken into account when determining homework. For example, well-performing students are given the task to retell the text, those who are poorly successful are given a detailed answer to a question, a text outline, etc. Workbooks to a textbook are especially helpful with a differentiated approach, since there are exercises of different types and varying difficulty. Of course, the question of whether to use individual assignments and in which lesson is up to the teacher. The nature of the assignments depends on the material that the students studied in previous lessons. To implement a stratified approach to teaching English for more effective achievement of goals is the possibility of using digital technology. Interactive exercises, that is, interaction learning, can help students avoid ineffective and tedious cramming and stimulate independent work outside the classroom.

In conclusion, I would like to draw your attention to the fact that the implementation of an individual approach in teaching a foreign language requires great art from the teacher. He must take into account the real conditions prevailing in the classroom, and the capabilities of each student, in no way infringing on the dignity and interests of each of them.

Any interactive methods used in the classroom are educational in nature and help to consolidate, define and expand the knowledge of students, generalize and systematize them. [3, 146]

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RAILWAY SCIENTIFIC AND TECHNICAL TERMS AND THEIR FEATURES IN RUSSIAN AND ENGLISH LANGUAGES

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ABSTRACT
In the article the brief review of the difficulties of the translation of the railway terms found in scientific texts is given.
KEY WORDS AND PHRASES: *railway subject area; metaphorical transfer; polysemy of terms.*

ЖЕЛЕЗНОДОРОЖНЫЕ НАУЧНО-ТЕХНИЧЕСКИЕ ТЕРМИНЫ И ИХ ОСОБЕННОСТИ В РУССКОМ И АНГЛИЙСКОМ ЯЗЫКАХ

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Аннотация
В статье дается краткий обзор трудностей перевода железнодорожных терминов, с которыми можно столкнуться в текстах научной тематики.
Ключевые слова и фразы: железнодорожная тематика; метафорический перенос; многозначность терминов.

DISCUSSION

Scientific and technological progress and the intensification of international technical and technological cooperation increase the role of terminological vocabulary in Russian and English. In this regard, there is an urgent need for an intensive study of the current state of terminology, their development and interaction with the common and literary language. The terminologies of the main European languages are developing in close contact, therefore, their comparative study is also of particular importance.

The translation of many railway terms, as well as terms in general, is associated with some difficulties. For a clear transfer of the meaning of terms, it is far from enough just a good knowledge of a foreign language. So, in our opinion, a qualified translation of a technical text on a railway topic requires close cooperation of linguists and engineers, specialists in certain branches of transport science. Unfortunately, in our country there are still very few special railway dictionaries that provide adequate translation. The context must also be taken into account in order to ensure accurate translation.

In most works on linguistics, terms are defined as words with a strictly defined meaning [Ryabtseva; Razinkin]. In contrast to the words of the

common language, which are characterized by polysemy, the terms are unambiguous.

In accordance with the main task of the scientific style - to convey scientific information, the main features of the term are determined. First of all, there is a tendency towards universalization and unification of the technical term in various linguistic societies [Filatova, p. 78-86]. However, the development of natural science thought, accompanied by the process of differentiation of individual areas of science, as well as the process of globalization, lead not only to the unification of terms, but also to an increase in their polysemy. If we compare, for example, the use of the word "pillow" in scientific texts, its meaning is vague and ambiguous. In Russian, it completely depends on the context: it can be a buffer cushion, a jack cushion, a bearing cushion, or a support beam cushion. On the other hand, to understand the specific term "railway rolling stock" no context is required, its meaning is definite, or, as philologists say, this word is unambiguous. The examples we have given testify to the use of metaphorical transfer of meaning in term formation. It should be remembered that the metaphorical pictures of the world of the Russian and English languages differ. So, the term "ballast cushion / ballast trough" (the name depends on the type of railroad bed) is translated into English as "ballast bed", and not as "ballast pillow":

During backfilling, the ballast pad must be clean (free of impurities) and not rounded, with fractions of a definitely coarse size.

The ballast bed must be clean (free of fine material) at the time of installation and be angular and of a specified, fairly large particle size.

In this case, the noun is replaced by another noun, which is associated with a change in the semantics of this component. When comparing the internal form of terms consisting of two nouns (having the structure N + N) or a noun and a noun group, the following types of discrepancies are observed:

1. The discrepancy in the case form of the defining noun (change in the internal structure: in English the model is "N + N", and in Russian - "adjective + noun"):

Maintenance adjustments- *эксплуатационная регулировка;*

Private sidings - *частная железнодорожная ветка;*

Rail brace - *рельсовые скрепления;*

Hand baggage - *ручная кладь.*

2. Discrepancy in the case form of the defining noun (the common case of a noun in the structure of an English term - indirect cases of a noun in the structure of a Russian term):

Railway accident - *авария на железнодорожном транспорте;*

Railway act - *закон о железных дорогах;*

Railway advertising - *реклама на железных дорогах;*

Railway crane - *кран на железнодорожном ходу;*

Railway axle grinding machine - *станок для шлифования вагонных осей.*

3. changing the number (singular - plural) simultaneously with the discrepancy in the case form (including the introduction of a preposition):

Railway earnest - *поступления от железнодорожных перевозок;*

Railway location survey - *железнодорожные изыскания;*

Railway shop - *железнодорожные мастерские;*

Railway stock - *акции железнодорожных компаний;*

Railways freight traffic - *железнодорожные грузовые перевозки;*

railweight unit - *железнодорожные весы.*

4. Russian terms with the structure "noun + noun in the genitive case", as a rule, correspond to English terms consisting of two or more nouns connected by the preposition of (N of N):

Section of rails - *профиль рельса;*

Foot of rail- *подошва рельса;*

Development of track- *развитие пути;*

Bulk of material - *основная часть материала;*

Coefficient of friction - *коэффициент трения;*

Layer of broken stones- *щебёночный слой.*

5. Other prepositions linking two or more nouns in English terms are usually conveyed by the corresponding prepositions of the Russian language or translated descriptively:

Per hour - *за⁄в час;*

Container on flat car - *контейнер на платформе;*

Trailer on flat car - *вагон платформа для перевозки трейлеров с легковыми автомобилями.*

The morphosyntactic structure "noun + noun in the indirect case (including with a preposition)" is quite productive in the formation of Russian terms. With the help of this structure, as well as the structure Adj + N + N, the meaning of English terms with the structure N + N + N is transferred. In Russian terms, consistent definitions expressed by an adjective and additions expressed by a noun in an indirect case with a preposition are equally widely represented. In such cases, as a rule, one of the options turns out to be more stable and is fixed in the language as a term, but sometimes the grammatical

structure is not so rigid and allows for multivariate translation. For example, the term rail base - rail base, can also be translated as "lining":

There is an artificial lining under the rail sole at the point of contact with the sleeper, and this lining is important in preventing the transmission of high-frequency vibrations to the sleepers and ballast.

The rail base has a plastic rail base under it at the sleeper positions, and this rail base is important in preventing the transmission of high frequency vibration into the sleepers and ballast.

In general, differences in the structure of terms at the grammatical level do not prevent the achievement of translation equivalence, since they allow one to express identical categorical meanings in Russian and English.

The analysis of the formation of terms in the transport discourse, as well as the comparison of Russian and English terms of railway documentation, indicate the need to systematize railway terms, identify and describe such a method of term formation as metaphorization, and the accompanying phenomena of polysemy, synonymy, etc. It is especially important to clarify the dictionary correspondences between Russian and English terms. This work will be successful only if Russian specialists in the field of railway transport and linguists dealing with the issues of English railway terminology join their efforts with railway engineers and linguists from English-speaking countries. And this can be done only in the case of going beyond the framework of the actual language system and turning to extra-linguistic reality, i.e. in the study of the designated range of problems from the standpoint of the cognitive-discursive paradigm.

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USE OF SPEECH SITUATIONS AS ONE OF THE METHODS OF FORMING PROFESSIONAL COMPETENCE

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ANNOTATION

The teacher's speech is the main instrument of the university teacher's activity. It is the quality of the lesson that depends on the rich and beautiful speech of the teacher.

This article discusses issues related to the development of the speech of university teachers, as the main teaching tool.

KEY WORDS AND PHRASES: *educational system, speech actions, the situational-thematic principle of linguodidactics.*

ИСПОЛЬЗОВАНИЕ РЕЧЕВЫХ СИТУАЦИЙ КАК ОДИН ИЗ ПРИЁМОВ ФОРМИРОВАНИЯ ПРОФЕССИОНАЛЬНОЙ КОМПЕТЕНЦИИ

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Аннотация

Речь преподавателя – это основной инструмент деятельности преподавателя вуза. Именно качество урока зависеть от богатой и красивой речи преподавателя.

В данной статьи рассматриваются вопросы, связанные с развитием речи педагогов вуза, как основной инструмент преподавание .

Ключевые слова и фразы: *образовательная система, речевые действия, ситуативно-тематический принцип лингводидактики.*

DISCUSSION

As practice shows, the orientation of the transition to the new educational system to improve the education of students and its final result has caused the need to use new teaching technologies and select the most optimal teaching methods and techniques.

Currently, both in theory and in teaching practice, there is no unambiguous understanding of the term "speech situation". Most scientists (V.A.Skalkin, G.A. Rubinstein, K.Gunter, V.D. Arakin, etc.) believe that language is needed in certain situations, so the starting point of learning should be situations. All new words and constructions should be demonstrated to students in situations or contexts that clearly show their meaning. A.A. Leontiev understands by the situation "a set of speech and non-speech conditions, necessary and sufficient to carry out a speech action according to our plan - whether these conditions are set in the text or created by the teacher in the classroom" [1, p. 168].

Not every situation, however, contains a stimulus for speech, i.e. is speech. Many situations can and should be solved only by non-linguistic means (actions and reactions). In other cases, the circumstances of reality may not cause a speech reaction, either because information about the situation is not of interest to a person, or because there are no conditions for a speech reaction (for example, there is no interlocutor). Speech situations, according to D.I. Izarenkov, have the following structural components: initial conditions and circumstances, new conditions and circumstances.

New circumstances come into conflict, conflict with the initial conditions and circumstances, and give rise to the need for speech action. The nature of the interaction between the initial and new conditions determines the model, the structural type of the speech situation [2, p. 38]. A speech situation, in our opinion, can be considered a situation of reality that causes a speech reaction.

According to M.G. Voinova, any speech, both dialogical and monologic (but more often dialogical) is a certain speech action (or speech act), which is based on some kind of speech situation. A speech situation is a psychological category and is defined by psychologists as "a set of conditions of circumstances in an act of activity of a person, while one part of this activity poses a problem for him (a person) - the task of action, and the other - the possibility of solving this problem with the help of an interlocutor, to to whom the speech action is directed "[3, p.39].

I.A. Zimnyaya notes that speech actions at the same time include a complex of substantive and formal characteristics, namely: motivation (i.e. motivation, a reason for speech utterance), attitude to the content of a speech utterance (i.e., emotional coloring), readiness of the addressee (recipient) to the perception (understanding) of the speech utterance and the corresponding speech behavior "[4, p. 121].

In addition to the term "speech situation", the methodological literature contains the term "conditional speech situation". Speaking about the speech situation, we note that following EI Passov, we classify them into conditional speech and speech. "A conditioned speech situation is a communicative exercise designed mainly for acquiring listening and speaking skills, conditioned, on the one hand, by a specific environment (which determines the content of an utterance), which is supplemented by stimuli for communication, and, on the other hand, by purposefully developed language material (necessary for the implementation of this statement), including prompting remarks "[5, p.128]. Both types of situations are used in the educational process. The first type is natural situations that constantly arise in the classroom in the process of verbal communication between the teacher and students - situations related to the organization of work, relationships between students, understanding of the material, educational assignments. Experienced teachers skillfully use them in their work and involve students in verbal communication. These situations are good material for the development of speech, but they cannot provide systematic work on the development of speaking skills using a variety of lexical and grammatical material. This explains the interest in the use of conditional speech situations in the classroom.

The main advantages of using conditional speech situations in the classroom are the following: conditional speech situations allow you to activate the studied language material; with their help, students' speech guess develops; conditional speech situations contribute to the contextual assimilation of vocabulary; thanks to these situations, students are placed in conditions close to real ones.

The speech reaction should not be "given" ready-made. You can offer basic, key words, expressions of Russian speech etiquette, so that the response to the stimulus is close to real. In the classroom, you need to achieve not knowing the situation, but creating it. When creating a situation, one must bear in mind the general pedagogical, methodological, general psychological and individual psychological factors, which determine the success of mastering speech in a foreign language.

Thus, conditional speech situations put students in conditions similar to natural ones, activate students' imaginations, force them to formulate their thoughts in the studied language, promote contextual vocabulary assimilation and thereby allow students to prepare for natural, real situations. Depending on the degree of the teacher's participation in the disclosure

of the situation, the following types of situations are distinguished, used in the lesson:

1. Situations fully or partially controlled by the teacher (the topic is reported, the conditions of the situation are given, keywords are given, the teacher "creates" incentives, participates in the work).

2. Free situations (speech content of the situation is provided to students, the teacher monitors the thematic purposefulness of communication, speech norms, etc.).

All of the above types of speech situations can be encountered in Russian language classes. At the middle stage, partially controlled situations are most justified and most often partially controlled situations are played out, since students do not have enough speech experience to create free situations. The work on the organization of conditional - speech situations can be divided into several stages. First of all, select the material: choose a topic for speech communication, select factual information on the topic, select language material, group the material. When activating the material in training exercises aimed at the formation of speech skills, staging tables should be used; work by analogy; lexical and grammatical rephrasing.

Let us consider in more detail the listed steps in creating conditional speech situations:

1. The selection of material should be considered taking into account the following points:

what contains a textbook, manuals, dictionaries; what students know from their own speech experience; what factual information is needed to introduce the situation; when choosing a basic vocabulary, you must ensure that there are enough verbs, names (nouns, adjectives ...), etc .; how to make basic language material available to students even before classes.

2. When introducing and initially activating new material, it is advisable to use a functional approach so that students understand the significance of certain grammatical phenomena. In doing so, it is desirable to use lookup tables based on structural models.

3. Learning to speak begins with dialogue. The following sequence of operations is recommended here: listening to the dialogue recording; the dialogue is read in pairs, by two participants; the moving parts of the dialogue are replaced with components that are real for students; the dialogue is discussed "in pairs"; a dialogue is created by analogy; new dialogue is "negotiated" in pairs; the dialogue is staged.

In the course of a conversation, the initiative can pass from one interlocutor to another. The correct use of replica-stimuli and replica-reactions, as well as taking into account the peculiarities of Russian speech etiquette, is important. The use of communication exercises aims to show that language is a means of communication and not material for exercise. Therefore, it is extremely important to construct psychologically correct question-answer exercises, while avoiding formal questions.

To instill in non-Russian students the skills of exemplary dialogical speech, it is necessary to activate the expressions of Russian speech etiquette, to educate them to be observant of the speech behavior of people of different ages and different professions. Show that people write differently about the same event to friends, teacher, officials. It is useful to start this work with exercises of observation of the oral speech of different people.

After the observation exercises, tasks for reproducing a dialogue are recommended, then composing similar and, finally, independent dialogues based on a given situation. It is desirable to determine the addressee of the statement.

The methodology of conducting classes using speech situations depends on a number of factors: on the objectives of the lesson (the formation of what skills and abilities the lesson is devoted to); from the topic of the lesson (the significance of the topic for oral speech. Not all topics require a situational approach. Speech situations should be used when mastering topics that are relevant for a given contingent of students); from the teaching stage; from the stage of the lesson at which the situation applies. Preparing for the lesson in which the situation will be used, the teacher identifies the following questions: in what communicative situation is the teaching material relevant? What new information can the student receive in this lesson? What should be paid attention to in terms of the development of students' cognitive activity? How to "connect" the material with the life experience of students? What training exercises will help develop grammar skills and abilities? What incentive must be created to implement the situation?

The situational-thematic principle of linguodidactics is intended to implement a system for the development of free (i.e. unprepared) speech based on a sufficient minimum of educational and natural situations, basic thematic vocabulary and phraseology, taking into account all the main levels of speech activity (listening, speaking, reading, writing, translation) of students.

Больше информации об этом исходном тексteЧтобы получить дополнительную информацию, введите исходный текст

When selecting communicative-situational topics and the selection of speech material for each of them, it is necessary to evaluate each topic and each phrase from the point of view of their use in natural acts of communication, i.e. take into account whether the educational material worked out in the classroom prepares students for participation in real communication or not. Each phrase practiced in the

lesson should be included in the fund of "ready" linguistic signs for speech services in natural communication.

Consequently, the tasks of increasing the effectiveness of teaching the Russian language as a means of communication involve the widespread use of speech situations.

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TOPICAL ISSUES OF STUDYING THE UZBEK DASTAN CREATIVITY

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ANNOTATION
This article examines the study of the dastan creativity of the Uzbek people.
KEY WORDS: *folklore, centuries-old history, ethnic peculiarity, worldview, customs, social and everyday life.*

АКТУАЛЬНЫЕ ВОПРОСЫ ИЗУЧЕНИЕ УЗБЕКСКОГО ДАСТАННОГО ТВОРЧЕСТВА

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Аннотация
В данной статье рассматриваются вопросы изучение дастанного творчества узбекского народа.
Ключевые слова: фольклор, многовековая история, этническая особенность, мировоззрения, обычаи, социально-бытовая жизнь.

«Я вижу каждую нацию в ее национальном образе. Во главе хинди мардум шляпа появляется в виде единого альфоза, соединяющего две ладони на груди с улыбкой. Также как Лал Бахадур Шастри. Мой узбек, с другой стороны, с тюбетейкой на голове и правой рукой на груди, смиренно сгибает спину ... Как господин Насриддин – герой тюркских анекдотов.

Устное народное творчество каждого народа поэтически выражает его многовековую историю, этническую особенности, мировоззрению, обычью, социально-бытовую жизни, являюшегося историко-художественно-эстетическим событиям. Устное народное творчество узбекского народа, в течение веках внёс огромный вклад в мировую фольклористику, являющегося составной частью национальной духовности. Здесь имеет своё значение и место, и небольшая пословица, и крупный дастан.

В этом отношении, узбекский фольклор на сегодняшний день служит воспитанию и образованию молодого поколения. Хотелось бы отметить, что слова нашего первого президента Узбекистана И.Каримова, посвящённые 1000 летию дастану «Алпамыш» относятся ко всему

узбекскому фольклору: Дастан «Алпамыш» дал нам урок гуманного достоинства, Научил нас быть честным и справедливым, защитить честь друзей и семьи, священную могилу наших предков от любых агрессий». [1] Глубоко содержательные эти слова нашего президента можно относить и терма. Потому что историю сказительства, его продолжительность и творчеству народных профессиональных сказителей нельзя представлять без терма. Для того, что бы полностью раскрыть эту своеобразную тайну феномена, надо всесторонне исследовать народные терма.

Важность изучение дастанного творчества нами состоит в том, что, хотя в основном, в современном этапе с развитием техники и общества постепенно исчезает традиционное дастанопение, но процесс исполнении и творчества терма продолжается в новой форме. Узбекский фольклор, формированный в качестве целой поэтической системе, состоит из типов и жанров. В узбекской фольклористике эти жанры всестаронно исследовано и продолжаются исследования их. Но уровень исследования их по разному. В частности, народные терма исследованы относительно реже и требует расширенно исследовать жанр.

Хотя в узбекской фольклористике было подробно изучено репертуары ведущих типов народных созидателей — бахши, но не были исследованы вопросы исполнительского искусства халфы, доведения его до потомкам и место в создании. Между тем, халфы – являются певцами образцов своеобразных художественно – устных народных произведений, а халфачества в качестве исполнительского и творческого искусства имеет большое художественно-эстетическое значение. [2]

Собирание, исследование и опубликование началось с 30 годов XX века. На этот период был исследованы учёными О. Хашимовым, Х. Зарифым, Б. Каримовым репертуары народных халфов Онажона Сабировой, Хоним сувчи и др. От них были записаны очень много народных песен, дастанов и терма. Эта была первая экспедиция, организованная научно исследовательским институтом Узбекстана.

50-60 годы была продолжена эта работа учёными Ф.Абдуллаевым, Н. Сабироаом, Дж. Кабулниязовым, С. Рузимбаевым, в результате чего, появились несколько исследований о репертуарах, методе исполнении и традиции.[3]

Фольклорист Дж. Кабулниязов является не только собирателем народных песен, в частности, произведения халфов, но и он стал известным и крупным учёным, который квалифицировал по жанровому составу и развитию.[3]

В научных работах профессора Х. Абдуллаева тоже встречаются специфические особенности репертуарах народных халфов.х3ъ

А также в научных работах Н.Сабирова, Т. Кличева, С. Рузимбаева, А.Мусакулова, Н. Курбановой, С.Оллаберггановой встречаются очень интересные факты, касающиеся к репертуарам халфов.

Узбекское устное народное творчество имеет древние традиции и отличается оригинальностью, широтой и разнообразием жанровой структуры, высоким идейно-художественным уровнем. Это бесценное наследие узбекского народа наряду с классической литературой, искусством, памятниками архитектуры и музыкальными произведениями прошлого – достойный вклад в сокровищницу мировой литературы.

Народ от природы склонный к творчеству и созиданию, воспевал в эпосе свои идеалы, сочетая в нем музыку, танец, ораторское искусство, мастерство исполнения, что выявляет синкретический характер эпоса и свидетельствует о чрезвычайной сложности этого вида искусства.

Актуальность исследования темы состоит в том, что в данное время несмотря на то, что с современным прогрессом исчезают традиционные дастанопении, а творчество и исполнение терма в определённом виде существует. В узбекском фольклоре этот жанр был изучен очень мало. Изучение жанра терма и с точки зрения независимости было необходимо.

Об идейно- художественной особенности жанра терма остановились и такие учёные как, М.Алавия, М.Мурадов, Т.Мирзаев, Б.Саримсаков, С.Рузимбаев. Но, терма как самостоятельный жанр был монографически изучен только А.Мусакуловым,А.Турсункуловым в 80-годы[3] и И.Н.Турсуновым 2011 году.[4] После этого, хотя о дастанопении появилось много диссертационных работ, но изучение терма приостановилось. Несмотря на то, что в фольклорном архиве института языка и литературы имени Алишера Навои АН Республики Узбекистан много материалов, до сих пор не было опубликовано ни одного сборника терма. Поэтому мы считаем изучать образцов народных терма, опубликовать их в виде сборника – это есть одна из основным проблем в фольклористике Узбекистана.

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THE ROLE OF PLAY IN ENGLISH CLASSES IN THE DEVELOPMENT OF STUDENTS' SPEECH AT THE TEXTILE INSTITUTE

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ABSTRACT

This article is written about the role of the English language is not only exchange of information in social life but it is language of development, science and technology. There is said that English language is extensively taught in Uzbekistan. There are passed a lot of presidential decrees which gives opportunity to increase the using the English language. The role of games in teaching and learning vocabulary also identifying new words and comprehension of vocabulary plays an important role in language learning. How many and how well you know vocabulary shows the language ability of foreign language speakers. Teaching vocabulary using games is one effective and interesting way that can be applied in any classrooms.

KEY WORDS: *role-playing games, ability, technique, method, teaching, English, vocabulary, lesson efficiency.*

РОЛЬ ИГРЫ НА ЗАНЯТИЯХ АНГЛИЙСКОГО ЯЗЫКА В РАЗВИТИИ РЕЧИ СТУДЕНТОВ ТЕКСТИЛЬНОГО ИНСТИТУТА

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Аннотация

В данной статье речь идет о роли английского языка, не только обмен информацией в общественной жизни, но и это - язык развития, науки и техники. В статье отмечен, что английский язык преподается в Узбекистане экстенсивно. Там переданы много указов президента, которое дает возможность увеличить использование английского языка. Роль игр в обучении и изучении словаря, также идентифицирующего новые слова и понимание словаря, играет важную роль в языковом изучении. Сколько и как хорошо вы знаете, что словарь показывает языковую способность спикеров иностранного языка. Также используя игры вовремя изучения языка является одним эффективным и интересным путем, который может быть применен в любых аудиторях.

Ключевые слова: ролевые игры,способность, методика, способ, обучение, английский язык,словарь,эффективность урока.

DISCUSSION

It is noted that in the framework of the Law of the Republic of Uzbekistan "On education" and the National Program for Training in the country, a comprehensive foreign languages' teaching system, aimed at creating harmoniously developed, highly educated, modern-thinking young generation, further integration of the country to the world community, has been created. During the years of independence, over 51.7 thousand teachers of foreign languages graduated from universities, English, German and French multimedia tutorials and textbooks for 5-9 grades of secondary schools, electronic resources for learning English in primary schools were created, more than 5000 secondary schools, professional colleges and academic lyceums were equipped with language laboratories.

The development of educational-learning process creates good convenience for students and gives opportunity to acquire giving material easily.

In the initial stages of learning a language, vocabulary plays a primary role in acquisition and communication. Vocabulary is a core component of language proficiency and provides much of the basic for how well learners speak, listen, read and write. Vocabulary acquisition is increasingly viewed as crucial to language acquisition. Yet, learning vocabulary is often perceived as a tedious and laborious process. Therefore, many methods helping language learners to improve and learn vocabulary have been given such as listening to foreign music, watching foreign cartoons or films with subtitles, reading books, newspapers, and playing games. Using games for learning and teaching vocabulary has been applied in many countries in the world; however, not many Uzbek language teachers as wellas learners employ the effectiveness of the kind of methodology for vocabulary teaching and learning.

Nowadays, in the accelerating world of information technologies and high requirements imposed on language knowledge, mastering a foreign language is a key factor of our success in the employment market, in intercultural relations, in travelling and meeting new cultures. It is a demanding task posted in front of the learners as well as the teachers of any foreign language; however, the learning and teaching process should not consist of plain memorizing and drilling only, but some interactive and entertaining elements may be introduced into it. Language games or game-based activities are an example of this, a suitable means of effective learning combining practice with entertaining and competitive elements.

One of the crucial factors of a successful acquisition of a foreign language is learning vocabulary, it's storing in learners' memory and it's recalling when speaking.

Tradition and innovation in educational and scientific field is one of the many-sided and controversial questions. One of these questions is specific features of classical and modern education. Social activity lays in the basis of the specific features. With the changes of social activities take place changes in educational content. Nowadays there is great need in compiling of educational programs, in connecting them with international standards and international educational-scientific books.

The educational program is normative document and it is the basis of educational activity in high educational centers. It includes the main knowledge and formation of important skills of acquiring.

English language used by a lot of people and it is considered as an international language. The role of the English language is not only exchange of information in social life but it is language of development, science and technology. In academic purposes English language is used very widely and to explain the scientific theme using English have to be in Effective operational Proficiency (C1) or Mastery (C2).

English language is extensively taught in Uzbekistan. There are passed a lot of presidential decrees which gives opportunity to increase the using the English language.

Identifying new words is called vocabulary knowledge. Comprehension of vocabulary plays an important role in language learning. How many and how well you know vocabulary shows the language ability of foreign language speakers. Vocabulary has to be improved step by step. It is considered as a basis, fundament and frame of language. The more vocabulary one knows or acquires, the better more sentences they could create. Unknowing of many words make your language poor and weak. So vocabulary or we may call it as "word" is the main component of the sentences. As we know sentence is the collection of words connecting by meaning. If the words give some special meaning, it is important to efficiently and accurately communicate by appropriate words. Otherwise the information or topic would not be understandable or challengeable in meaning. Vocabulary is one element that links the integrated skills of listening, reading, speaking and writing all together.

Teaching vocabulary using games is one effective and interesting way that can be applied in any classrooms. The results of this article suggest that games are used not only for mere fun, but more importantly, for the useful practice and review of language lessons, thus leading toward the goal of improving learners' communicative competence

The role of games in teaching and learning vocabulary cannot be denied. However, in order to achieve the most from vocabulary games, it is

essential that suitable games are chosen. Whenever a game is to be conducted, the number of students, proficiency level, cultural context, timing, learning topic, and the classroom settings are factors that should be taken into account.

• Games are often used as short warm-up activities or when there is some time left at the end of a lesson. In this case, a game should not be regarded as a marginal activity filling in odd moments when the teacher and class have nothing better to do. Games ought to be at the heart of teaching (foreign) languages.

• Games can be used at all stages of the lesson. But teachers must be sure that games provided, are suitable and carefully selected by the teachers.

• Before playing a game teachers should give attention to the number of students, proficiency level, cultural context, timing, learning topic, and the classroom settings.

• Games also lend themselves well to revision exercises helping learners recall material in a pleasant, entertaining way.

These above things suggest that games are effective activities as a technique for vocabulary learning. Students also prefer games to other activities. Games not only motivate and entertain students but also help them learn in a way which aids the retention and retrieval of vocabulary using.

Although, it cannot be said that games are always better and easier to cope with for everyone, an overwhelming majority of students find games relaxing and motivating. Games should be an integral part of a lesson, providing the possibility of intensive practice while at the same time immensely enjoyable for both students and teachers. My research has produced some evidence which shows that games are useful and more interesting than other methods of vocabulary learning. Games in the classroom are an indispensable tool that should be employed by every English teachers and students. Games lead to better motivation of the students to learn the language, they promote better retention of the material, they help the students overcome any shyness or limitations hindering their process of study, and they help to foster a more enjoyable learning experience. Having such evidence, I wish to recommend the wide use of games with vocabulary work as a successful way of acquiring language competence.

Recently, using games has become a popular technique applied by many educators in the classrooms and recommended by methodologists in the world. Many sources list the advantages of the use of games in foreign language classrooms.

Though the main objectives of the games are to acquaint students with new words or phrases and help them remember vocabulary better and faster, they also help develop the students' communicative competence. From the observations, I noticed that those groups of students who joined in and practiced vocabulary activity with games felt more motivated and interested in what they were doing. This may makes clear that more time devoted to activities leads to better results. The marks students received suggested that the fun and relaxed atmosphere accompanying the activities facilitated students' learning. The use of games during the lessons might have motivated students to work more on the vocabulary items on their own, so the game might have only been a good stimulus for extra work. It cannot be denied that games are useful and effective tools that should be applied in vocabulary classes. The use of games in learning acquisition is a way to make the lessons more interesting, enjoyable and effective.

Games have been shown to have advantages and effectiveness in learning vocabulary in various ways. First, games bring in relaxation and fun for students, thus help them learn and retain new words more easily. Second, games usually involve friendly competition and they keep learners interested. These create the motivation for learners of English to get involved and participate actively in the learning activities. Third, vocabulary games bring real world context into the classroom, and enhance students' use of English in a flexible, communicative way.

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TOPICAL ISSUES OF THE APPLICATION OF INNOVATIVE METHODS IN THE ENGLISH LESSON AT THE TEXTILE INSTITUTE AS A TOOL FOR EFFECTIVE LANGUAGE LEARNING

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ANNOTATION
In this article is presented some innovational methods that meet criteria of being well-defined, implemental and linked to gains in student outcomes. Here given decisions in teacher approach while they may have value more as a prompt to critical questioning than a checklist of desirable behaviors.
KEY WORDS: *outcomes, assessment, behavior, 'great teaching', approach, practice, modeling, problem solving process.*

АКТУАЛЬНЫЕ ВОПРОСЫ ПРИМИНЕНИЕ ИННОВАЦИОННЫХ МЕТОДОВ НА УРОКЕ АНГЛИЙСКОГО ЯЗЫКА В ТЕКСТИЛЬНОМ ИНСТИТУТЕ КАК ИНСТРУМЕНТ ЭФФЕКТИВНОГО ОБУЧЕНИЯ ЯЗЫКУ

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Аннотация
В статье представлены некоторые инновационные методы, которые служат для определения критериев в результате обучения студента. Приведены некоторые решения в подходах обучения, которые могут выступать ценной информацией в определении критического анализа, больше чем ожидаемого поведения учителя.

Ключевые слова: результаты, оценка, поведение, *'великое обучение'*, подход, практика, моделирование, процесс решения проблемы.

DISCUSSION

We define effective learning as that which leads to improved student achievement, using outcomes that are relevant to their future success. Defining effective training is not easy. Our research continually returns to this critical point: student performance is the yardstick by which teaching quality should be judged. Ultimately, in order to judge whether teaching is effective and credible, it must be compared with the progress made by the students.

Currently, at our Textile Institute, English teachers use a number of frameworks to describe the basic elements of effective teaching. The problem is that these attributes are defined so broadly that they can be open to wide and varied interpretations, regardless of whether the classroom is of high quality. It is important to understand these limitations when assessing teaching quality.

A formative teacher evaluation system based on continuous assessment and feedback rather than high stakes test should include a range of measures from different sources using a variety of methods. The key to appropriately careful and critical use of different methods is to compare them with each other. One source of evidence may point the way forward, but when corroborated by another independent source, it begins to become a reliable guide. The measures currently available can provide useful information, but there is a lot of noise around a weak signal, so we must be careful not to overestimate. If we were to use the best classroom observation ratings, for example, to define teachers as "above" or "below" average and compare this to their impact on student learning, we would do it right about 60% of the time, compared to 50% we would have been obtained by simply tossing a coin. Therefore, these judgments must be approached with great caution.

There are a number of sources of evidence about the skills, knowledge, behaviors, qualities and competences required to be an excellent teacher. A key feature of the current review is that we try to limit our attention to well-defined, operationalisable behaviors, skills or knowledge that have been found to be related, with at least some justification for a causal relationship, to measureable, enhanced student outcomes. Following Rosenshine (2010, 2012) and Muijs et al (2014), these sources of evidence include:

- Evidence from educational effectiveness research about teacher behaviors associated with learning gains.
- Evidence from intervention studies about what can be changed, and its effect on outcomes.
- Evidence and theory from cognitive science about learning: how our brains acquire, make sense of and use information.

There are two key requirements for the inclusion of a teaching approach as 'great teaching' in this review:

- There must be a clear, well-specified and implementable intervention associated with promoting the approach. It has to be something we can change. For example, the knowledge that 'great teachers have high expectations' is of no use to us unless we have a strategy for encouraging teachers to raise their expectations.
- There must be some evidence linking the approach with enhanced student outcomes. There is not necessarily any assumption that such outcomes should be limited to academic attainment: whatever is valued in education should count.

One of the features of research on effective practices is that there are a number of reviews available with quite different claims about what characteristics of teacher practice are associated with improved outcomes.

In this article we present two examples of teacher approaches, classroom practices and skills that meet our criteria of being well-defined, implementable and linked to gains in student outcomes. We have sought to include here some practices that are counterintuitive, or that challenge the accepted orthodoxy about what is effective teaching, on the grounds that these examples may have value more as a prompt to critical questioning rather than a checklist of desirable behaviors. Teachers may need to have clear understanding of why, when and how each of these practices can be effective, and exactly what it means to demonstrate them in a way that is optimal to promote students' learning.

Human Tableau or Class Modeling – Groups create living scenes which relate to the classroom concepts or discussions.

I'm fortunate to watch a large number of lessons – being taught by brilliant teachers. There are many things that they all do well, but one thing they all have in common is that they are great at modeling. Now it seems fairly obvious that if you want to teach somebody a new skill, you need to break the skill down into the key 'bits' and then show them very carefully how to do it – you can't just expect it to happen by diffusion. In my mind, this is what class modeling is. It's also becoming increasingly obvious to me that it is a key teaching skill that needs to be thought through and planned carefully, if effective learning is going to happen. It's also key in the development of independence.

If students are going to be able to work with growing independence, it needs to have been preceeded with high quality teacher explanation and modelling.

I've seen some brilliant examples of this: In English, when teachers are modeling how to produce a piece of creative writing from a visual stimulus.

Educational modeling can be defined as giving students a demonstration or example of a process or product that is representative of the skill or content they are expected to perform themselves. It's more than just giving a visual representation of content; rather, a model is a product or process students can imitate to develop their own skills and understanding.

There are numerous benefits for providing students with examples to supplement our raw instruction. First, models help students see what it is that they're supposed to produce. We could abstractly explain to students how to perform a certain task, like write a paragraph, but when we give them an actual sample paragraph, they can literally "See for themselves" what their own product should look like. When we combine the general explanation of a task with a concrete model of what their process or product should look like, we give students a direct image of their targeted outcome. It makes for easy guidance and comparison, as students can orchestrate their work to emulate the model and ask themselves, "Does mine match the example or do I need to make improvements?"

Also, Human Tableau or Class Modeling can help students see the relevance of the tasks we ask them to do. It might be difficult for students to understand before doing something what the point is. Just ask the Karate Kid when he was frustrated painting Mr. Miagi's fence. But a clear demonstration of what the outcome looks like will help students see how the individual tasks they're performing contribute to their growing set of skills and knowledge.

Build From Restricted Components – Provide limited resources and either literally or figuratively dump them on the table, asking students in groups to construct a solution using only these things. If possible, provide red herrings, and ask students to construct a solution using the minimum amount of items possible.

The techniques listed below have multiple benefits:

- The activities provide practice with the material.
- The activities require students to become attentive and engaged, which are two prerequisites for effective learning.
- As the instructor, you can easily and quickly assess if students have really mastered the material.

Not all techniques listed here1 will have universal appeal, with factors such as your teaching style, learning objectives and personality influencing which choices may be right for you.

1. Picture Prompt – Show students an image with no explanation, and ask them to identify/explain it, and justify their answers. Or ask students to write about it using terms from lecture, or to name the processes and concepts shown. Also works well as group activity. Do not give the "answer" until they have explored all options first.

2. Think Break – Ask a rhetorical question, and then allow 20 seconds for students to think about the problem before you go on to explain. This technique encourages students to take part in the problem solving process even when discussion isn't feasible. Having students write something down helps assure that they will in fact work on the problem.

3. Empty Outlines – Distribute a partially completed outline of today's lecture and ask students to fill it in. Useful at start or at end of class.

4. Polar Opposites – Ask the class to examine two written-out versions of a theory, where one is incorrect, such as the opposite or a negation of the other. In deciding which is correct, students will have to examine the problem from all angles.

5. Word of the Day – Select an important term and highlight it throughout the class session, working it into as many concepts as possible. Challenge students to do the same in their interactive activities.

6. Recall, Summarize, Question, Connect, and Comment – This method of starting each session has five steps to reinforce the previous session's material: recall it, summarize it, phrase a remaining question, connect it to the class as a whole, and comment on that class session.

7. Focused Listing – List several ideas related to the main focus point. Helpful for starting new topics.

8. Tournament – Divide the class into at least two groups and announce a competition for most points on a practice test. Let them study a topic together and then give that quiz, tallying points. After each round, let them study the next topic before quizzing again. The points should be carried over from round to round. The student impulse for competition will focus their engagement onto the material itself.

So far we have reviewed the evidence about what great teaching looks like, and how it can be safely identified. This evidence is important for teachers to understand, but it is in some ways just a preamble to the crucial question of how that understanding can be used to improve students' learning.

Before we can do that, we must first clarify some validity issues that arise out of any attempt to 'measure' teaching quality. Then we consider relevant evidence about how feedback about teaching quality can be used most effectively, and how this relates to the broader issue of teachers' professional development.

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UZBEKISTAN-SOUTH KOREA: NEW PERSPECTIVES OF COOPERATION IN THE EDUCATION SECTOR

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RESUME

This article highlights the stages of development of the international cooperation of the Republic of Uzbekistan with South Korea in the education sector, the country where cooperation is established, the results of cooperation, and plans. Furthermore, it analyses the reforms carried out in the field of education during the independence in Uzbekistan.

KEYWORDS: *education, reform, civilization, subject, country, culture, scientist, academy, coexistence, law, government, benefit*

1. THE TOPICALITY OF THE PROBLEM

One of the main purposes of the foreign policy of the Republic of Uzbekistan is to develop cooperation with developed countries [1]. Therefore, Uzbekistan has established cooperation with a lot of countries all over the world and has been developing this cooperation. Based on this idea we can say that the establishment of cooperation with countries that are economically developed in Asia is significantly beneficial to Uzbekistan. Because it is beneficial for countries in Asia to establish cooperation with the Republic of Uzbekistan, which has its location and geopolitical status in Central Asia, rich natural resources, population, and its high scientific potential. Simultaneously, it is also significantly important to Uzbekistan to cooperate and develop it with Asian countries that have their political influence on the continent of Asia, the most influential in the Asian region, considered the most developed countries in the world in terms of economic growth and have high technologies, and have a wide range of opportunities to use their achievements and experience. After gaining its independence and choosing its free development path, Uzbekistan began to take part actively in international relations as an equal member of the world community. Uzbekistan has begun to join confidently the world community relying on such principles equality in mutual relations, non-interference in the internal affairs of other states, development of mutually beneficial and equal cooperation, ensuring peace, security, and stability in the region and the world.

The integrating of the Republic of Uzbekistan into the world community and taking a worthy place in the system of international relations is determined by the effective implementation of its interests in the political, economic, scientific, technical, and social spheres. After gaining independence, Uzbekistan has begun the process of strengthening and modernizing the education system under the influence of national life and pedagogical thought, as well as advanced experience in the world. An opportunity to compare the achieved results with other countries, to learn the positive aspects of them, and to share and enrich the results and goals of Uzbekistan in this sphere with others appeared. Over the past thirty years, cooperation in the education field has developed extensively. In particular, cooperation with South Korea in the education sector is becoming increasingly significant and plays a pivotal role in the development of the education system of Uzbekistan.

2. METHODOLOGY

In investigating the subject, we based on the principles of historical, objectivity, comparative comparison, chronological sequence, and historical consistency.

3. LITERATURE REVIEW

It should be noted that the result of systematic analysis of existing scientific resources showed that it is not sufficiently covered the issues of cooperation of the Republic of Uzbekistan in the field of

education and science with developed countries of the world, such as South Korea. However, this does not mean that the issues of cooperation between the two countries in the field of education in Uzbekistan have not been studied at all. In particular, a lot of scientific publications, articles, and dissertations have been written in this regard. V. Han (History of Korea. 2013), Sun Don Gi (Relations between the Republic of Uzbekistan and South Korea: the establishment of economic and cultural relations.2000) are among them.

4. RESULTS

Education is an important component of the social life of the society. The level of development of a particular country and the socio-economic condition of a society largely depends on how it develops. Realizing this objective fact the Uzbek government takes all necessary measures for the comprehensive development of the scientific potential of the Republic of Uzbekistan. These ongoing measures can be literally divided into the following two parts. They are measures being implemented in the territory of the Republic of Uzbekistan and with foreign countries based on international cooperation.

Thinking about the main tasks of the state in the field of education, President Shavkat Mirziyoyev said, "It is necessary to further improve the system of science, modern and life-long education. There is an aphorism among our people: "Education and upbringing begin in the cradle." Only enlightenment leads a person to perfection and society to progress. Therefore, the state policy in the field of education should be based on the principle of a system of life-long education, that is, education should start from kindergarten and last a whole life" [2].

Uzbekistan gained its independence and determined as one of the great goals to cooperate in economic, scientific, technical, and cultural relations with foreign countries in order to enter the international arena. A lot of work has been done towards this goal. During the independence, the Republic of Uzbekistan has managed to establish and develop effective cooperation in science with many countries around the world. These countries include several countries in Asia. They are Japan, South Korea, China, Singapore, Malaysia, India, and several other developed countries. The education system in the countries mentioned above is also significant in that it has reached the development stage. Having reached such a stage of development, the Republic of Korea is one of the most developed countries in Asia, now having one of the top positions in the world. International cooperation of Uzbekistan with the Republic of Korea is one of the important factors in the rapid development of the educational and scientific potential of the country. In the history of our modern statehood, diplomatic relations were established between the Republic of

Korea and the Republic of Uzbekistan on January 29, 1992. Over the past 27 years, mutually beneficial cooperation based on respect and trust has developed and strengthened. Historical relations, strong friendship, strategic partnership, and mutually beneficial cooperation bind Uzbekistan and the Republic of Korea. This country actively participates in the implementation of large-scale programs in the process of reforms in the economic, political, and cultural spheres implemented in our country as one of the main foreign partners of Uzbekistan.

Uzbekistan and the Republic of Korea are separated by a long distance. Nevertheless, strong relations of friendship, historical and spiritual closeness of our peoples, bind Uzbekistan and Korea. This cooperation has deep roots. The Korean people gladly remember the kindness of Uzbek people shown to the Koreans who came to Uzbekistan during the Second World War due to fate. Tolerance, generosity, harmony, kindness, diligence are the common qualities of the Uzbek and Korean peoples. Spiritual closeness is the basis of mutual trust and respect. It should be pointed out that the warm attitude of the two peoples to each other has a positive impact on cooperation between the two countries. From the earliest days of cooperation to the present day, relations have been developing steadily. This can be seen from the opinions expressed by the heads of states. The following viewpoints of the President of the Republic of Uzbekistan Shavkat Mirziyoyev are a clear example of this point of view. "The Republic of Korea and the Republic of Uzbekistan are strategic partners. South Korea has gained a reputation in the world as a highly developed state with great economic, scientific-technical, innovative, and intellectual potential. We favorably appreciate our cooperation which is established based on openness, mutual understanding, and respect for interests" [3].

After gaining the independence of Uzbekistan, the relations between the Republic of Korea and the Republic of Uzbekistan took a new view.

Cooperation in the sphere of education is also significant in this regard. Science is a universal and international phenomenon according to its essence and nature. As the great scientist Frederic Julio Curie noted, "Science is a key element in uniting the minds of people scattered all over the globe and this is its highest virtue. In my opinion, there is no other field of human activity that people can reach a deal and agreement as quickly as in science" [4].

After the independence of Uzbekistan, the situation in the cultural and spiritual life of the country changed dramatically. "We all need to understand that," said the first President of the Republic of Uzbekistan Islam Karimov in this regard, - the situation in other spheres of our life, the effectiveness of the reforms carried out, first of all, the restoration of the spirituality of the people, the extensive study of our rich historical heritage, the

preservation of our traditions are inextricably linked with the tradition of culture and art, science and education [5].

The ideas above have become a guideline for the development of education. The directions, procedure, rules, and level of cultural, scientific and technical relations between South Korea and Uzbekistan found its reflection in the documents adopted at the official meetings of the leaders of both states (July 16, 1992, June 4, 1994, January 16, 1995, and October 4-6, 1999).

Particularly, the Declaration adopted during the official visit of the first president of the Republic of Uzbekistan Islam Karimov to South Korea in July 1992 put forward the issue of expanding mutual relations in the sphere of culture, art, education, and literature [6]. In the "Declaration of South Korea and Uzbekistan" adopted during the official visit of the President of South Korea to the Republic of Uzbekistan in June 1994, both states agreed on the issues of mutual exchange in the sphere of culture, art, education, science and technology, communication, sports, jointly publishing textbooks, encyclopedic dictionaries about the nations. A lot of work is being carried out based on these signed documents.

It is worth noting that in the Republic of Korea great attention is paid to the National Training Program which is implementing in Uzbekistan. In order to support the ongoing reforms of the Republic of Uzbekistan in this regard, the Eximbank of South Korea has allocated a preferential loan of 35 million US dollars to provide newly established academic lyceums, secondary schools with modern educational equipment in Uzbekistan [7]. Based on these agreements of the heads of states, a solid foundation has been laid for cultural, scientific, and technical relations between the two countries. The loan was used for important purposes.

Another important aspect of cooperation between the two countries in the field of education and culture is the ongoing cooperation in the field of higher education. Cooperation between higher education institutions is now one of the significant relations. As a prelude to this collaboration, it is possible to show as examples establishment of Korean language at the Tashkent State Pedagogical University named after Nizami and the Institute of Oriental Studies under the Ministry of Higher and secondary special education of the Republic of Uzbekistan. Initially, the Korean language was taught in the above two universities, and now the Korean language is being taught at several universities. To be precise, Korean philology is currently taught in 12 higher education institutions, 48 schools, and lyceums in the Republic of Uzbekistan [8]. The Uzbek State University of World Languages and the Samarkand State Institute of Foreign Languages are clear examples of our opinion. The higher educational institutions of our country have been

cooperating with more than thirty scientific research institutions of the Republic of Korea. It should be noted that since 1992, the Korean educational center has been operating in Uzbekistan under the Embassy of the Republic of Korea, and more than 1,000 people study the Korean language every year in this center [9].

As well, the Uzbek language is taught in two institutes in South Korea. A special course on Uzbekistan is taught at the Bussan Institute of foreign languages and the Ho-Se Institute. In particular, the Uzbek language is taught in the Central Asian department of the Bussan Institute of foreign languages since 1995. A special Uzbek language department has been established at the Xo-Se Institute. However, these institutes lack specialists who are highly qualified and know Uzbekistan well. The government of Uzbekistan is providing significant assistance in this area [10].

The Republic of Korea is one of the leading countries in the world in the field of information and communication technologies. In the Republic of Uzbekistan, special attention is paid to the development of this sector. Consistent work is being carried out based on the comprehensive program for the development of the National Information and Communication System of the Republic of Uzbekistan for 2013-2020 and modern information technologies are widely introduced in all spheres.

The Ministry of Information Technologies and Communications of the Republic of Uzbekistan and the Ministry of Science, Information and Communication Technologies and Future Planning of the Republic of Korea have established effective cooperation. Specialists from South Korea contribute to the development of the electronic government system in our country and the training and professional development of personnel.

The establishment of a branch of Inkha University in Tashkent is a bright manifestation of the scope and prospects of cooperation in this field. At this University, students study at the level of international standards in the field of software development, management of information systems, and computer networks. The e-government training center and the Uzbek-South Korean information technology center are operating at the Tashkent University of information technology.

In addition, the Institute of history of the Academy of Sciences of the Republic of Uzbekistan carries out extensive work in the field of historical science. On the initiative of the Institute of history of the Academy of Sciences of the Republic of Uzbekistan in 2002, with the participation of South Korean historians, an international scientific conference was held in Tashkent on the topic Central Asia in the mirror of history: from the past to the future, and in 2003 Central Asia: ways of civilized development. The staff of the institute pays great

attention to the development of cooperation with South Korean colleagues.

On July 6-7, 2011, the Tashkent State Institute of Oriental Studies hosted the 11th International Conference on Korean Studies "Uzbekistan-Korea: the states and prospects of historical, cultural and economic relations" dedicated to the 20th anniversary of independence of the Republic of Uzbekistan. The main purpose of the conference was to ensure an international exchange of experience and viewpoints of specialists on the issues related to the current problems of Korean Studies and achievements, based on this to create an opportunity for professionals of the field to develop future joint plans to address existing problems; Analysis of the dynamics of historical, cultural, economic and scientific relations between Uzbekistan and Korea; to improve the skills of young scientists. Such conferences are increasing year by year.

The agreements reached at the end of the historic high-level visit of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to South Korea in November 2017 allowed raising to a new level of the mutually beneficial cooperation between our countries from the qualitative point of view and enriching it with concrete practical content. As a result of the meetings of the leaders of the two countries, significant changes have been observed in the field of education, as well as in other spheres. For example, branches of prestigious higher education institutions of the Republic of Korea begin operating in the Republic of Uzbekistan, and agreements on the opening of some of them have been implemented (Puchon university).

As well as, a number of works are also being carried out on vocational training based on Korean government grants. In particular, the adoption of the Resolution of the Cabinet of Ministers No. 135 of March 14, 2017 "On measures to establish a vocational training center in Shahrisabz city involving a grant of the government of the Republic of Korea" [9] is a vivid example of this positive work. It should also be noted that the above information is the beginning of a large-scale work in the field of education and science between the two countries. Cooperation between Uzbekistan and South Korea has been going on for many years and continues to be the same for both countries. There are plans to implement more projects in the framework of relations between the two countries, which will undoubtedly be beneficial for the two countries in the near future.

5. CONCLUSION

In conclusion, we can say that the Republic of Korea is one of the most reliable partners of Uzbekistan. At present, relations between two countries not only in the field of education but also in many areas are developing rapidly. Analysis of the achievements and results of the Republic of Korea in

the field of education, exchange of views, and cooperation in the field of modern personnel are significantly important for Uzbekistan to take its place in the world community in every sphere. Because the role of education in the achievement of the current position of the Republic of Korea is significant.

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STUDY IN ELEMENTS OF SUCCESSFUL MANAGEMENT

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ABSTRACT
Management is defined as: a process by which an institution's activities are coordinated and organized; In order to achieve specific goals, where the management represents a production factor that includes materials, money, and machinery, and the task of management is focused on marketing and innovation, and the administration includes functions that intertwine with each other in terms of organizing, monitoring, planning and directing; This is in order to form a policy for the organization and achieve the goals of this policy. Managers are also given the authority and responsibility that enables them to make decisions and supervise the organization, and it is worth noting that the size of the administration varies from one organization to another; It can be limited to one director, or it may go beyond that in multinational companies; So that their number reaches hundreds, and thousands of managers. [1] .

ELEMENTS OF SUCCESSFUL MANAGEMENT

Are the processes by which individuals interact efficiently and effectively. In order to achieve the desired goals, it is worth noting that successful management has components and basic elements, including: [2] Jobs and activities: they represent the functions and activities that managers practice, which are: planning, organizing, directing, and controlling. Business and goals: It refers to the goals and actions that the institution wants to reach, achieve, and accomplish. Human resources: where human resources include the efforts of individuals working in the organization, including employees, specialists, and implementers. In order to achieve goals, and work efficiently and effectively. Efficiency and Effectiveness: Efficiency is the ability to use resources without wasting, and of these resources: money, land, people, machines, etc., and it also refers to the manager's ability to economize, and to save on using these resources in a way that does not hinder Achievement of goals, results, and effectiveness (in English: Effectiveness), is the ability to achieve the goals that the organization wants to reach, and it is worth noting that there must be efficiency and effectiveness to achieve the goals.

SUCCESSFUL MANAGEMENT FUNCTIONS

There are many jobs for successful management in organizations, where these jobs focus on the relationship between management and employees, and they form reference pillars through which problems can be solved in innovative ways, and among these jobs: [2] [3] .

Planning (English: Planning)

The planning process is defined as: defining goals, in addition to determining how to achieve them, and preparing appropriate plans; To achieve these goals, taking into account the resources available to the organization, and the staff; In order to achieve continuity; Where planning is the first administrative function, and the most comprehensive, and thus it precedes other administrative functions, as it is the basis from which the administrative functions begin, and it is worth noting that effective planning reduces ambiguity and uncertainty in the organization, and provides managers with information about the history of the organization, and its achievements It enables them to predict the future, in addition to it reduces costs and resources that can be wasted in the organization.

Organizing

The organization is an important function of management, so the organization cannot succeed unless it is characterized by good organization. It is through the organization that the tasks, duties, and responsibilities of individuals are determined, and how these tasks are arranged in the organization, in terms of functions, divisions, and departments, defining the organizational structure, and the distribution of powers. To make decisions.

Directing

Directing is the leadership of the employees, motivating them to work, and effective communication with them.

Controlling

Control is defined as: verifying that the work is going according to the plan that has been prepared; This is through monitoring the performance of employees, comparing it with the goals that were set in the planning stage, determining whether there is any problem in performance, and addressing it, and monitoring is carried out by determining performance standards in accordance with organizational goals, measuring actual performance, comparing it with standards and objectives, and then taking actions. Corrective, or Preventive.

The Successful Manager

A manager is an important component of successful management; As the successful management depends on the manager who will be followed by others in the organization, and it is worth noting that the successful manager must pay attention to the aspects of management, leadership within the organization, and to know what the employees need; To work effectively, and to have the ability to encourage, thank, reward, and enable employees to produce. It is worth noting that there are many things that a successful manager should achieve, including: [4]

Team building: Team building enables employees to deal, and cooperation among them more effectively, knowing that the presence of the team allows employees the ability to creativity, and productivity more.

Creating a positive environment: Creating a positive environment is something that enables employees to enjoy positive spirits, and a positive environment enhances employee motivation to work. This is to achieve the success of the organization.

Empowering others: a successful manager seeks to assist, care for them, their jobs, and their advancement, as the empowerment of employees is one of the important factors that employees need at work; This is to develop their skills and abilities in teaching and learning; Where employees continue to progress, grow, and develop.

Effective Communication: A successful manager communicates effectively with people in various ways, such as verbal communication, or sending emails, listening to them through dialogue, and listening

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TOPICAL ISSUES TEACHING THE RUSSIAN LANGUAGE AT THE FACULTIES OF PHYSICAL CULTURE

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ANNOTATION
In this article, the author examines the features of the methodology of teaching the Russian language at the faculties of physical culture. Certain scientific conclusions have been made.
KEY WORDS: *motives, Russian language, students, methodology, training, communicative needs of students, educational process, theory and methodology of physical education.*

АКТУАЛЬНЫЕ ВОПРОСЫ ПРЕПОДАВАНИЕ РУССКОГО ЯЗЫКА НА ФАКУЛЬТЕТАХ ФИЗИЧЕСКОЙ КУЛЬТУРЫ

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Аннотация
В данной статье автор рассматривает особенности методики преподавания русского языка на факультетах физической культуры. Сделаны определенные научные выводы.
Ключевые слова: *мотивы, русский язык, студенты, методика, обучение, коммуникативные потребности студентов, учебный процесс, теория и методику физического воспитания.*

В настоящее время в практике преподавания русского языка оформились две системы профессионально-ориентированного обучения: обучение русскому языку как средству получения специальности и обучение русскому языку как средству профессионального делового общения.

Как замечает Е.В. Орлова, «профессионально-ориентированное обучение русскому языку как средству получения специальности опирается на коммуникативные потребности студентов прежде всего в профессиональной (учебно-профессиональной и научно-профессиональной) сфере общения» [1, с. 173]. В таком случае обучение студентов национальных групп направлено на формирование и развитие у коммуникативных компетенций в следующих ситуациях общения: лекция, практическое занятие, семинар, коллоквиум, зачет, экзамен, выступление на научной конференции, защита курсовой, дипломной или диссертационной работы и т. п.

Основными мотивами изучения русского языка как средства профессионального общения, по мнению К.В. Орловой, является желание эффективно решать профессиональные задачи и сделать карьеру.

Профессионально-ориентированное обучение студентов национальных групп любых факультетов вузов физической культуры осуществляется не только на занятиях по дисциплине «Русский язык как иностранный», но и на занятиях «Русский язык (профессиональная лексика)». Так, например, при организации учебного процесса со студентами факультета физической культуры можно осуществлять работу над следующими текстами: «Здоровый образ жизни», «Легкая атлетика», «Гимнастика», «Массаж», «Лечебная физическая культура», «Баскетбол»?. «Теннис», «Плавание», «История развития лыжного спорта», «Бадминтон, «Бодибилдинг» [2].

Данные тексты способствуют совершенствованию профессиональной языковой подготовки иностранных учащихся высшего учебного заведения, изучающих теорию и методику физического воспитания, спортивной тренировки, оздоровительной и адаптивной физической культуры.

При работе с данными текстами осуществляется коррекция знаний иностранных учащихся по таким разделам языка, как лексикология, морфология (грамматика и словообразование), синтаксис. В качестве предтекстовых заданий предлагается прочитать слова и объяснить их значение. Так, например, во время работы с текстом «Легкая атлетика» иностранные студенты усваивают такие понятия, как атлет, ловкость, выносливость, во время работы с текстом «Плавание» – понятия утопающий, ныряние, синхронный и др. Также студенты учатся приводить синонимы и антонимы к указанным словам.

Предложенные тексты дают возможность отрабатывать грамматические навыки студентов. Так, к каждому тексту предлагается перечень предложений, в которых необходимо поставить существительное и прилагательное в нужном падеже. Например, в ходе работы с текстом «Бадминтон» иностранным студентам необходимо поставить прилагательные в нужной форме в следующих предложениях: Бадминтон – это одна из … (древнейшие) игр нашей планеты. Королева Швеции Кристина для игры построила корт недалеко от … (Королевский) дворца. Граф Бофорт первым соорудил … (бадминтонная) площадку. Объектом внимания на занятиях по дисциплине «Русский язык (профессиональная лексика») со студентами факультета физической культуры является также

глагол. Так, например, заданием к тексту «История развития лыжного спорта» может быть следующее: В данных предложениях вставьте глагол несовершенного или совершенного вида в нужной форме. Во время работы с текстом «Плавание» предлагается вставить глаголы заниматься, проводить, повышать, появиться в нужной форме в следующих предложениях:

Спортивное плавание … в конце XV века.

В начале XX века в Узбекистане спортивным плаванием … уже около полутора тысяч человек.

Недостаточное число бассейнов определяло то, что тренировки
приходилось … преимущественно на открытой воде в летний период.

Игры вызывают большие эмоции, … активность детей.

Кроме того, осуществляется работа над образованием новых слов.

Например, к тексту «Бодибилдинг» можно предложить выполнить следующие задания:

От данных глаголов образуйте существительные с суффиксом -ениј.

От данных прилагательных образуйте существительные с суффиксом
-ость.

Прочитайте слова. Выделите в них корень. Данным словам подберите однокоренные слова.

Послетекстовые задания после каждого предложенного текста предназначены для проверки понимания прочитанного, для контроля за степенью сформированности умений чтения и возможного использования полученной информации в будущей профессиональной деятельности. Впособии для студентов факультета физической культуры таким заданием является привычное для любого занятия задание «Ответьте на вопросы».

Также на данном этапе предлагается соотнести информацию из левого и правого столбцов. Такое задание, например, можно предложить при работе с текстами «Гимнастика как вид спорта», «Массаж», «Плавание» и другие, где студенты находят для определенного вида гимнастики, массажа или плавания соответствующую характеристику.

На послетекстовом этапе также необходимо осуществлять работу над развитием коммуникативных навыков. С этой целью предлагаются афоризмы и некоторые интересные факты об отдельных видах спорта, что побуждает иностранных студентов комментировать прочитанное, строить собственное

высказывание на тему, связанную с прочитанным. Так, в пособии «Русский

язык: профессиональная сфера общения» к текстам «Здоровый образ жизни», «Легкая атлетика», «Лечебная физическая культура» предлагается перечень афоризмов, а к текстам «Баскетбол», «Массаж», «Теннис», «Плавание», «Бадминтон» – интересные факты о данных видах спорта.

В наше время процесс научного мышления и научных технологий происходит резко и быстро. [3] Значить преподаватели русского языка должны внедрять на уроках современные педагогические технологии.

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MUSICOLOGY IN ISLAM: A PRELIMINARY STUDY

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ABSTRACT

The aim of this study is to discuss about Musicology in Islam. The study of music was actively done by Muslim's scholars all over the world. Achieving these aims demands the highest levels of understanding the musicology in Islam and the greatest amount of originality from all contributors. By knowing the history and background of musicology in the Islamic world throughout the centuries, we gain the principle to utilize the talents and abilities of Muslim communities.
KEYWORDS: *Music, Literature, Devotional, Recitation, Characteristic, Sufi*

INTRODUCTION

No doubt that Islamic art and spirituality of Islam consider music as one of the great significance aspect in the world. There are various stages of Islamic art to study in order to know the flows of the music as a tradition in the Islamic world. As what had been said by Fuat Sezgin, Islam's Golden Age of Science was an extended knowledge from the 8th to the 16th centuries. The word *musîqî* derived from the Greek word which had been used in many theoretical works, whereas in Arabic term, *Ghina* (song), has been used also for music in secular contexts. Other than that, the terms are used for what a Westerner might call music in folk and sacred contexts.

For the group of Ikhwan al-Safa, the music itself is a spiritual art founded by wise men. It has a strong and varied effects in all souls. It is soothing or exciting, gratifying or grieving. On this account, music is played to calm the sick and insane, to tranquillize a weeping child or to lull him to sleep. Even animals are subject to the effect of music. Music is also played in temples because of the touch of awe it possesses.

According to Abdur Rahman al Baghdadi, music means the art of sound or voice and together with the instruments. Islamic music is known as the Muslim religious music, as sung or played in public services or private devotions. The classic heartland of Islam is the Middle East, North Africa, Iran, South Asia and Central Asia. The indigenous musical styles of these areas have shaped the devotional music enjoyed by contemporary Muslims.

One of the scholars is Hazrat Inayah Khan, who determined the importance of music in the life stated in his book *The Mysticism of Sound and Music*, and especially in the section of music, Inayah Khan claims that music is called the divine art, while all other arts are not so called. We may certainly see God in all arts and in all sciences, but in music alone, we see God free from all forms and thoughts. The sound alone is free from form". For Inayah Khan, the main purpose of understanding music in life is to reveal the harmony of

the universe, and show the part that each individual, each creature, he stops play in a symphony. He, then, considered life as music.

Parallel with the idea, Howard Gardner (1980) written a book entitled Frames of Mind. This famous book explained the theory in education. He stated that everybody has the ability in multiple intelligent including linguistic, logical-mathematical, spatial, kinesthetic and musical. From the research, he strengthened the idea of music, where at the beginning stage of a baby, he understands and imitate the sound and melodies all around him.

MUSIC LITERATURE AND CONTRIBUTORS IN ISLAM

Early in Islamic era music accompanied such events as pilgrimages, weddings and wars. The nature of such music is difficult to reconstruct because it was not written down. However, many of the outstanding Muslim of learning, especially musician and philosophers, were well-versed in music and their theories, such as al Fârâbi (m. 339/950), Ibnu Sînâ (m. 428/1037) and Urmawi.

Name	Date of Death	Major Location of Life and Work	Main Field(s) of Relevant Work
Ninth century			
Ibn Abû al Dunyâ, Abû Bakar 'Abdullah Ibn Muhammad	281/894	Baghdad	Lawfulness of sama', musical instruments
Al Kîndî, Abu Yûsuf Ya'qûb Ibn Ishaq	Alter 256/870	Basrah, Baghdad	Music theory
Tenth century			
Al Fârâbi, Abû Nasr Muhammad Ibn Muhammad Ibn Tarkhân	339/950	Aleppo	Music theory
Al Isfahânî , Abû al Faraj 'Alî Ibn al Husayn Ibn Muhammad	356/957	Bagdad, Aleppo	Adab, biography, songs and song collections
Eleventh century			
Al Ghâzâlî, Majd al Dîn Ahmad Ibn Muhammad al Tûsî	505/1111	Tus, Baghdad	Lawfulness of *samâ'*
Thirteenth century			
Safî al Dîn 'Abd al Mu'min Ibn Yûsuf Ibn Fhâkir al Urmawî	693/1294	Baghdad	Music theory
Ibn Jamâ'ah, Burhân al Dîn Abû Isaac Ibrahîm Ibnb 'Abd al Rahîm	790/1388	Dimashq	Lawfulness of sama'
Ibn Taymiyyâh, Taqî al Dîn Ahmad	728/1328	Dimashq	Lawfulness of sama'
Fifteenth century			
Ibn al Jazârî, Shams al Dîn Abû al Khayr Muhammad Ibn Muhammad Ibn 'Alî Ibn Yûsûf	833/1429	Dimashq, Syiraz	*Tajwîd al Qur'an*
Sixteenth century			
Al Haythâmî, Abu al 'Abbas Ahmad Ibn Muhammad Ibn 'Alî Ibn Hâjâr	974/1567	Cairo, Makkah	Lawfulness of *sama'*
Eighteenth century			
Shîhab al Dîn, Muhammad Ibn Isma'il al Hijazi	1238/1822	Cairo	Music theory

In the wake of the Islamic conquests, Arabic music spread rapidly across Islamic lands, although ethnic and regional styles continued. Fortunately, much information about music and musicians of the early centuries of Islam has been preserved in Kitab Al Aghâni. Poetry for instance, slowly being inseparable from music throughout Islamic history and art. In the early period of Islam, Kitâb al-Âghânî "Book of songs", of Abu 'l-Faraj al-Isfâhânî (d-356H) elucidate the attractiveness of Islamic poetry, music and art, dates to the fourth/tenth century and it is in this period that *maqâm* develop as a theory and a practice of art music by way of a synthesis of Arabic and Persian forms.

Another famous contributor towards music was Al Mas'udi (d-345H), through his book *Murûj al-Zahab wa Ma'âdin al-Jawâhir*. Both scholars, al-Isfâhânî and al-Mas'udi, were in the same century, writing music and its development especially in the world of Arab. Their writings include the history of music, types of music, books related to music, the religious perceptions towards music, and the beautifulness of music and biography of musicians. Moreover, these contributors were actively found in the ninth century to the end of the nineteenth century. It is also a great prove that music in Islam had been developed throughout the century.

The Abbasids were influenced by the Qur'anic injunctions and hadith too. The Islamic Golden Age was soon inaugurated by the middle of the 8th century by the ascension of the Abbasid Caliphate and the transfer of the capital from Damascus to the newly founded Baghdad. Disciplines other than our own-anthropology, ethnomusicology, performance studies-have long known that music is at the heart of both religion and culture. The most famous and well known book at the beginning of the tenth century is written by Abu Faraj al Isfahani (d. 356/967), entitled Books of Songs. The book happens to be the primary source of other scholars in extracting knowledge and information of music up in this era.

A remarkable system regulated cantillation (*talhin*) with respect to the law of phonetics and preferred diction of musical aspects in reciting /cantillation of Quran in musical melodies of the people from Nejd, region of Arabia, as he preferred the pre-Islamic simple musical forms of *huda* and *rakbani,* with pauses which became a major trait of Quranic cantillation (*tarannum*). Holy Prophet had recourse to old Arabic tunes used in classical recitation / cantillation of poetry, together with classical poetic rules of prosody which was expressed by Ibn al-'Arabi: "the Prophet Muhammad wanted Quran to be an

exclusive passion to replace styles that all chanters were accustomed to singing during that period in time.

Further studies on the music theory were found in the eleventh and twelve centuries. Even though there were plenty of studies in these subjects, the writer stated only several works related to *Handasah al Sawt*. This is because the other field of music which studied by various scholars in the world were too wide and far from the discussion. The following are the contributors of the lawfulness of sama' and other closely related field.

Noticeably, the study of music was actively done by Muslim's scholars and all over the Muslim's world, especially in the area of Baghdad and Dimashq. Most probably, the development of knowledge and information at that time spread widely in these areas, especially in Abbasid period, where the Sasanid and Byzantine music being adopted into Abbasid's culture. Besides all these forms of music, one must mention the major classical traditions of traditions of music in the Islamic world such as the Persian, Andalusian, Arabic of the Near East, Turkish, and North Indian traditions which have survived to this day.

According to Francis Robinson, in the medieval Islamic World, as elsewhere, music was understood in the broader context of correspondences. Then, continue with Al Farabi (d. 950) and Ibn Sina (Avicenna, 980-1037), they examined music more as a science in our understanding of the word, ignoring cosmology and numerology. *Lawfulness of Samoa'* was considered as one of the literary works besides music and songs. To understand music and song specifically in musical of Islam is much easier by possessing the knowledge through the lawfulness of *sama'*. Lawfulness of *sama'*, is related to the concept of art of sound. According to Lamya al_Faruqi, in her writings, she upgraded the concept as *Handasah al Sawt* or known also as "sound architecture". In her findings, genres are placed on continua between nonmusical and music, and legitimate and illegitimate.

Lamya points out that, sensuous music associated with unacceptable contexts is considered illegitimate (*harâm),* and is labeled as music. Qur'anic chant *(qira'a/ nagham/tarannum),* other religious chants, such as the *adhan*, chanted poetry with noble themes (*shi'ir*), family and celebration music (lullabies, women songs, wedding songs)," occupational" music(caravan chants, shepherd's tunes, work songs, and military music are all considered legitimate (*halal),* and labeled as non musical. On the other hand, the vocal and instrumental improvisations, serious metered songs, some instrumental music, non-Islamic origins or music related to pre-Islamic origins are considered music. However, it remains controversial, either

forbidden or discouraged in Islamic law (al-Faruqi, 1985).

The spread of Islamic music could be seen throughout the Muslim's world, especially in the Arabian and Persian people. Most of the writing, studies and practices of Islamic music or lawfulness of *some'* were developed in Baghdad, Cairo, Dimashq, Makkah and Istanbul as early as the ninth century. Baghdad was known as the center of knowledge and the city of information and philosophy at that time. Consequently, the tradition of learning and researching the Islamic musical knowledge, actively found in that area. After several centuries, the data showed that there were some contributors appeared in another region or countries such as in Istanbul and India.

In the early 16th century, the Safavid dynasty took place. Here, the development of music in Islam also being continued. They assumed being controlled in Persia. Therefore, at this era, the music was being played even though in the small assemble through a single singer or several instrumentalists who alternate solo vocal and instrumental passages. These activities enhanced the development of music in Islam throughout the centuries.

According to Syed Muhammad Naquib al Attas, he argues that Islam is the unique religion with the al-Dîn concept which is not the same as in other religion. Even though the meaning of al-Dîn is religion, Islam has its rules and regulation that differ to any other religion in the world. It is not as the same as the Western imagined about religion. Therefore, the religion itself must be the main basis of human life. Consequently, in the matter of music, they will not accept any music that leads to negative impact and out of the Islamic guidelines.

According to Mustafa al 'Adâni, music is the way to close to the Almighty God, music also part of the secret way to create the feeling of 'taubah'/ be repentant. There is plenty of music in the human feelings, secret music, heart music, iman and music, light of music and many more. All of this music is the real and unique music in everyone's life. No doubt, the lyrics from the music and songs are normally come from the shi'ir. The Arabian people tend to express their feelings and love through shi'ir. Thus, in showing love towards God, beliefs to the God, they also use music to deliver the feelings.

MUSLIM DEVOTIONAL RECITATION AND MUSIC ACCORDING TO SUFI

There is an ocean of celestial music related to Sufism, music which varies from other, especially in Turkey and Indo-Pakistan subcontinent, primarily among the Malawis and Chistîs. This type of music overflows in the community of believers on certain occasions such as the anniversary of the great saints. This is directly a practice and religious character of Sufi traditions.

Sufism engaged in ritualized *dhikr* ceremonies. Each order or lineage within an order has one or more forms for group *dhikr*, the liturgy of which may include recitation, singing, instrumental music, dance, meditation and trance. The Sufi has used music not as an amusement, but to purify their heart towards God. They love music and called this purification activity with *Giza-e-Ruh* means food of the soul. Why music? Because music is made of vibrations, and there are secret messages spread in the vibrations.

In Pakistan, Sufi religious music is known as *Qawwâli*, derived from the word *qawwal* usually used in Pakistan and Azerbaijan.It is one of the popular activities as a musical genre and performances may attract those who want to hear virtuoso singing rather than contemplate the divine. For Sufis, they trained their heart in feeling. All feelings come in one heart, to feel the devotion and praise, the sorrow, the repentance, the sadness, the mistakes one makes and all feelings that arouse in man's heart. But if the reciting in a melodious voice is done in an artificial manner, with special training and musical rhythms, this is something which the salaf despised, and which they criticized and condemned.

The Sufi's world is full of mystery and extraordinary understanding. Music for them has a multiple meanings in the life. For instance, Hazrat Inayah Khan, he tends to admit that every single occupation, such as gardening, farming, painting and poetry as a music. The exhaling and inhaling of the breath also like a rhythm in the daily life. He claimed that Sufis know better in the art of sound and they know about the past, present and future through the direction of sound. After all, Sufi has used music not as an amusement, but as pure, as prayer to God.

HANDASAH al SAWT OR THE ART OF SOUND

All of this genre in Islamic musical tradition being simplified and categorized by the famous author of music in Islam, Louis Lamya al Fâruqi as *Handasah al Sawt*. Her theory defines that, the art of voices in Islam, such as *tarannum* is related to the *Handasah al Sawt*. The term musiqa has never included those genres of sound art which were wholeheartedly approved and fostered by the culture, e.g., Qur'anic chant, the *adhan*, the pilgrimage chants, *madhih* or chanted poetry (*syi'ir*). Therefore, she advocated the use of a new expression, *handasah al sawt*. She came out with a model of the core characteristics of Handasah al Sawt

in her book, entitled the cultural Atlas of Islam. The following is the model simplified to explain Handasah al Sawt from her point of view. This designation would cover all the forms of sound art, and thus more truly equate with the term "music" and its cognates in other European languages. It is with that expression and an appreciation of the wide meaning which it implies that this presentation continues.
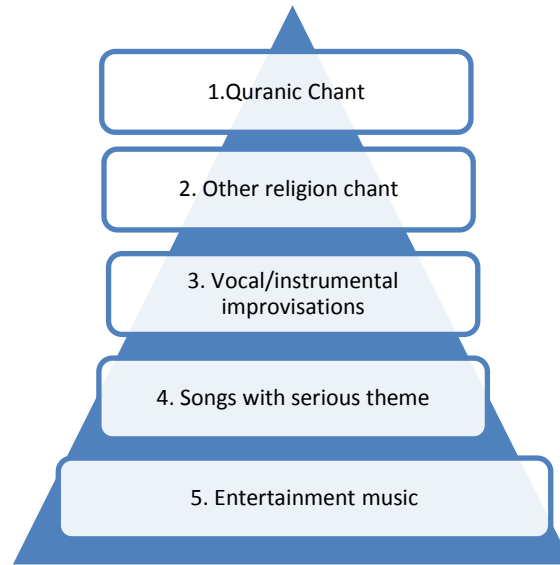
Diagram 2:Genre relevance to the core characteristics of *Handasah al Sawt*

The upper level of this diagram indicates the Quranic chanting. It is the essence and the heart of the sawti tradition, showing that the chant of sacred text in Islam is the main carrier and purest form of the core characteristics of handasah al sawt. The songs of Qur'anic chanting will always give a great impact towards the listeners, not the same as the other music impact on the heart of the individual. His model system of classical Arabic *maqâmat* applied in contemporary *mujawwad* Qur'an recitation derives from a musical tradition of improvisational performance. In order that the revelation is not associated to the human artistry, Quranic reciters are required by law to improvise melodically. The sensation, passion, enthusiasm and feeling will lead to improve individual spiritual, emotional, life to become piety to Islam and Allah.

Next, the level which designates the importance of the chants associated to adhan the call to prayer or for the pilgrimage and also included the pitched recitation of the Prophet Muhammad (madih). One of the beautiful sung in Islam is the call to prayer (*al-adhân*), it continuously becomes a symbol to call Muslims and alert them to pray. The type of music that always been implemented by Muslims throughout the world is of melodic strains with the sweet voice during a call to prayer, for every newly born baby boy this called as *al-adhân* while *Iqamat* is to be practiced when a baby girl is born. The melody and intone is different from one *muazzîn* to another.

Wherever there is a mosque, one may hear the *adhân* regularly five times a day from a minaret or a loudspeaker attached to the main building. People may experience differing the *adhân* in other contexts such as broadcast on radio or television, or from a recording on an alarm clock, or even in their handphone. The sound from *adhân* is also considered as song because of the beautiful melody. However, not all scholars and people accepted al-*adhân* as a song.

These *sawti* representations reveal a level of correspondence to the main characteristics in Islamic aesthetic creativity only slightly less consistent than *qira'ah*. These activities had been performed in the Muslim world since the time of the Prophet and continue to perform in the public gathering, in the mosque and the home, at religious occasions as well as other times. Among them are the *na't* or *na'tiyah* of Afghanistan, the *marhaban, barzanji, rebanah or kompang hadrah*, and *rodat* of Malaysia, and the cultures of Turkey, namely *na'at, miraciye* and *mevlit*, the *marsîya* and *sôz* of Pakistan, which all these being commonly known in those lands with that name.

For the third level, it refers to the instrumental and vocal improvisations for instance the *taqâsim*, *layâli*, and *qâsidah* of Turkey and the Mashriq, the *avaz* of Iran, the *syakl* of Afghanistan, the *daîrah* and

istikhbar of the Maghrib, *jinjin* of the Hausa of West Africa, and *sayil* or *bâqat* vocal music in Southeast Asia. Here, the regional diversity tends to be more frequent and pronounced in both vocal and instrumental examples. Other than that, the beginning of the art in Islam, related to voice is *syi'ir*. *Syi'ir is a poem,* sometimes combined with rhythm and rhyme. *Syi'ir* also considered as the vocal improvisations of the Muslims people since many period. It was also the early Arab poet, and as the early poetical productions, therefore, is of peculiar important as source material for the study of pre-Islamic Arabian life and Bedouin character. Speaking about rhythm and rhyme automatically discuss about sound. Rhythm is the stress and non-stress of sound regularly. Rhyme is the similarity of sound. Famous singer of the Arab world is the late Umm Kalthum. She had various attractive *syi'ir* and beautiful voice in singing the poem.

Qasîdah is another way of reciting poetry melodiously which contains praises to Prophet Muhammad and companions. It can be explained as the epic religious poetry accompanied by percussion and chanting. Another tradition practiced by the Muslim societies is a performance of singing at regional praises of Muhammad the prophet during his birthday. It is especially dedicated to Rasulullah, and to show love towards the Prophet. It is called *Mawlîd* music.

Unexpectedly, *qasidah* was actually having been practiced as the poetry of the pre-Islamic age arose in connection with tribal wars and took the form of *qasidah*, or ode. At that time, there were some 120 odes composed by lesser lights and compiled by al Mufaddal al Dabbi (d.about 785) of Baghdad, entitled al Mufaddaâliyât, at the instance of the Abbasîd caliph al Mansur for the instruction of his son and successor. A number of pre-Islamic anthologies and poetical fragments have been preserved in two other major works: Diwan al Hanâsah (Fortitude) edited by Abu Tammam, who flourished also in Baghdad, under the caliph of al-Ma'mun and died about 845; and in Kitab al Aghani (Book of Songs), a veritable thesaurus of Arabic literature, written by Isbahani, or al-Isfahâni (c.897-967), a Persian.

The scholars and Muslim thinkers and those who preserve and maintain the stretch of religion must be firmly blocked, and block anyone who tries to read the Qur'an accompanied by music, like singing the *Qasîdah*. So they have participated keeping scripture from destruction. "Verily, We it is who sent down the Qur'an, and in fact we actually take care of". [Al Hijr:9] and, [Al-Hijr: 9]. And when recited to them Our verses are real, the people who do not expect the meeting with Us say: Bring a Quran other than this or change it ". Say: "It is not for me to replace the part myself. I do not follow except what is revealed to me. Verily I fear if disobey my Lord, the torment of a Great Day (of Resurrection)". [Yunus: 15]

According to Jamal D. Rahman, for the state of Indonesia, there was one of the famous qariah and practitioner of qasidah is Rofiqoh Darto Wahab. She was one of the wonderful qariah as well as excellent in reciting *qasidah,* which relates to the songs and Islamic musical tradition. This tradition being claimed as one of activities held during the life of Prophet Muhammad (peace be upon him) until nowadays. Another example is the qasidah in Banten,Indonesia, namely the group of *qasidah* Saraya (rhythm) which use to play together the tune and *ketimpring* or fly (a *qasidah* tool made of wood, leather and metal as *kecrek*) shaped drums had been practiced since long ago.

Another famous musical recitation practice of Islam in Southeast Asia is called "The Barzanji". It became well-known in Southeast Asia (around the nineteenth century), as the most popular texts for non-Qur'anic Arabic recitation. Anne M. Gade has written in her paper that the original Barzanji text, Al-'Iqd al-Jawahir, was composed by Ja'far b. Hasan b. Abd al-Karim b. Muhammad al-Barzanji (1690-1764), and it narrates events in the Prophet's life (especially his birth); it also includes sections of praise. In contemporary Indonesia, four readings were often found bound together as a single " Barzanji" text: Mawlid Diba'I, the Barzanji (in several variants), Sharif al-Anam, and the Burdah (or "Mantle Ode" of Al-Busiri [1213-96]).

Until the early 1990's, it seemed to many that Barzanji recitation was dying out across the archipelago. Recitation of the Mawlid has been heatedly contested at times in the Muslim world as a Sufi "innovation"; the controversy led to conflict in Indonesia in the early twentieth century. By the mid-1990s, however, a Barzanji revival was underway (surprising even many Barzanji readers themselves).Cassettes were beginning to appear, to expressed amazement of some who have never associated the "traditional" context of Barzanji reading with a commodity like a cassette".

At the fourth category, this refers to the songs with the religious themes such as the *qasidah* of Malaysia, the *ghazal* of Iran-Central Asia and the Indian subcontinent, the *ilâhi*, *nefes* and *sugul* of Turkey, the *muwanshah dini* of the Mashriq, *nasyid* of the Southeast Asia. These activities are performed normally in groups of female or male or even the combined group of male and female. Sometimes, they use the instrument and sometimes no percussion is needed in performing it. The main idea of these groups is to convey messages of the songs in a beautiful way

of single melodic line simultaneously performed by all voices.

Meanwhile, the love lyric (ghazal, or gazel) was established as an independent art by 'Umar ibn abi Rabiah(d. about 719) of Mecca, who specialized in enhancing love to beautiful damsels pilgrimaging in the two holy cities of Arabia, and expressed his passion in the language of exquisite felicity. The most famous ghazal at that time was the Platonic love which became the theme of several poetical romances by them. Majnun and Layla became the hero and heroine of a cycle of numberless Arabic, Persian, Turkish and other Islamic language tales extolling the power undying love.

Another part of music expression found in Islam is *nasyîd. Nasyîds* are ethical, moral, religious songs sung in various melodies by some Muslims of today without any musical instruments or with percussion instruments which allowed in Islam. The difference of *nasyîd* from other songs in the world is the way of singing it. The group of *nasyîd* performs in a polite manner, with a simple, moral, religious lyrics and melodies. Most of the lyrics are not from the Qur'anic verses or *Hadîth*.

In the fifth level, it indicates the genres of the secular themes which undoubtedly been influenced by the Qur'an and the musical carried by Muslim travelers, settlers, and pilgrims. Actually, the level distinguishes more on the usual practice of the Muslims in the world, therefore, some of the songs or music is mixed and related to one another.

CONCLUSION

To conclude the discussion in this chapter, the primary idea is to elaborate the frame of chanting in the world civilization. It is a big challenges to discover the real picture of these chanting activities. However, above explanation should be taken into account in understanding the development and achievement of musicology activvities related to Islam.

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THEORETICAL ISSUES OF ECONOMIC AND LEGAL MECHANISMS OF ECOLOGICAL POLICY OF UZBEKISTAN

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ABSTRACT
The article provides a scientific and theoretical analysis of the concepts of environmental protection, use of natural resources, environmental security and sustainable development policy, environmental policy, economic and legal mechanisms in environmental policy of Uzbekistan. In addition, models of environmental policy are classified and their content is revealed.
KEYWORDS: *politics, environmental policy, natural resources, environmental security, use of nature, environment, economic and legal mechanism.*

INTRODUCTION

From the first days of its socio-economic, cultural, enlightenment, political and legal development, Uzbekistan has chosen a well-thought-out path, in the words of our people, "cut into seven dimensions", taking into account all conditions, correctly assessed in all respects, far-sighted. In this way, our motherland, our innumerable natural resources, will serve as a foundation, an economic basis for us. Unfortunately, because of the policy pursued by the former center, Uzbekistan has not gone beyond the supply of raw materials. He couldn't use what he had "[1].

Indeed, the First President of the Republic of Uzbekistan I.A.Karimov as noted, "When considering threats to national security, the issue of environmental security and environmental protection deserves special attention. It must be openly admitted that for many years this problem has not been seriously addressed in the context of the old administrative-command system. More precisely, this problem was a source of research only for some passionate scientists, who were not indifferent to the future of their country, the preservation of its natural resources, and were "the cry of the heart" of those who were deeply concerned about it [2].

"In today's world, the role and importance of the right policy is growing," he said. This is determined by both the internal conditions of development of nations and states, as well as the international situation. At present, most countries in the world have undergone significant changes, not only in the economic sphere, but also in the balance of social forces, the nature of power, ideology, and this, of course, requires the development of appropriate policies [3].

It should be noted that any society that has chosen the path of democratic development feels the need for public policy. Indeed, our country, which has chosen its own path of independent development, has set its own prudent policy in all spheres of state and public life.

Of course, "the Republic of Uzbekistan, as a full-fledged subject of international law, pursues a consistent and effective policy aimed at protecting the environment, protecting public health, rational use of natural resources and environmental security" [4].

OBJECTIVES

When we talk about "politics", we must first clarify the essence of this concept. Turning to the definition of the concept of politics, it should be noted that in the literature there are a number of definitions of it as a multifaceted phenomenon. In particular, politics (Greek. "Politics" - "state or public affairs") - originally meant various forms of state adminstration. The term was first used by Aristotle in his treatise La Politika, which literally means "everything that belongs to the state" [5].

In the National Encyclopedia of Uzbekistan "Politics is the art of governing the state. Politics is concerned with the relationship between different socio-political institutions, social classes

and groups. Its essence is the forms of state power, its implementation and management. Politics in the broadest sense reflects the political system of society, political life, state power, its internal and external activities, the attitude of political organizations and movements to power, the priorities of the implementation of political interests in its management.

Politics as a social phenomenon covers the spheres of public life: economic, social, national, scientific and technical, ecological, cultural, military and others. In this way, economic policy, social policy, national policy, demographic policy, agrarian policy, technical policy, environmental policy, cultural policy, personnel policy, military policy and other areas are reflected. Policy is also expressed through subjects. For example, the policy of the state, parties and public associations and actions, etc [6].

The National Encyclopedia of Uzbekistan defines the concept of "politics" in terms of its close relationship with government. Until the twentieth century, the concept of "politics" was considered mainly as a doctrine of the state, power, but today the development of science, changes in human thinking, the enrichment of his ideas about the state and power have led to a separate study of the doctrine of the state and its management.

It should be noted that, "Although scholars have been dealing with the problems of politics since ancient times, with great emphasis on it in the Middle Ages and the New Age, what politics is and why it is needed, what its subject is, whether it has laws and categories, if any, the exact answer to the question of what their essence is has not yet been found. As a result, politics continues to function not as a science but as an art" [7].

LITERATURE REVIEW

Professor A. Kadyrov defines politics as "a means of uniting people's activities around a specific goal, encouraging them to work together to achieve this goal" [8].

According to other sources, "Politics is a complex, multifaceted, complex phenomenon and a very broad concept. According to the aspects of social life, economic, social, scientific, national, ecological, military, etc. "Policy differs according to its direction - domestic and foreign policy, according to the level of priority - neutral, open doors, national reconciliation, policy of reconciliation, content and nature - progressive and reactionary, science-based and voluntaristic policy" [9].

G.Z. Abdullaeva, who conducted a special study on the environmental policy of the Republic of Uzbekistan in the context of gradual integration into the world community, notes that "politics" as a general concept is a field of activity related to the organization, management, independent leadership [10].

Thus, "Politics as a complex category covers various aspects of social life. There are the following types of public policy in the implementation of this or that goal and the corresponding tasks: domestic and foreign, economic, social, scientific and technical, demographic, national, cultural, environmental, etc [11].

Before focusing on the concept, significance and specific features of the economic and legal mechanism in the environmental policy of Uzbekistan, it is expedient to give a scientific and theoretical definition of the concept of "environmental policy". However, scholars have different approaches to this concept, and we may sometimes encounter complementary, contradictory opinions in the literature.

It should be noted, "Currently, the confrontation and interaction between politics and the environment is growing. The processes of greening of politics and politicization of ecology are becoming inevitable. All socio-political institutions, parties, social groups, nations, public organizations, foundations, numerous associations of people, international institutions are involved in these processes taking place around the world.

In the political system of any state, in the theory and practice of political relations, the concept of "environmental policy" has taken its rightful place. At present, it is impossible to imagine social development without a specific policy of the state in the field of ecology (along with economic, technical, industrial, social, legal, cultural, national policy of the state). It is an integral part of the political system of society and integrates harmoniously with all types and directions of social activity. While political ecology is the science of environmental policy, environmental policy itself incorporates the state's tactical and strategic policies to rationally address current environmental problems, end environmental crises, create guaranteed natural living conditions for people, and provide them with social and environmental protection [12].

It should be noted that "the sustainable development of any state depends on the proper protection of the environment, the rational use of natural resources. This will require the gradual implementation of a unified state policy in the field of ecology" [13].

Professor Sh.H. Fayziev, who conducted a special study on the theoretical problems of legal support of environmental policy of the Republic of Uzbekistan, said that "environmental policy is the protection of the environment, rational use of natural resources and a set of socio-political, socio-economic, cultural-educational, organizational-legal measures aimed at ensuring the environmental safety of the population [14].

According to the literature, environmental policy (from the Greek. Oikos - home, homeland and the Greek. Logos - from the word, doctrine) - is part of the state's policy in the field of environmental harmonization. The emergence of the problem is associated with a sharp increase in the impact of society and man on nature. The industrial revolution and, in particular, scientific and technological progress (50s of the XX century) led to a significant deterioration of the state of nature. A society based on the half-hearted activity of subjects based on market relations excludes nature from the sphere of its interests. This leads to the need to unite private producers. Such mergers are mainly in the field of politics.

Domestic environmental policy Adoption of a law aimed at preserving and rehabilitating (restoring) natural resources, which are declining as a result of human activities; creation of state programs in the field of nature protection and related areas; allocation of funds to various institutions of society to support the environment, etc [15].

Professor JT Kholmuminov believes that the basis of state environmental policy is to strengthen, organize and conduct public administration and control in the field of ecology [16]. In this regard, it would be appropriate to note that the state environmental policy is based primarily on public administration. But it is not about strengthening management and control, but about getting it right.

European and American legal scholars, including Professor of Political Science J. McCormick, describe environmental policy as "the organization's adherence to environmental laws, regulations, and other policy mechanisms." He writes, "These issues typically cover air and water pollution, solid waste management, ecosystem management, biodiversity conservation, and the protection of natural resources, wildlife, and rare species. Policies to regulate energy or toxic substances, including pesticides and many other industrial wastes, are also part of environmental policy" [17]

In his Guide to Environmental Principles and Policy, Professor S. Beder identifies six key principles of environmental policy (sustainable development, polluter pay, precautionary measures, equality, human rights, participation principles) and the two main principles of environmental policy - environmental legislation and economic. methods such as methods [18].

Neil Carter, a British political scientist, discusses the four basic principles of environmental policy - environmental responsibility, local democracy, social justice and non-use of force, and identifies environmental parties, groups and movements as key players in environmental policy. The author also points to regulatory, persuasive, and

economic-market approaches as tools of environmental policy [19].

Conducting a comparative analysis of environmental policy, the American scientist L.J. Lundkvist writes that environmental policy is provided by the mechanism of state control, institutional structures and implementation by the participants of the legal system [20].

N.F. Reimers, in his dictionary, divides environmental policy into two, that is, global and national environmental policy. Implementation of legal, political and foreign economic measures. State environmental policy, in the author's opinion, is a socio-economic policy, including international, based on an understanding of the ecological condition of the country's territory and basins (including airspace) and the advantages and disadvantages associated with the existing natural resources within them [21].

According to a number of European environmental lawyers, such as J. McCormick, J. Roberts, J. Norman, M. Kraft, D. Helm, environmental policy is a system of measures related to the impact of society on nature. Environmental policy is a set of intentions and principles of the organization in relation to the environmental performance of its activities, which forms the basis for the development of specific goals and objectives. Environmental policy is a set of ways to achieve the goals and objectives set by the environmental strategy, global (international, political and foreign economic measures, taking into account the environmental constraints of socio-economic development, the world's natural resources and their distribution between countries), state (socio-economic policy formed on the basis of understanding the shortcomings and impacts on the ecological status of regions and basins), regional ecosystem (environmental policy pursued by states in certain regions, as well as directly implemented by regions), local environmental policy (local monitoring, local environmental there are five types: environmental policy through the organization of the development of programs and projects) and corporate environmental policy (system of environmental and social values of enterprises, institutions, organizations, reflected in their future plans) [22].

E.V. Matveeva believes that "environmental policy is a policy aimed at improving and protecting the quality of the environment, protection of human health, rational use of natural resources, the development of measures to address regional and global environmental problems" [23].

V.I. Mineeva believes that environmental policy is an integral part of state legal policy, which is closely linked with other types of state political activity and is determined by the current state of economic, social, demographic, cultural, ideological development [24]. It is impossible to agree with the author's opinion that environmental policy is an

integral part of state legal policy. In our opinion, it is expedient to approach environmental policy as a set of socio-political, socio-economic, cultural-educational, organizational and legal measures.

According to G.Z. Abdullaeva, "Environmental policy is an activity to protect and improve the existing environmental environment in order to ensure the sustainable development of the nation and environmental security. Relations in this area are aimed at ensuring environmental security and creating favorable conditions for harmonious interaction between society and nature. Depending on its forms and methods, the solution of environmental problems can have a political character, a direct environmental feature, as well as socio-economic, legislative, administrative, ideological and other features. But the object of this solution will always be man and the environment. Nature does not imply political, socio-group differences between people. All people, regardless of their race, nationality, social class and other characteristics, eat, drink, dress, have a place to live, breathe air, perceive information, feel the effects of natural phenomena - heat, cold, light, sound, etc. should. Communication with nature itself is a common feature for all. Therefore, environmental policy must be based on universal values, taking into account the natural conditions of certain countries and regions [25].

In this regard, M.K. Najimov writes that the state nature protection policy is implemented through the ecological function of the state, aimed at ensuring its protection in the process of using natural resources. At the heart of the state's environmental policy should be the principle of "the priority of protection and restoration of the natural environment, which is conducive to the protection of human life and health, life and recreation of the population" [26]. At this point, the author puts forward the idea that man should serve nature, not nature, as a priority for man to preserve the natural environment. In our opinion, it is expedient for us to protect nature by looking at man as a part of it. It is no coincidence that our Constitution also defines the duty of citizens to have a favorable environment or other environmental rights, but also the obligation to treat the environment with care.

Another group of scientists believes that environmental policy is a security policy, a reduction of environmental risk. Eco-politics is the art of maintaining an optimal balance between different interests through science-based decisions embodied in environmental law [27].

Ukrainian scientists also consider environmental policy as an environmental security policy, that is, a form of community development based on the priority of security, implemented in the interests of both the subject of the ecological system and the object (environment) [28].

E.N. Lysitsin considers environmental policy as a direction of "optimal and effective regulation of complex socio-ecological relations in the" nature - society "system of the political system as a whole and its individual links, the activities of the state and its bodies" [29].

Yu.Sh. Shadimetov also believes that "environmental policy can be assessed as a kind of socio-economic policy aimed at the selection and implementation of a certain type of relationship between society and nature, based on a form of socio-economic life" [30].

METHODOLOGY

In the above definitions, first, all aspects of social life are combined; secondly, it identifies the subjects - the actors in environmental policy, including international non-governmental organizations, thereby emphasizing the responsibility of each individual and humanity as a whole for the state of the environment; thirdly, the areas of activity of the subjects of environmental policy will be determined.

In general, based on an analysis of the available literature and different perspectives, we can, in our opinion, distinguish the following models of environmental policy:

The first model of centralization - environmental policy - is considered as a method of public administration that involves the use of imperative means of legal and economic regulation of social relations between people in the field of ecology (J.T. Kholmuminov, M.K. Najimov, Sh. Beder, Neil Carter, V. I.Mineeva, S.F.Yaroslavtsev).

The second model of ecological centralization describes environmental policy as a set of measures aimed at protecting the environment (Sh.H.Fayziev, G.Z.Abdullaeva, N.F.Reymers, E.V.Matveeva).

The third model of liberalization - environmental policy is considered as a set of voluntary actions of legal entities aimed at compliance with environmental legislation (J. McCormick, L.J. Lundkvist, VI Kovalenko, AI Kostin, NN Moiseev, S.A.Stepanov).

Based on the above, we can give the following author's definition of environmental policy: "Environmental policy is a political, legal, socio-economic, scientific, based on cooperation and harmony, aimed at environmental protection, use of natural resources, environmental security and sustainable development." A set of organizational and administrative, demographic, cultural and educational, educational and ideological, scientific and technical, national and international measures.

As we have seen above, the economic and legal mechanism plays an important role in the state environmental policy. This situation requires the need to improve the economic and legal mechanism

of regulation of social relations in our country. In particular, the development of economic and legal mechanisms in environmental relations, the improvement of measures taken in this mechanism is of great importance.

When talking about the economic and legal mechanism of state environmental policy, it is appropriate to pay special attention to its concept, significance and specific features. The legal aspects of the economic and legal mechanism in the field of ecology have been studied mainly in recent years as a separate object of study. Various terms have begun to be used in the scientific and legal literature to describe the content of this concept.

For example, in recent years in the legal literature we can find such concepts as "economic and legal mechanism of nature use and environmental protection" [31], "legal regulation of the economic mechanism of environmental protection" [32], "mechanism to ensure compliance with environmental requirements of legislation" [33]. Sometimes this concept is equated with terms such as "economic mechanism of nature use", "economic mechanism of greening the economy" [34]. However, in our opinion, the term "legal support of the economic mechanism of environmental protection" [35] has a special meaning, and it is appropriate to use this term to describe the social and economic relations in the field of environmental protection, rational use of natural resources, environmental security.

As for the definition of the concept of economic and legal mechanism of environmental policy of Uzbekistan, it should be noted that a number of its definitions are given in the legal literature. In our opinion, it is appropriate to define the concept of legal provision of economic mechanism of environmental protection as follows: legal provision of economic mechanism of environmental protection is the planning, financing of measures for environmental protection, rational use of natural resources and environmental security; is a system of comprehensive measures related to environmental payments, environmental insurance and savings, economic incentives and penalties.

We can recognize that in the implementation of measures on state environmental policy, it is necessary to pay attention to two main aspects of the economic and legal mechanism. The formation of the economic and legal mechanism, firstly, serves as a source of funding and accumulation of funds for environmental protection, and secondly, has a real impact on nature users and other economic entities - legal entities and individuals, encouraging them to comply with environmental requirements.

CONCLUSION

In our opinion, summarizing the above-mentioned views on the concept of economic and

legal mechanism in the field of ecology, it is necessary to highlight the following features of this mechanism:

1) assessment of the economic and legal mechanism in the field of ecology as a means of economic incentives for nature users;

2) the use of state coercive measures in certain types of economic and legal mechanisms of environmental policy (for example, in the application of economic sanctions for irrational use of natural resources and violation of the requirements established by law, collection of taxes and fees for the use of natural resources);

3) interaction of administrative-legal means with methods of economic stimulation in the economic-legal mechanism of ecological relations;

4) the priority of environmental principles in ensuring the economic and legal mechanism of environmental policy;

5) ensuring economic interest in the use of natural resources and protection of the environment based on environmental requirements;

6) manifestation of the economic and legal mechanism in the field of ecology as a means of ensuring the rational, economical and efficient use of natural resources;

7) formation of the economic-legal mechanism of ecological policy as a legal institution from a set of means and methods (payment for special use of natural resources, economic incentives, application of economic sanctions, ecological insurance, ecological funds).

Analyzing the legal nature of these features, it should be noted that the improvement of the economic and legal mechanism in the field of ecology is one of the factors contributing to the sustainable socio-economic development and progress of the Republic of Uzbekistan. promotes the development of balance.

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FLIPPED LEARNING: A DIGITAL PEDAGOGY FOR SUSTAINABLE LEARNING

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ABSTRACT

Once Dr. Bob Kizlik had said that learning, regardless of how it is defined, is ultimately the responsibility of the learner, not the teacher. Today problem based learning with appropriate use of ICTs has emerged to achieve the objectives of learning in a more effective manner since teaching-learning process has also become learner-centered now. We are moving towards the new techniques of quality teaching by using digital pedagogy, a new way of engaging students with the curriculum. One such instructional strategy of teaching is a flipped class room- a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. Present paper focuses on the significance of using digital pedagogy & flipped classroom in teaching-learning process, which changes homework activities into the classroom thereby, promotes sustainable learning since this is relevant and responsive to students' needs.

KEYWORDS- *Flipped learning; Pedagogy, Digital; Sustainable*

I. INTRODUCTION

Present paper is an attempt to present the concept of flipped learning as a tool for changing the mindset of people towards digital pedagogy for sustainable learning. When we talk about sustainability, we are talking about something that lives life-long, moreover, we are living in a rapidly changing era of globalization and digitalization where we are a touch away with rest of the world; we are talking about global citizenship and shared responsibility for handling global problems [1]. In this scenario the concept of sustainable learning where we learn to live within the environmental limits of our planet and to build a just, unbiased and peaceful society which is very much essential for the well-being of all, education also is not left untouched with digitalization where, equipped with new techniques, teachers are confident in their knowledge and understanding of the challenges being faced by society locally and globally and students are provided with the knowledge and skills to be confident through sustainable learning because only that approach will ensure sustainable learning environment where teaching

learning process would become evidence-based, purposeful, relevant and responsive to students' needs [2].

The challenge for universities to survive and prosper in the early 21st century is highlighted by Shore's argument that 'a new set of discourses has emerged around universities and their role that draws together different, often contradictory, agendas' heralding 'a shift towards a new, multi-layered conception in which universities are expected to fulfill a plethora of different functions' [3]. We are going through a paradigmatic shift in mindset towards teaching learning process as now we focus more on the need and problems of students rather than focusing on what we want to teach them. Once Dr. Bob Kizlik had said that learning, regardless of how it is defined, is ultimately the responsibility of the learner, not the teacher [4]. As we see in traditional pedagogical approach all the activities such as pre-decided learning materials, fixed deadlines and fixed pattern of assignments etc. are teacher-centered but now problem-based learning with appropriate use of ICTs to improve the quality of

teaching-learning process has emerged to achieve the objectives of learning in a more effective manner since it has become learner-centered now [5].

Earlier, the core objective of teaching was believed to pass on the information or knowledge to the brains of the students and to achieve this, many strategies were used during learning process, which are called teaching pedagogies [6]. Now, we are using digital pedagogy, which refers to the use of digital technologies to engage students with the curriculum and to promote learning [7]. It is a new way of learning and working with information and communication technology (ICT). Today almost all the educational institutions are moving towards the new techniques of quality teaching [8]. One such instructional strategy of teaching is a flipped classroom; it is a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom [9]. It changes activities, including those that may have traditionally been considered homework, into the classroom thereby promoting sustainable learning since this provides students with the knowledge and skills to be confident and effective inclusive teachers since teachers are using these methods very effectively to facilitate the students in all possible manner. This approach to learning for sustainability is robust, demonstrable, evaluated and supported by educationist at all levels [10].

II. SUSTAINABLE LEARNING THROUGH DIGITALIZATION

We know whatever we learn by doing stays for a longer period because we can assimilate that learning in an effective manner in our conduct and that is called sustainable learning. It as an inclusive practice for 21st Century Classrooms equipped with all kind of required knowledge and skills to be confident and effective inclusive teachers. These things are necessary for quality teaching, a teaching, which is based on evidence, purposeful, relevant, and responsive to the needs of students. Today teaching - learning process employs three overarching frameworks to examine inclusive practices in education: learning for all, teaching that matters and learning that lasts. It helps teachers to observe all students as budding learners and to judge the difficulties and variety of learning in the 21st century. It focuses on a sustainable approach to inclusion; learning processes; teaching processes; differentiation; assessment to support teaching and learning; and life-long learning. Recent shift from traditional classroom teaching to digitalization in teaching learning process has encouraged dynamic

learning, knowledge building, investigation, and exploration on the part of the learners, and which allow for distant communication as well as information sharing between teachers and/ or learners in special classroom locations. Digitalization in teaching learning process is an advanced concept of technologies that clarifies their role in classrooms in contrast to their wider use across institutions and learning centers.

A. Terms Associated with Digital Technologies in Classroom are:

- Bring your own device (BYOD): Students arrange their own device into the classroom for use as part of the learning process, cell phone is used to browse the internet as part of a research activity, greater range of technologies is available and is cost effective to institutions, but these technologies are sometime difficult to control and monitor. Some learners may have better devices than others and lack of teacher understanding & training can also be a problem.
- E-portfolio: Students and teachers create electronic list of tasks that tracks their learning journey. Usually this is done online with multimedia files. Artwork of a student is presented through an e-portfolio. This includes scans of their sketches, photographs of displays and visits to galleries, written reflections, narrated videos of the learner at work and an audio logbook provides a way of quickly and seamlessly presenting a wide variety of material in different formats including details of process data security and confidentiality.
- Flipped classroom: Students discover new content before the lesson from online videos or resources and then apply this knowledge in more personalized work in the classroom for example learners watch a video at home about how sedimentary rocks are transformed into metamorphic rocks. They work in teams to make a diagram explaining this procedure of transformation. More time for activities promotes deeper understanding and reflection. Sometime learners do not understand or are not able to access the flipped material and misunderstandings arise that are not addressed in class because of lack of teacher understanding or training ensuring resources are up to date.
- Personal Learning Network (PLN): PLN is an individual's loose collection of links with other people or resources. The aim of such a network is to facilitate an exchange of ideas that supports learning. Links can be through, for example:

online interest groups for example on Twitter and/or online and face-to-face courses access to a wide range of perspectives and expertise beyond the confines of the physical institution. We have data security, confidentiality, and accuracy of information access to the network.

- Virtual Learning Environment (VLE): VLE is an e-learning education system that is web-based but modeled on conventional face-to face education. It helps to access to various courses, their content, assignment, tutorial, external resources links etc. Moodle Blackboard is an easy way to collate and organize courses and information. We have flexibility of access, but software can limit course structure and it has high level of maintenance.

B. Benefits of Digital Technologies in the Classroom are (87%)

- Digital Technologies in the Classroom can speed up dialogic and emancipatory applications. Students are active, engaged, and empowered participants in an interaction from which learning emerges. For example, learners working on a math's modeling program can start to have conversations about what they see on a computer screen without having to rely on terminology that they do not have till time. The teacher can concretize then in suitable language into the interaction as the discussion on topic develops. This is the teaching learning process in class-room. In emancipatory practice, the ideas of an individual student go beyond the learning given by the teacher or in syllabus as they depend on understanding received outside formal education. For example, in music classes students can use their own experience and knowledge of playing instruments or using technology to create their own recording environments like using cell phone.

- Various learning activities with the help of different technology can improve teaching learning process as on a topic two classes/sections can link up through internet to find out cultural differences about a specific issue such as global warming or energy supply. The teams can work together to develop understanding on the issue and its effect on communities and people by discussing with real people at various places. This can be done for a group or whole class through video conferencing.

- Digital technology becomes very interesting for students because it provides a significant alternative of involvement in teaching learning

process. On the other hand, we find the tendency of becoming less confident in few students for the use of digital technologies during learning process. Therefore, we should ensure the learning of each student. Moreover, digital technology provides instant response for both the student and the teacher.

C. Requisites & Tools for the Digital Classroom for Enhancing Learning

When we talk about digitalization in teaching learning process, it refers to the use of digital technologies to engage students with the curriculum to promote learning. There are various types of tech-based tools available to use in the classroom which are designed specifically for encouraging, enhancing, and managing learning viz. Google Classroom, Zoom, Microsoft Team, Socrative, Scratch, Prezi, SelfCAD, Quizlet / Quizlet Live, Adobe Spark Video, Khan Academy, Seesaw and Class Dojo etc. It is a new way of learning and working with information and communication technology (ICT). During teaching learning process through digitalization our learning is sustained for a longer period because of our higher sensory stimulation as we watch, listen, explore and learn by doing simultaneously. And for this:

- Students are encouraged to go through the various MOOCs courses.
- Online resources links are provided to the students.
- WhatsApp group are formed for collaborative learning.
- PPT, OHP, Videos, Workshops and Lab are included in teaching-learning process

III. FLIPPED LEARNING

Today almost all the educational institutions are moving towards the new techniques of quality teaching. One such instructional strategy of teaching is a flipped classroom by the educators who care more about their students and their success. The Flipped Classroom is the same as a normal classroom but instead of paying attention to lectures while in class and applying the new knowledge in their homework after class, learner will go through the lectures beforehand, and use the time of class to do their assignments. Teachers will not tell students what to study, how to study, when to study and how to establish that they studied. Teachers will only assist them in becoming self-directed learners. It is a type of blended learning that reverses the traditional learning environment by delivering instructional content, often online, outside of the classroom. It changes activities, including those that may have traditionally been considered homework, into the

classroom thereby promoting sustainable learning since this provides students with the knowledge and skills to be confident and effective inclusive teachers since teachers are using these methods very effectively to facilitate the students in all possible manner by turning things upside down. In customary instructional model of teaching, a teacher gives lecture during class and then gives homework to do at home. This process is reversed in the flipped classroom. Requiring students to acquire foundational knowledge before class creates space during class for learning opportunities where students apply that knowledge. Bergmann and Sams pioneered this approach in 2007-2008 when they pre-recorded all their lectures for students to watch as homework and then used class time to work problems and address areas where students were struggling [11]. Inexpensive technology for producing and posting online content (for example, screen casting software, YouTube) and high-speed Internet via laptops and mobile devices have served as a catalyst for the proliferation of this model within classrooms. A variety of instructional techniques can be applied in a flipped classroom; thus, "there is no such thing as the flipped classroom" [12].

A. One must focus on the following points while flipping a class:

- Flipping your class: Why do you want to flip a lesson? How will 'flipping' benefit your learners? How will it add value to your class? You must have clarity of these things before you flip your classroom.

- Begin with the difficult topic: Choose a topic your students struggle with. Share a clip, which discusses that topic and then employ the time of class to solve their queries and let students teach one another.

- Sufficient broadband access: Make sure that your students have good internet connectivity. If not, they should use the institution's computer lab after classes. If not possible, think of other ways your students can access video content or skip video content if it is not possible and use good old-fashioned print even.

- Time matters: Select those videos, which are short and comprehensive. If it is longer than 10 minutes, your students will not watch it. Another good rule is that 1-2 good videos are better than 5-6 mediocre ones.

- Teach students to view video: Do not believe that students know how to view topic-based videos. Go over with them how to watch a video. Students should watch the whole video. Then they should watch it again taking notes. Finally, when they

watch, they can add more information to their notes.

- Make students accountable: If students do not have to demonstrate that they've watched the video, they won't. Let them prepare notes and count it for credit. Use formative assessment tools like a pre-class quiz about the video at the beginning of class and ask students to share key ideas of the clip.

- Easy stuff outside of class: Do not show the video outside of class and then inside class. It spoils the objectives of flipped learning and valuable instructional time also. The point of flipped learning is to push easy stuff outside of class so you can save times for practice and other things.

- Do not repeat/ lecture again: Once students have watched the video before class and they know the content, do not repeat lecture again in class. Focus on the instructions to solve their errors or confusion.

- Engage learners in higher-level thinking (discussions of what-if scenarios, problem solving, analyzing a topic, summarizing key ideas.

- Evaluate students' knowledge of the key points of the topic and motivate them with more precise examples, problems and tasks. Help students who need it with assistance and more practice.

- Pay attention to language: Think about English language learners or those who are not good in English. Mostly the content of video remains in English language; therefore, at some point you need to motivate students to practice listening English-language videos. Make sure that the voice and language are understandable. Try to keep captioning feature on so that students may hear and see where they have problem the English. This will help with understanding.

- Start creating your own content: Begin by narrating Power Points; use Podomatic to create free podcast; screen case with Echo 360; or use simple free tools like Zaption or Jing to create your own video.

- Video is not the only option students can interact with multimedia, experience something, read two opposing views in books or online about the same issue, and come ready in class for discussion. Flipped learning is not about video or technology. It is about making the best use of instructional time so that students may engage deeply with content.

- Do not Flip Out: Don't be overwhelmed, start small, keep it simple, and see how it goes. Have students find high-quality videos for you.

- The conventional setting of a class was all about the teacher and the tasks assigned in a teacher's

way. All the methods were for the use of teachers to help them for the best delivery of instruction. The students were merely passive receivers of information. But in flipped classroom whoever entered a classroom knows that students are anything but passive. Their expected inquisitiveness makes them vigorously search for latest, and when they are enthusiastic about a subject they try to learn all there is to be learned about it.

B. Flipped Classroom Benefits for student:

- Flipped teaching learning process brings a shift in the focus from the teacher's needs to the student's need; therefore, it becomes a student-centered approach of teaching.
- When students come prepare with lecture in class and discuss the things in class, solve problems and try to apply their new knowledge in the class, they have a sense of creative satisfaction and acknowledgement.
- If students do not understand anything while doing homework, they stop doing it and frustrate. Whereas in flipped class they come prepared with their problems for discussion and things they have not understood, they can ask over and receive instant targeted solutions.
- At times, lecture time becomes insufficient for all the interaction and activities that unavoidably prompts from exploring subjects in a deeper manner. Flipped learning becomes very significant in handling those topics.
- Moreover, students who are absent due to any disease, or any other cause, can pace with their classmates easily with the flipped classroom model than with the customary classroom teaching model.
- Flipped Classroom is very beneficial for teachers also because today teachers are not the only source of knowledge for students. When a student has lots of information available from various sources, the role of a teacher becomes more important than ever. A teacher then needs to identify the individual learning needs of students and making sure that they are using exact information in their learning process.
- When students come in class after preparing lecture, it is hardly needed for teachers to speak much about content related questions rather students apply that knowledge and teachers assist students in practical application of concepts.
- A lecture can be revised and used many times as the students need that lecture. The flipped classroom provides more autonomy to teachers to choose upon like time spend for each activity and

time given to each student. Teachers can schedule their time and pay appropriate attention to weak students, good performers, introvert, and extrovert students.
- Flipped learning offers more information for parents, who want to know what their wards are doing at school. This can also help in improving the communication between parents and teachers.
- The flipped classroom encourages teachers to provide a flexible and involving manner to share learning content, while keeping more control on students' learning and practice.

IV. CONCLUSION

Norris et al. says that 'global society was undergoing a fundamental transition from the Industrial Age to the Information Age and that 'For higher education, this translated into using Information or Knowledge Age tools – pervasive information and communications technology – to meet the needs of this New Age: universal learning throughout life, personalized and suited to current needs' [13]. The flipped classroom seems to better respond to the learning needs of students living in today's ever more connected world. It is fruitful for students and teachers both as it creates curiosity among students for learning and saves valuable times of class room teaching for discussion and problem solving session with teachers. This approach to learning for sustainability is robust, demonstrable, evaluated and supported by educationist at all levels. This study is necessary selective but is a modest attempt to present the idea of flipped class room as an effective tool for sustainable learning thereby changing the mindset of people towards it.

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DESIGN AND FABRICATION OF REPROMASTER DYEING MACHINE

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ABSTRACT

Dyeing is a process of complete colouration of textiles, and this can be achieved by the type and the extent of pre-treatment imputed to produce an excellent absorbency and whiteness. Quality dyeing depends on factors such as pH, form of textile, type of fibre, formulation of dyeing recipe, initial preparation of dye solution, liquor mixture ratio, and selection of machinery mixing speed. This research work illustrates basic design and fabrication concepts of repromaster dyeing machine and also to achieve effective implementation of the ideal technology of dyeing. This machine was designed and fabricated to carry out textile dyeing for mass production. Although selection of machine depends on type of process to be carried out, which are batch, semi-continuous or continuous dyeing process. This repromaster dyeing is a continous process machine with an excellent dye output, it is faster, require less skill to operate and cost effective. This research work concept provides some firsthand information on some basic dyeing processes.

KEYWORDS: *Repromaster, machine, dyeing, working principle, continuous, fibre, colouration.*

1.0 INTRODUCTION

Dyeing can be describe as the application of dyes or pigments on textile or fabric materials such as fibers, yarns, and fabrics with the aim of achieving the desired color within a specified time. Dyeing is often done in a special solution containing dyes and particular chemical material. Dye molecules are attracted to the fiber by absorption, diffusion, or bonding with temperature and time as controlling factors. Bond between dye molecule and fiber may be strong or weak, depending on the type of dye used. Dyeing and printing are different applications; in printing, color is applied to a localized or certain area with desired patterns, while in dyeing, it is applied to the entire textile.

1.1 LITERATURE REVIEW

The primary source of dye, historically, is from animals or plants. As far back as the middle of 19th century, humans have produced artificial dyes to achieve a wider range of colors and to render the dyes more stable to washing and general domestic use. From history the earliest dyed flax fibers was found in a prehistoric cave in the Republic of Georgia in the year 34,000 BC [1-2]. More evidence of textile dyeing was dated far back to the Neolithic period at the large Neolithic settlement of Çatalhöyük in southern Anatolia, where traces of red dyes, possibly gotten from ocher which is an iron oxide pigment obtained from muddy clay, were found then [3]. According to scholars, in China, dyeing with plants, barks, and insects has been traced back to be more than 5,000 years [4]. It was initially believe that dyeing comes from Sindh province in Pakistan, where a piece of cotton dyed with a vegetable dye was recovered from the archaeological site at Mohenjo-Daro (3rd millennium BCE)[5]. Different classes of dyes are used for different types of fiber and at different stages of the

textile production process, from loose fibers through yarn and cloth to complete garments. Acrylic fibers are dyed with basic dyes, while nylon and protein fibers such as wool and silk are dyed with acid dyes, and polyester yarn is dyed with disperse dyes., while cotton is dyed with a range of dye types, including vat dyes, and modern synthetic reactive and direct dyes.

Nigeria as a country is an extraordinary social-engagement driven society with greater percentage of the over 160 million people of her populace are fans of *aso-ebi*fr one social event or the other. However, while uniformity and consistency is a paramount factor in the choice of *aso-ebi*material, "the third largestadire market in Africa" [6] lacks the capacity to service the demand of her immediate nation thereby the country's spending on the purchase of *aso-ebi*are taken abroad in exchange for printed fabric, not without its attendant dwindling effect on the nation's gross domestic product (GDP). On this note the necessity of a standard, uniformed coloured textile cannot be over-emphasised been conscious of the fact that the industry is well over three decades yet, it has compete with the present material being used *aso-ebi*. According to [7] who asserted that the Nigerian textiles and Clothing Workers Union estimates 350,000 jobs have been lost directly and 1.5 million indirectly over the last five years of Chinese competition. It must be a clarion call for us that the continual survival and expansion of our technical and artistic heritage of the products of our dyed fabrics is necessary by making an excellent and affordable dyeing machine. In Nigeria, Abeokuta is an age-long trade centre of tie-dye fabric which has employed women for centuries coupled with various stakeholders in the business and tourism sphere traversing the South-western State of Ogun's capital. Dyeing being an ancient art, it is often done manually giving results based on the dexterity of the artist and aesthetic application of colours, however due to industrial revolution, development in textile dyeing which has given us varieties of artificial dyestuffs is neck-to-neck with the advancement in machinery use thereby meeting the growing demands of speed, volume and exactness of production, but most of this equipments are expensive, making a most small scale and medium scale industries not to be able to afford this.

1.2 OBJECTIVE OF THE RESEARCH WORK

To design and construct:
- To fabricate a repromaster dyeing machine using locally sorted materials.

- To produce a fabric dyeing machine with optimum efficiency.
- A machine that dye textile materials in a unique manner.
- To construct a textile dye machine with less operational skill and minimal and affordable cost.
- To produce a faster and durable textile dyeing machine for small scale and medium scale enterprises.

1.3 SIGNIFICANCE AND BENEFITS OF THE REPROMASTER DYEING MACHINE

The Adire and Kampala (Tie and dye) business in Abeokuta Ogun state in Nigeria provides substantial contribution to the economy in the form of income, employment generation and possibly foreign exchange generation [8]. An innovation such as this designed and locally fabricated repromaster dyeing machine will expand the frontiers of production of such artistic pieces with greater uniformity and consistent pattern making. Although, uneven uniformity has been a major hindrance to the use of adire as *aso-ebi*n in Nigeria where *aso-ebi* is always desirable for special occasions such as wedding, birthday, anniversaries of associations etc which currently employs imported printed fabrics thereby short-changing our indigenously produced fabrics. This machine will therefore serve as the needs of effective teaching and learning in academic studios while creating frontiers for expanded production to the cottage textile outfits in Abeokuta, Ogun State and Nigeria at large. This is buttressed by the fact that there will be reduced cost of production as well as time saving and also increases production volumes.

2.0 METHODOLOGY

The machine consists of a drum compartment which houses a roller with four arms, as the roller is driven by the connected motor, it moves the fabric through the injected hot dye solution from the dye solution compartment. Around the drum is a huge perforated cylinder with four doors that lift out from each arm while fabric materials are being loaded inside and shuts water-tight while roller is moving the fabric through the dye solution. A timer circuit terminates the operation after the set time of the rolling action which is dependent on the concentration of the dye solution and the type of fabric being processed.
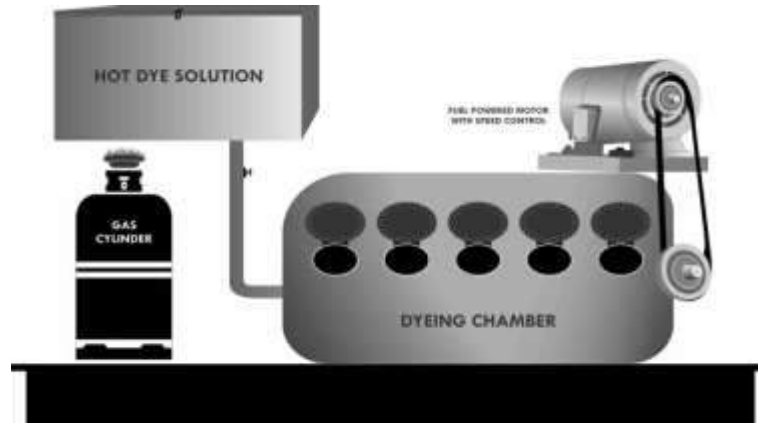
Figure 1: Process Diagram of Repromaster Dyeing Machine

2.1 SELECTION OF DYEING METHOD

Dyeing can be performed in three ways: exhaust or batch, semi-continuous and continuous method.

(1) Exhaust method is an optimum batch size is preferred as dyeing of several batches, may be in same machine, results variation in shade and hue for a given consignment. This method can be used for any form of textile: fibre, yarn or fabric.

(2) Semi-continuous methods are used for dyeing of longer length which should have same hue and shade throughout, examples of this is coarse fabrics, e.g. suiting, canvasses, etc.

(3) Continuous dyeing methods are to dye huge length of fabric in a uniform shade without any variation. This is done by padding followed by development or padding–drying– curing/steaming sequence. Dyes with good affinity are selected for exhaust dyeing whereas dyes with poor affinity are preferred for padding.

2.2 REPROMASTER FIBRE DYEING MACHINE WORKING PRINCIPLE

A perforated stainless steel rectangular container surrounds a central perforated hollow cylindrical tube and the container fits on a conical seating at the base of the tube (Shenai, 1993). The central tube is embedded with a high voltage heating element which provides the heated dye liquor and circulates it in an in-out mode for dyeing. A top cover with a lid is raised or lowered down to load and unload the machine (Figs. 2(a and b). The hot dye liquor coming from the heated rectangular container via the galvanized pipe was received by two conical lagged vessels which retained the hot water and the dye liquor temperature for proper dyeing before finally moved to the dyeing chamber which contain an impeller with a dye pattern mould which the textile has been already fastened together as shown in Figure 2a, then the outlet shaft was connected to the gasoline powered machine to provide a rotary motion to the patterned impeller for proper dyeing. The whole process system is done in a circular enclosed dye vessel chamber. The efficiency of the dyeing process depend on the machine speed.

2.3 THE REPROMASTER TEXTILE DYE MACHINE CONSTRUCTION PROCEDURE

(1) SCRIBING: This involves marking out the provided materials to be fabricated into the required specifications.

(2) CUTTING: This involving cutting either by sawing or using grinder to chop off materials to the required specifications. There is no way fabrication can be done without cutting either by sawing, grinding or use of gas to cut the metal to shapes and the desired pattern.

(3) GRINDING: This involved the use of electric grinder or pneumatic to chop off excess materials, it is highly essential during fabrication in order to ensure adequate smoothness and good surface finished.

(4) DRILLING: Drilling is a cutting process that uses a drill bit to cut a hole of circular cross-section in solid materials. The drill bit is usually a rotary cutting tool, often multi-point. The bit is pressed against the work-piece and rotated at rates from hundreds to thousands of revolutions per minute, any part that needed to be bolted or when there is need to couple two independent shaft together, we can drill, then bolted together.

(5). WELDING: This involve mating of two parts under high temperature, it may be by arc or by gas welding. During the fabrication, this two methods was adopted ,gas welding was use to cut out the desired pattern of the dough mixer, and the electric arc welding machine was used to weld all the intricate and assembled parts together.

(6) PAINTING: This involves coating to prevent rusting and corrosion, it also adds to the beauty of the component, which makes it attractive.

(7) TEST-RUN: This involves pre-test of the fabricated components to see if the performance is up

to the desired expectation, if it fails, further work will be done on it to ensure it works satisfactorily.

2.4 REPROMASTER DYE MACHINE DESIGN DRAWING

The figure 2(a and b) below show the exploded and front view drawing of the repromaster dye machine and figure 3 also illustrate the pictorial view of the repromaster dye machine, the pictures in figure 3(a, b and c) shows the pictorial view of the assembled machine as seen in figure 3a, the figure 3b and 3c shows the hot liquor dye mixing chamber and the interior of the chamber with a clear pattern of mould pattern as fixed to the impeller mixer shaft.
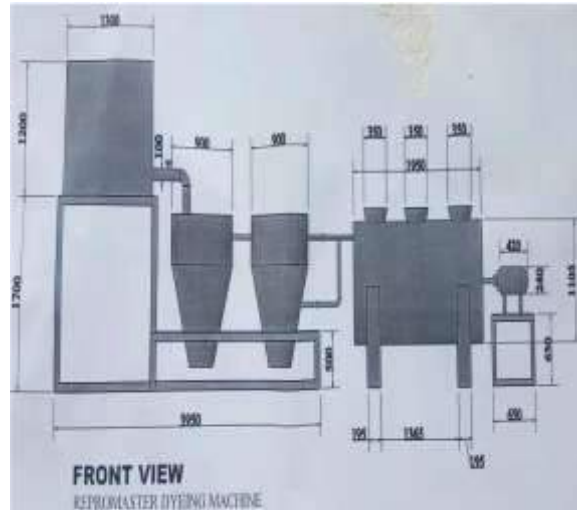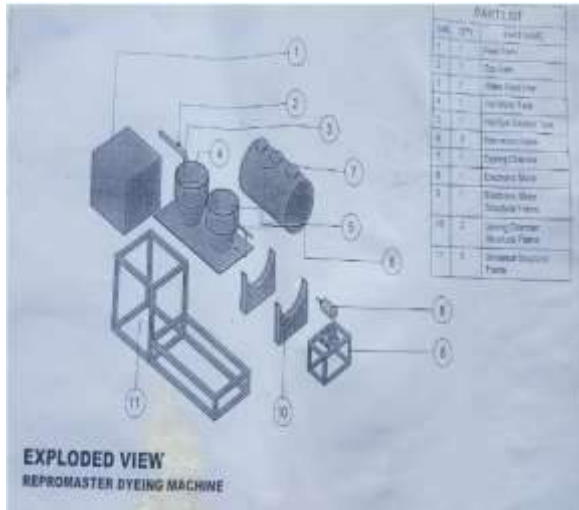
(a)   **(b)**
Figure 2 (a and b) showing exploded and front view of repromaster dye machine

(a)   (b)   (c)
Figure 3 showing pictorial view of repromaster dye making machine
The two types of pattern mould use for our textile dyeing during the test run is shown in figure 4(a and b).

| (a) | (b) |
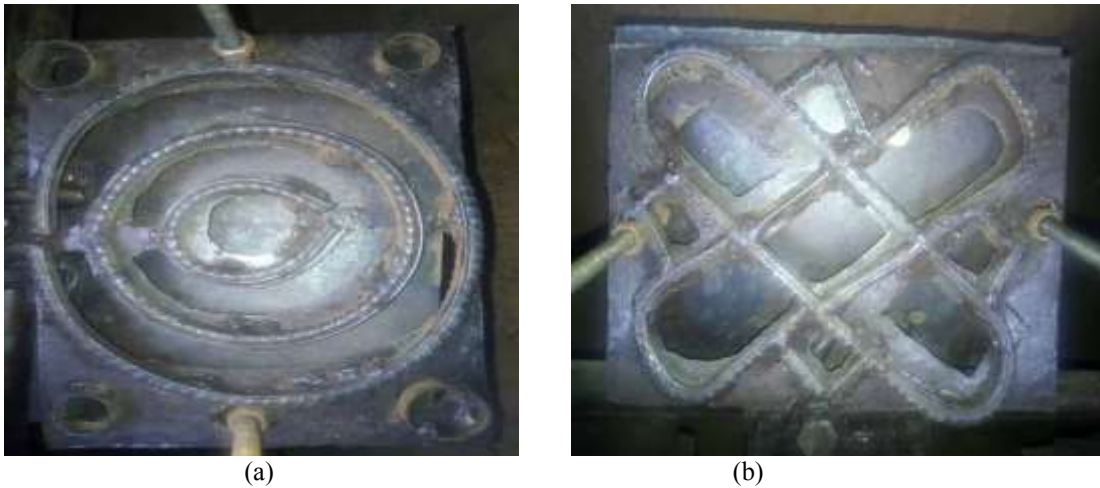
Figure 4(a and b) showing an example of mould pattern use in repromaster dyeing machine

2.5 REPROMASTER MACHINE DESIGN CALCULATION
(a) Impeller Shaft Design
The analysis of the shaft design formulas and modelling for our design are shown below, the detail analysis of the shaft diameter prior axial loading is determined by the formula:(Khurmi and Gupta,2003; Hall et al.,1983; Dixon and Poli,1995):

$$d^3 = \frac{16}{\pi \sigma_s} \sqrt{(K_b . M_b)^2} + \sqrt{(K_t . M_t)^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(1)}$$

Where, d = diameter of the shaft
$\quad$ K = the stiffness of the shaft
$\quad$ M = Torsion moment of the shaft
$\quad$ M_b = Bending moment of the shaft (N/m)
$\quad$ M_t = Torsion moment of the shaft (N/m)
$\quad$ σ_s = Allowable shear and bending stress for the mild steel used in the construction.
The load caused by the dye liquor on the upper shaft is due to the weight of the two pattern mould on both sides and the gear and it is calculated to be 5.0kg.
$\quad$ 1kgf = 1kg× 9.81m/s^2 = 9.81kgm/s^2 = 9.81N (Khurmi and Gupta, 2005)
$\quad$ Weight of the gear = 36.30N
Mass of the impeller shaft was assumed using the density of the galvanized steel = (7850kg/m^3).
Mass of the Impeller shaft= 4.09× 10^{-3}kg/mm.
Assuming sum of the clockwise rotation = Sum of the Anticlockwise rotation.
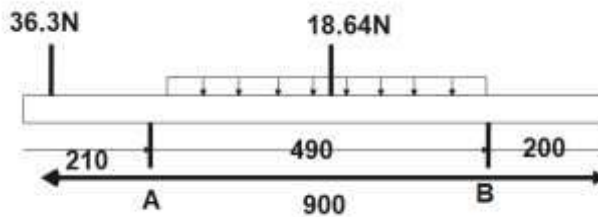
(a)

R_a = 61.18N and R_b= - 6.24N
Maximum bending moment M_b = 7.62Nm
(b) Volume of Hot Dye Liquor Mixing Basin
In designing an impeller for mixing 100 litres of dye liquor at assumed 5 inch Hg (16942N/m²), mixing pressure, 150rpm impeller speed, 1.15g/cm^3= (1150kg/m^3=) dye liquor density is the used volume calculation (Campbell, et al., 1993).
Dough volume, $V_d = \frac{m_d}{\rho_d}$ …………………… (2)
Where V_d = dye liquor volume (m^3), m_d = colour blend mass (kg) and ρ_d= hot dye liquor density (kg/m^3).
Dye liquor Volume = $\frac{10}{1150}$ = 0.00869m^3
Assuming the volume of water + volume of air space +other added dye recipients = 30% V_d.

The volume of the mixing basin will then be;
$$V_d = 0.00869+(0.30 \times 0.00869) = 0.00869 + 0.002607 = \mathbf{0.011297 m^3}$$

(c) The diameter of Dye liquor mixing chamber

This is determined with the empirical relationship given below:

Volume of mixing basin, $d_d = \sqrt{\dfrac{4v_b}{\pi h_b}}$ ………………………………… (3)

Where d_d is the diameter of hot dye liquor mixing basin (m), and h_b height of mixing basin (m)

Let, h_b = 0.048m; $d_d = \sqrt{\dfrac{4v_b}{\pi h_b}} = \sqrt{\dfrac{4 \times 0.011297}{0.048}} = \sqrt{0.9414} = (0.9703)$ **= 970.3mm**

(d) Power Requirement for the Gasoline Engine

The power which the gasoline fuelled must develop to drive the dye impeller mixer is determined with the expression by Khurmi and Gupta (2005).

$$P = \frac{2\pi N_m T_m}{60\eta} \quad \text{…………………………………………} (5)$$

Where P = power developed by the gasoline motor,
N_m = mixing speed (rpm),
T_m = torque of the driven spindle shaft (Nm),
ŋ = efficiency of the reduction gear

Let, N_m = 150rpm, T_m = 50Nm, ŋ = 0.92

P $= P = \dfrac{2\pi N_m T_m}{60\eta} = \dfrac{2 \times 3.142 \times 150 \times 50}{60 \times 0.92} = \mathbf{0.853kw\ (1.17hp)}$.

Therefore, the minimal power to drive the impeller shaft in the hot liquor mixing chamber must not less than 1.5hp with speed of 1440rpm is ideal.

(e) Finite Element of the induction Heating Element

The heating element provide adequate and controlled heating medium to the dye liquor for proper dyeing process. The heating element design calculation can then be deduced as the input is alternating current. The alternating current generates an alternating magnetic field in the coil which generates an induced electric field which in turn generates heat in the liquor basin. The electromagnetic field in the induction heating process is given by Maxwell's equations:

$$\nabla \times \overline{H} = \overline{J} + \frac{\delta \overline{D}}{\delta t} \quad \text{...} (6)$$

$$\nabla \times \overline{E} = \overline{J} + \frac{\delta \overline{B}}{\delta t} \quad \text{...} (7)$$

$$\nabla . \overline{B} = \rho \quad \text{..} (8)$$

where $\overline{H}$ is the magnetic field strength, is $\overline{J}$ the conduction current density, $-\partial$ ∂t is the displacement current density, t represents time, is the $\overline{E}$ electric field, $\overline{B}$ is the magnetic field, $\overline{D}$ is the electric flux density, and ρ is the volume charge density. The corresponding auxiliary equations are:

$$\overline{D} = \varepsilon\ \overline{E} \quad \text{...} (9)$$

$$\overline{B} = \mu \overline{H} \quad \text{..} (10)$$

$$\overline{D} = \sigma\ \overline{E} \quad \text{..} (11)$$

where ε represents the dielectric constant, μ is the magnetic permeability, and σ is the electrical conductivity. The figure 5 (a and b) shows the simplification of heat source model and the position of experimental heat source.
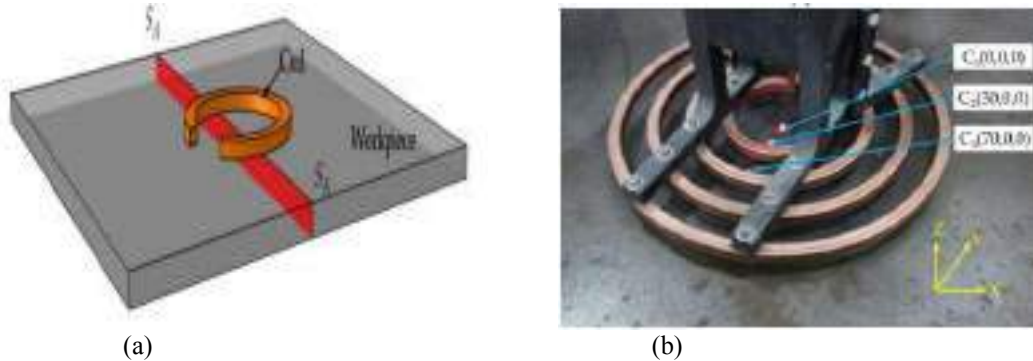
(a)   (b)
Figure 5(a and b) showing the model and ideal heating element of the heating basin

2.6 DYEING CALCULATION

Dyeing RFT dyeing means "Right First Time Dyeing." This term is used to define the dyeing efficiency, if the efficiency is more than the dyeing capability of that company (mixture) is correct and accurate, otherwise not good an example of dye mixture is seen in figure 6 below. The term RFT actually defines how we can dye a fabric with our newly fabricated repromaster machine "If the dyeing process is completed properly without any fault & there is no need to put the dyed fabric into the bath to get the proper shade then this dyeing is called RFT dyeing. Objective of RFT dyeing: i) Increase productivity: The productivity of a company can be increased if the RFT efficiency increased. ii) Reduce time consumption: If the dyeing completes in first time then it will take less time than the 2nd time dyeing. iii) Increase profit: If the productivity increases then the profit will be increased too. iv) Less fabric damage: If the dyed fabric put 2nd time in a bath then there is a possibility to damage the fabric. v) Reduce cost. To get the RFT dyeing following problem may be effect the dyeing process. One of the main problem is to achieve the RFT Dyeing is the very little calculation variation of chemicals and dyes, the table 1 also show the dye recipe calculation used for our dye process. Without our knowledge we make mistakes during getting the chemicals analysis.

Figure 6 showing an example of dye recipe calculation used

Source: An Overview of Method Study in Apparel Industry, Retrieved from http://textilelearner.blogspot.com.ng/2015/12/types-of-dyeing-machine.html. 07:57pm, 17/03/2017.

Table 1 showing dye recipe calculation

Chemical Name	Amount (kg/l)
Phenolas D-250 (detergent)	1
Novolute Jet (Anti-increasing agent)	1
Fafstaring IR (Sequestering agent)	1
Chimistab FG	0.4
Piso OSR	0.5
Soda ash	5
Hydrogen Peroxide 50%	2
Catalese BF	0.3
Acetic acid	1
Phenolas CLN-20	1.5
Tex finish AL	0.5
Gielev YDL	0.5
Phenolas P-96	1
Eus Y sin-S	0.3
Teracil-t	1
Chimispere RK	0.5
Glauber salt	40
Faflev DBL	1
Reactive Turquiose Blue G	1.5%
Reactive Yellow 4GL	0.5%

2.7 OPERATING PROCEDURE
- Take 50 litres water in the drum.
- Heat the water up to 80°C.
- Now add dyeing chemical in drum and stir it well.
- Again heat the dyeing solution till temperature rise up to 80°C if any temperature drops.
- Now tie the cloths on the pattern mould on the impeller. Close the drum cover and rotate the supporting plate with motor.
- Continue the process up to 15 min.
- Now open the drum cover and see that all cloths are dyed or not?
- Remove all colouring chemical from the drainage valve.
- Again close the drum cover and rotate the cloth for 15 mins after that open the drum cover and see those cloths little dried as water is thrown out by centrifugal force.

3.0 RESULT AND DISCUSSION
The experiment is carried out on plain white guinea cloth and one cotton shirt. By following procedure following observations were recorded shown in table 2 below. Time required as well as temperature drop was observed after the end of the dyeing process. Since time required dyeing the above clothes are reasonably short compared to manual dye system, it means the machine showed higher efficiency in terms of energy and time.

Table 2 Showing Performance Evaluation of Repromaster Dyeing Machine

Item	Time taken for manual dyeing (minutes)	Time taken for machine dyeing (minutes)	Time saved (minutes)	Temperature at the beginning of test-run (^{0}C)	Temperature at the end of test-run (^{0}C)
guinea cloth	90-110	35-40	50	80	79.5
one cotton shirt	80-100	25-35	55	80	79.2

4.0 CONCLUSION
The performance analysis of Repromaster Dyeing machine was investigated and there is a substantial achievement in dyeing time and temperature drop. However, the repromaster dyeing machine design, construction and performance evaluation was successfully done. This can be afforded by small scale enterprises who are engaged in textile dyeing business because all the materials used for the design and construction was locally sourced. This machine provides an effortless cloth dyeing. In actual fact, this concept is innovative in textile industry and it is a brilliant idea towards improving dyeing process,

CONFLICT OF INTEREST
The author has declared that no competing interests exist.

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TRENDS OF VIDEO USE IN DISTANCE EDUCATION

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ABSTRACT

Although there are various studies regarding the use of video in distance education, very limited amount synthesizing research on the subject is available. A research trend is identified regarding educational video use in distance education. Findings from the review indicate that there is a rising research trend in applied fields such as education, health and engineering, focusing on the technical aspects of video. However, it has also been found that video use in distance education has not been sufficiently studied regarding its social aspects. Based on the findings of the study, suggestions are made for further studies. Innovative research suggestions about using 360° video and video games in distance education are also offered.

The video classes are one of the main teaching resources in the distance education. Effective tool, use video classes in distance learning is a clear and dynamic way to teach , and usually very pleasing to students.

Video classes consist in video recording of educational content. Increasingly used in online educational institutions and in companies that work the corporate education, the quality level of this material has increased considerably.

KEYWORDS: *Trends of Video,Use in Distance Education.*

INTRODUCTION

Educational videos are the richest content combining the visual and verbal in the multimedia learning processes in e-learning environments. Videos created by text, sounds and images are powerful tools that are frequently used in current learning environments. Using both visual and verbal elements facilitate learning for learners with different learning styles. Because of this feature, videos enhance the attitudes of students and value of teaching and learning. Furthermore, the rapid development of video technology has been gaining an increasing attention. Especially in recent years; increased video resolution, interactive videos, 360° videos, 3D videos and video games are examples of remarkable video technology.

Educational videos have become an important part of higher education, providing an important content-delivery tool in many flipped, blended, and online classes. Effective use of video as an educational tool is enhanced when instructors consider three elements: how to manage cognitive load of the video; how to maximize student engagement with the video; and how to promote active learning from the video. This essay reviews literature relevant to each of these principles and suggests practical ways instructors can use these principles when using video as an educational tool.

REVIEW STUDIES

In their study focusing on video trends,analyzed video trends under five categories: determining the video recording limit, determining a basic frame, video synopsis, performance assessment, and video qualities. In another study, using videos in education is important and such videos will have a rising trend in this field.

Research on videos demonstrates that videos offer many more advantages compared to text and images and that they are more informative and facilitate deep learning (Al-Seghayer, 2001; Fletcher & Tobias, 2005; Jukes, McCain & Crockett, 2010; Kesim & Altınpulluk, 2014; Lewalter, 2003). In a study supporting such advantages of videos, Means, Toyama, Murphy, Bakia and Jones (2010) found that learning via video is retained better in memory than learning via still images. Lending further support to this, Shorter and Dean (1994) report that learners usually process and remember what they see more effectively than what they hear or read. Therefore, learning via video can be said to be more effective than the one carried out via static content.

Videos are defined by Bruce and Chiu (2015) as the powerful technologies that are slowly appearing in learning environments. Thus, offering embeddable interactive functions and flexible use in learning environments, video use can be viewed as an important development to increase the efficiency in learning processes. Educators refer to videos as literacy tools (Beach, Campano, Edmiston & Borgmann, 2010), new learning tools (Kalantzis & Cope, 2008), and even as the most convenient tools for learning environments (Miller & Borowicz, 2005). As such, lending themselves for effective use as learning materials in learning environments, identifying video trends is thought to be important. Therefore, determining video use trends in learning environments through the present study is expected to provide guidance for future studies.

RESEARCH PURPOSE

The aim of this study is to identify a research trend by analyzing the scientific research publications on educational video use in distance education by the variables of variation by year, type of publication, the number of citations, related field, source of publication, institution of publication and country.

METHODOLOGY
RESEARCH DESIGN

This study is a research synthesis. The primary aim for research syntheses is to synthesize previously obtained scientific knowledge with the current knowledge, and thus offer powerful suggestions for future research.

INSTRUMENT

In this research Scopus used as data collection environment. Scopus is one of the largest abstract and citation database of peer-reviewed literature including scientific journals, books and conference proceedings. Also it is a product of Elsevier Publishing. The study used Scopus database because of its several properties. First, Scopus system has inquiry system that includes keyword-based, abstracts, title, source, organizations, authors and field queries.

PROCEDURE

In this study, variation of studies on the use of video in distance education was analyzed by year, type of publication, the number of citations, related field, source of publication, institution of publication, and country of publication. Afterwards, the publications were subjected to text analytics by title, abstract, and keywords.
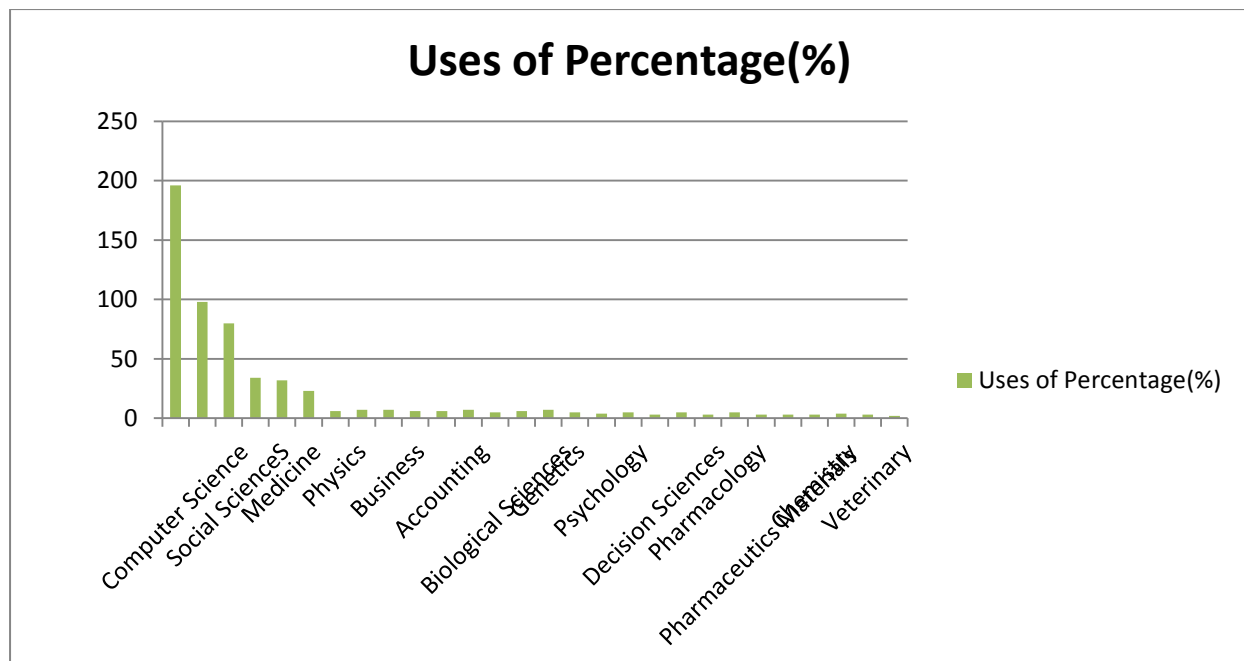
Table 1
Distribution of publications on video use in distance education by scientific field
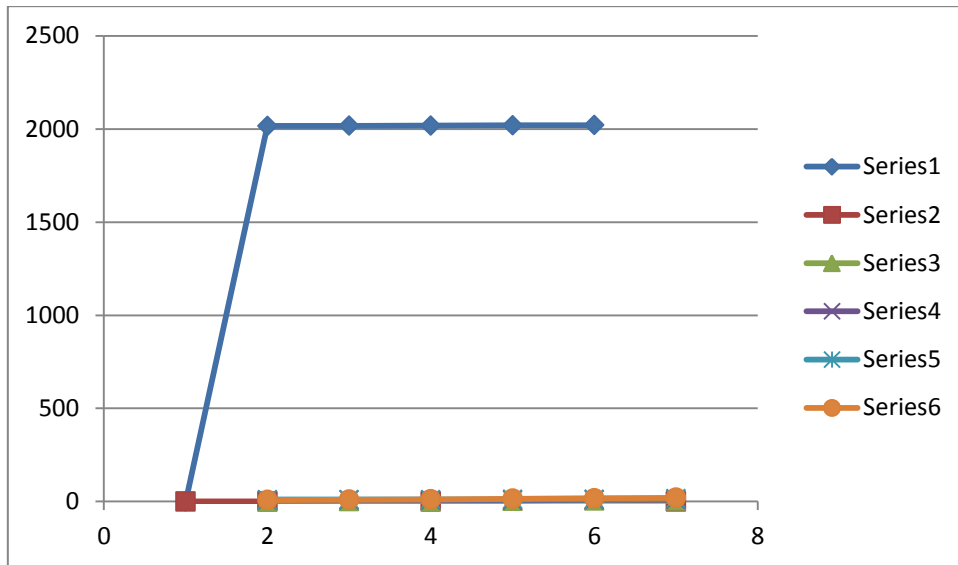
Table 2
Variation of video use in distance education by year (2016-2020)
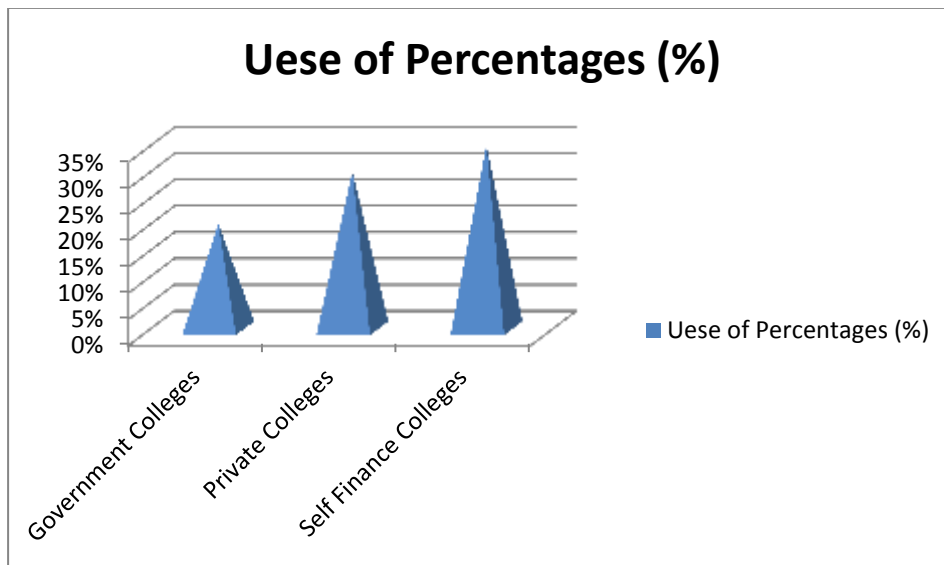
Table 3
Distribution of the publications by institution
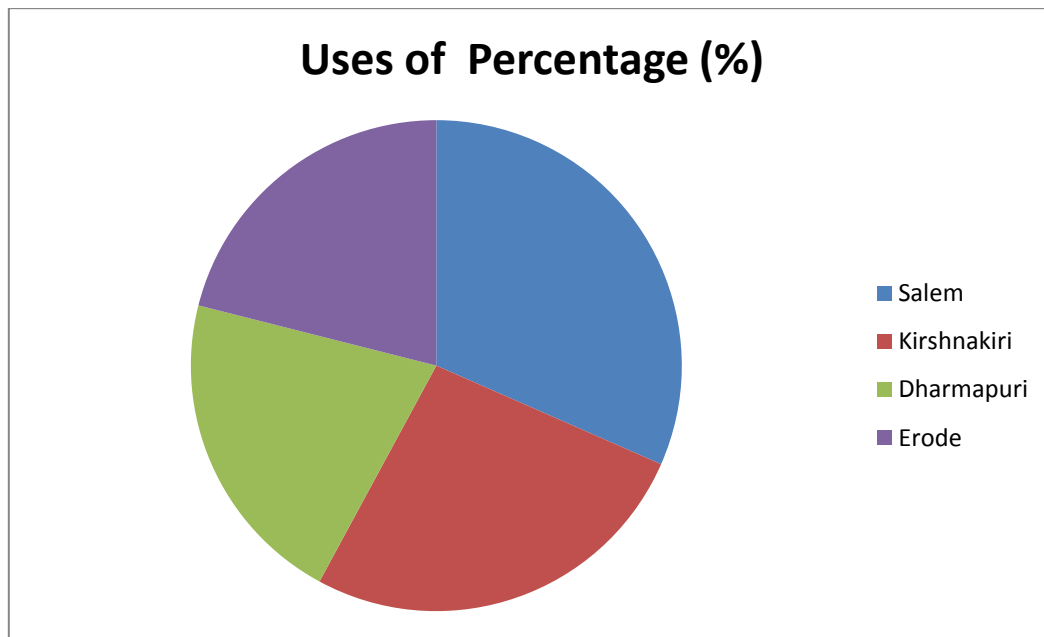
Table 4
Distribution of the publications by District

USE VIDEO CLASSES IN DISTANCE LEARNING

- Videos are more efficient in capturing and keeping the attention of the student than reading materials, for example;
- Through demonstration, this tool is able to make easier the comprehension of a complex concept;
- Creates a greater commitment on the part of the student, contributing to the debate and assimilation of the content;
- Through the use of image and sound, vide classes contribute to building a better relationship between teacher and students.

SUGGESTIONS FOR FURTHER RESEARCH

Within the limitations of this study, it is possible to offer various suggestions for future studies. Firstly, video use in distance education has been found not to be sufficiently addressed in its social aspects (pedagogical, cognitive, psychological, etc.). A number of specific research suggestions can be made on this issue in particular. In order to fill this gap in the literature, related open and distance learning, the effects of videos in distance education on;

- learning processes,
- learner motivation,
- learner academic achievement,
- learner cognitive loads,

Attention levels and disorientation states can be studied through experimental or semi-experimental research designs. The underlying reason for the recent decline in the number of citations contrasting the increasing number of studies on video use in distance education can be studied both through detailed statistical analyses and interviews with journal editors and experienced field specialists. By the same token, another research focus could be the remarkably high number of publications on distance education videos in the health field. Further, comprehensive surveys can be carried out to analyze the purposes of using educational videos by field and their degree of appropriateness for specific scientific fields. In addition, (in a way to complement the previous research) the reasons for using videos in distance education in the health field can be studied further by interviewing health professionals. Within the scope and limitations of the present study, some innovative research suggestions can also be made. One of them is 360o videos. Some research suggestions regarding the use of 360o videos in distance education are as follows.

• Delphi studies on the potential uses of 360o videos in distance education can be conducted.

• Effects of 360o videos on learners' interest, motivation, achievement, cognitive loads can be studied through experimental and semi-experimental designs, with opinion based qualitative or mixed method studies innovative research topics involving video use in distance education are video gaming and 360o videos. Some further research that can be conducted on using video games in distance education are given below.

• Studies can be conducted to make an assessment of which distance education fields video games can be used for. To do this, learner and expert opinions can

be elicited or important data can be obtained through experimental studies.

• Experimental laboratory research analyzing the cognitive, behavioral, and psychological effects of video games on the learner can be carried out. Especially by employing techniques like eye-tracking, more reliable findings can be obtained.

CONCLUSIONS

The prevalence of the use of video in higher education has increased exponentially over the past decade, and this trend is likely to continue in the future. The advancement of the "Net" generation of students through higher education, the advent of new teaching methods (and video's role in changing some of these), a changing university environment, the development of digital media, and greater knowledge on the benefits of video in higher education will certainly contribute to this ongoing development. Furthermore, studies have shown that they can contribute positively to both student confidence, motivation and performance levels. In each of these ways, videos are already showing high levels of demonstrable impact in higher education.

For example, one very real measure of success could be the definition of some metrics (or 'altmetrics') for the understanding of the relative impact of video use as these are now known for scholarly journals.As one of the "newest kids on the block", the absence of these metrics for video raises questions for some in knowing whether it can drive good scholarly as well as pedagogical outcomes. As we have seen in this white paper, there is more to be investigated on whether video can play a role in the development of critical thinking, knowledge development and student engagement.

Finally, there are a host of other interesting questions about what specific forms of design, graphics and content types in educational video will drive significant success in students' emotional response to watching video and their learning performance on courses. This white paper has shown that many students indicate that they like learning from videos, empowering them to learn flexibly and independently, leading them to request online content in their courses. Because students enjoy and request access to video, it can be considered a positive, instructional format which should provide confidence to librarians, faculty members and other constituents that as an educational resource it has a very bright future.

RECOMMENDATIONS

To maximize the benefit from educational videos, however, it is important to keep in mind the three key components of cognitive load, elements that impact engagement, and elements that promote active learning. Luckily, consideration of these elements converges on a few recommendations:

- Keep videos brief and targeted on learning goals.
- Use audio and visual elements to convey appropriate parts of an explanation; consider how to make these elements complementary rather than redundant.
- Use signaling to highlight important ideas or concepts.
- Use a conversational, enthusiastic style to enhance engagement.
- Embed videos in a context of active learning by using guiding questions, interactive elements, or associated homework assignments.

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THE ROLE OF   ICT IN TEACHER EDUCATION

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ABSTRACT
One of the greatest challenges facing teacher education today is preparing good quality teachers for an ever-changing world. Teacher trainees are the key components in any system of teacher education. Unless they are trained we cannot expect any qualitative change to come out of the system of teacher education. Diagnosis and remediation are also basic needs of curriculum transaction. An attempt has been made in this paper to develop an ICT training module and test its effectiveness in teacher education. The study reveals that there is no significant difference between the theoretical and application awareness in the concept of ICT among male and female teacher trainees.
KEYWORDS: *ICT, Teacher Education.*

INTRODUCTION

In the modern age, information and communication technology has influenced all aspects of human life. Teacher education has also been influenced by the ICT. Now ICT has become an integral part of our lives. Over the past twenty five years, the use of ICT has fundamentally changed the practices and procedures in the field of banking, tourism, share market, engineering, business, and post office. ICT is one of the major contemporary factors shaping the global economy and producing rapid changes in society.

ICT is a powerful tool for problem solving, conceptual development and critical thinking that helps to make the learning process much easier for the teacher trainees. Owing to knowledge explosion and tremendously fast changing ICT, the teachers sometimes find it rather difficult to cope with the new intellectual challenges being thrown up by the changed global and local context. Therefore, updating the knowledge of ICT is the need of the hour.

Even though teachers may have mastered the traditional pedagogies in teaching their students, the changing world dictates that these are no longer sufficient. The teacher educators must acquire new knowledge of ICT before they can prepare their teacher trainees to meet the demands and challenges of the 21st century.

Information & Communication Technology has a great potential to contribute positively towards knowledge dissemination,effective learning and the development of more efficient education service.

Today's classroom teachers must be prepared to provide technology-supported learning opportunities to their students. Because that is the need of the knowledge-based economy of today. Being prepared to use technology, and knowing how that technology can support student learning, must be made integral to every teacher's professional repertoire.

Nowadays, teaching is becoming one of the most challenging professions in India where knowledge is expanding rapidly and much of it is available to students as well teachers at any time and anywhere. As teacher education is primarily directed towards preparing teachers, the quality of teacher education relies on the teacher trainee's abilities and skills. Teacher educators have to accept the demands of modern world and modify their old concepts and methods according to the needs of learners. Otherwise the teachers will become out-dated in the coming future and it will deteriorate the quality of teacher education.

REVIEW OF RELATED LITERATURE

Das (2007) remarked that information and communication technology is an important instrument, which can transfer the present isolated, teachercentred, book-centred learning environment into a rich student-centred environment. This new learning environment developed by ICT is called Interactive Learning Environment. According to Jaiswal (2011) the teacher education system empowered by ICT-driven infrastructure can have a great opportunity to come up to the centre stage and

ensure academic excellence, quality instruction and leadership in a knowledge-based society.

A number of studies have been undertaken by the researchers in the field of teacher education with ICT. Swamy (2010) undertook a study on, Internet awareness and competence among high school students and teachers. He found that the Mahiti Sindhu project had significantly enhanced the awareness of Internet among the teachers who were involved with the project and the training programme was able to create awareness regarding Internet competence in the high school students. Muthuchamy (2010) conducted a study on the higher secondary students' perception towards ICT. He found that students studying in rural and urban schools differed significantly in their perceptions towards ICT. Goel (2006) conducted a study on the use of Internet in teacher education and found that a sizeable number of teacher trainees make use of Internet for email, surfing and research.

NEED AND SIGNIFICANCE OF ICT IN TEACHER EDUCATION

New technologies have provided new possibilities for the teaching profession. However, teacher educators and teacher trainees have to learn how to use these new technologies in the classroom situations. Most of the teacher education institutions are facing difficulties like shortage of ICT trained qualified teacher educators, weak curricula, lack of ICT equipment etc. Perhaps one of the greatest challenges facing teacher education today concerns the preparation of good quality teachers capable of using ICT effectively. Unless and until they are trained we cannot expect any qualitative changes in teaching. In this context, the investigator developed an ICT training module and studied its effectiveness in the teacher education system.

OBJECTIVES OF THE STUDY

The study was conducted to achieve the following objectives:
1. To compare the level of awarness about ICT among male and female teacher trainees,
2. To study the internet competencies of the teacher trainees,
3. To train them in the use of ICT and internet for browsing literature and,
4. To study the effectiveness of ICT module by the teacher trainess.

HYPOTHESIS

Keeping in view the objectives of the study, the following hypothesis was formulated for the present study:
H1: There is no significant difference between the awareness level regarding ICT among male and female teacher trainees

METHODOLOGY

All 35 teacher trainees of a Post Graduate Department of Education were selected for the present study. An instructional ICT training module was developed for the teacher trainees. The duration of the programme was 120 days including follow-up measures like group activities; cyber café visits, and display flow charts on the components of ICT related to teacher education.

Teacher trainees were trained to a) prepare power point slides in their subjects b) use power point slides and LCD projector for teaching the subjects c) use Internet for chatting, email and video conferencing d) browse the related research literature through Internet and e) prepare graphs by using MS Excel etc. They were also given theoretical and practical exposure in the above-mentioned areas. A single group design was employed for the present study.

TOOLS AND TECHNIQUES EMPLOYED

A questionnaire and achievement test was constructed on the use of ICT and Internet for teacher trainees. An interview schedule was used to interview the faculty members. An evaluation of the effectiveness of ICT module was done after 120 days. For analysis of data, the investigator used the test of significance of the difference between means and percentage analysis.

ANALYSIS AND INTERPRETATION OF DATA

Table 1
Comparison of Scores on Level of Awareness about ICT

Variables	Number N	Mean M	Pooled SD	SE D	*t*	Significance
Male Teacher Trainees	13	7	1.817	0.727	1.375	Not Significant
Female Teacher Traniees	12	8				

From the above table, the value of t with 23 degrees of freedom at 0.05 level of significance is 1.37 which is quite smaller than the table value. Hence, the null hypothesis H is accepted at 0.05 level of significance. Therefore, there is no 1 significant difference between the theoretical and application awareness in the concept of ICT among male and female teacher trainees.

Table 2
Use of ICT in Teacher Education

S.No	Questions	Before Training Frequency		After Training Frequency	
		Yes	No	Yes	No
1	1 Have you created own email Id?	05(20%)	20(80%)	25(100%)	00(0%)
2	Do you know search engines?	09(36%)	16(64%)	25(100%)	00(0%)
3	Are you chatting on internet?	04(16%)	21(84%)	10(40%)	15(60%)
4	Do you know how to make power point slides for presentation?	06(24%)	19(76%)	18(72%)	07(28%)
5	Do you browse the research literature through internet?	03(12%)	22(88%)	16(64%)	09(36%)
	Can you prepare graphs by using MS Excel?	05(20%)	20(80%)	10(40%)	15(60%)
	Have you used LCD projector for lesson plan?	03(12%)	22(88%)	20(80%)	05(20%)

From Table 2, it is observed that significant changes were found after implementing ICT training module by the teacher trainees in the teacher education programme. 100% of the teacher trainees were found to have created their email account and know about different search engines. Teacher trainees also started making PowerPoint presentations and using the LCD projector.

Table 3
Extent of Internet Used by the Teacher Trainees

S.No.	Place	Before Training Frequency	After Training Frequency
1	Home	04 (16%)	07(28%)
2	University	03 (12%)	12(48%)
3	Cyber Café	11 (44%)	06(24%)
4	Nowhere	07 (28%)	00(00%)

It is evident from Table 3 that 28 % of the teacher trainees do surfing at Home, 48 % at university and 20% at cyber café. A large majority of the teacher trainees use Internet at the university.

Table 4
Time Spent on Internet per Week

S.No	Time	Before Training Frequency	After Training Frequency
1	0 hour	07 (28%)	00 (00%)
2	1 hour	02 (08%)	01 (04%)
3	1-2 hours	04 (16%)	03 (12%)
4	3-4 hours	07 (28%)	10 (40%)1
5	5-7 hours	04 (16%)	08 (32%)
6	More than 8 hours	01 (04%)	03 (12%)
	Total	25 (100%)	25 (100%)

From the above table it is clear that 40 % teacher trainees used the Internet for 3-4 hours per week, 32 % used it for 5-7 hours per week while 12 % used it for more than 8 hours. All teacher trainees used Internet for at least one hour a day after completing ICT training module.

Table 5
Use of ICT for Designing Seminars

S.No.	Use	Before Training Frequency	After Training Frequency
1	Often	03 (12%)	17 (68%)
2	Sometimes	02 (08%)	05 (20%)
3	Occasionally	01 (04%)	03 (12%)
4	Never	19 (76%)	00 (00%)
5	Total	25 (100%)	25(100%)

From Table 5 it can be observed that 68 % of the trainees use ICT often for seminar designing and delivery. This shows that training in the use of ICT plays a major role in enabling teachers to use and adopt technology in day-today teaching learning process.

Table 6
Use of E-mail

S.No.	Time	Before Training Frequency	After Training Frequency
1	Rarely	12 (48%)	00 (00%)
2	Often	06 (24%)	25 (100%)
3	Never	07 (28%)	00 (00%)
4	Total	25 (100%)	25 (100%)

From the above table it can be seen that significant changes were found in the trainees email habits. 100% trainees were found to check their email regularly after under going ICT training module.

1. Significant changes were also found in their email habits. All teacher trainees were found to check their email regularly and they started submission of assignments and seminars via email.

In many ways, email has made my life easier. It allows me to:

- Contact people all over the world for free (or inexpensively)
- Communicate with more than one person at a time
- Document interactions (e.g. the highly prized CYA paper-trail)
- Leave messages any time of day without bothering people

It was only when people started using it in alternative ways that things started to get messy, really messy. Instead of looking for a different model email kept evolving to meet new demands and expectations such as:

- Working collaboratively
- Sending attachments
- Keeping a conversation together for multiple people(e.g. thread)
- Searching capabilities
- Automating actions with rules
- Integrating calendars and appointments, etc.

2. No significant differences were found to exist between the awareness regarding ICT of male and female teacher trainees.

3. After implementing the ICT training module, significant changes were found among teacher trainees. A large number of trainees were found to use ICT and Internet for their seminars, assignments, and review of related literature.

4. 68% of the trainees were found to use ICT for designing and delivering seminars.

5. 28% of the trainees were found to do surfing at home, 48% of them do at university, while 20% surf at cyber cafés.

6. A sizeable number of the trainees (about 40%) use Internet for 3- 4 hours per week, 32% of them use it for 5-7 hours per week and 12% of them use the Internet for more than 8 hours in a week.

SUGGESTIONS

On the basis of above conclusions and discussion with faculty members, the following suggestions can be drawn for policy makers:

1. Government and Managements should support teacher education institutes by giving more financial assistance to buy ICT equipment.
2. **ICT** allows students to monitor and manage their own learning, think critically and creatively, solve simulated real-world problems, work collaboratively, engage in ethical decision-making, and adopt a global perspective towards issues and ideas.
3. All Universities should introduce uniform ICT based curriculum.
4. All B.Ed. colleges need to establish computer labs with Internet facilities.
5. A list of ICT based activities might be cited in the curriculum of teacher education.
6. Printed ICT based practice lesson books along with specific instructions for teacher trainees need to be developed.
7. There is a need to develop software in regional languages along with English for use in different regions of the country.

ICT has revolutionised the entire concept of education, teaching-learning process, and research activities by offering new opportunities and challenges in creation and dissemination of information by web-based education. It is really a challenging task to strengthen ICT in teacher education.

CONCLUSIONS

The findings in this study present technology education in the pre-service program as slow to change and lagging behind the advancements in the field. It takes time to learn and appropriate ICT, so having only one semester ICT literacy course is not advisable. Based on the results of prior studies done in the same setting and the results of this study, it would be best to offer the ICT literacy course in two semesters and on two levels. While the introductory course would be ICT skills-based, its sequel would cover ICT pedagogical content knowledge training.

Information and communication technologies (**ICTs**) can significantly enhance poor people's

human and social capabilities and have a positive impact on their well-being.

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USING THE TRADITIONS OF THE MASTER APPRENTICE IN THE STUDY OF DECORATIVE ARCHITECTURAL PATTERNS OF KHOREZM

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ABSTRACT

The article deals with the structure of Khorezm painting and architectural ornaments, and provides a version of the working program for the study of Khorezm architectural ornaments. Brief information is given about the geometry of the Khiva gerich patterns and the formation of a geometric pattern that is intertwined to form a complex composition as a result of the artistic processing of the gerich.

KEYWORDS: *Khiva, pottery, carving, painting, pattern elements, leaf element, flower element, fabric and shkifta, gerich patterns, geometric constructions, methods of making gerich.*

INTRODUCTION

If you look at the centuries-old history of the Uzbek people, you can see that this people left for their descendants a very large legacy in all branches of art, architecture and applied craftsmanship. Especially the creation of patterns is one of the incomparable legacies of our ancestors. It is known that the masters of decorative patterns in Central Asia, as well as Khiva, have been known since ancient times. Especially in the second half of the XIX - in the XX centuries, the growth of culture and art of Khorezm was observed. In these times, there were woodcarvers, potters and masters of decorative patterns. Our task today is to study the heritage of these masters, teach these crafts to young people and pass on this knowledge to the next generation.

In carrying out these tasks, it is very important to use the traditions of the master apprentice. People say a lot about masters and disciples. Even great scientists, poets talk about friendship, brotherhood and family ties between them.[1]

If, while teaching his disciple, the master adheres to the laws of the teachers, this will eventually bear fruit. Before giving an assignment to his student, the master must explain to him the features of this assignment. The preparation of the apprentice is the supreme responsibility of the master. The desire to explore the unexplored edges of national architectural ornaments should be the main task of the student.

Classes on the study of painting in the bachelor's degree "applied arts" of the Urgench State University are conducted using the traditions of the master-student. This is especially important when teaching interior painting, woodcarving, ganch carving (type of carving; a common field of applied art) and decorative architectural designs.

A striking example of this is a group studying additional specialty "painting and decorative arts". For this group, a special program was developed and the main content of this program was the art of the Khorezm blue majolica.

The architecture of Khorezm is a complete direction. Every architectural structure, even a small detail or ornament, a residential building in a city or village, or a large building, they are all decorated in a

unique, unique way. This shows the skill of the architects and craftsmen of the 15th-19th centuries.

The main task of the program is to study the painting and decorative architectural patterns of Khorezm and compose compositions on this basis. Here we present the main content of this program.

PROGRAM
On the study of decorative architectural patterns of Khorezm
Stage I
1.1 History of applied arts of Khorezm
1.2 Features of the art of architectural patterns
1.3 Pattern elements and their stylization
1.4 Drawing elements of sheet
1.5 Drawing flower elements
1.6 Drawing items together
1.7 Boftas and sheaves (types of ornament)
1.8 Composing compositions (creative task)
II stage
Gerich pattern
2.1 About the gerich pattern (intricate hand pattern; It is widely used in architecture and arts and crafts)

2.2 Geometric drawing
2.3 Drawing gerich as a square
2.4 Drawing a gerich in the form of a circle
2.5 Copying gerich from the majolica of architectural monuments of Khiva
2.6 Composing compositions (creative task)
III stage
Complex pattern
3.1 Copying complex patterns from majolica architectural monuments of Khiva
3.2 Creation of complex patterns using a gerich of 8 and 12-sided stars

Under this program, decorative patterns are taught in three stages. In the first stage, they learn to draw the islimi pattern, in the second stage, the gerih pattern, and in the third, a complex pattern. At the end of each step, compositions are created.[2]

Drawing patterns begins by simply copying the pattern elements. Pupils should learn to draw straight and beautifully, to achieve precision and straightness of lines. On the first task, the elements of the leaflet are studied (Fig. 1 and 2). After that, complex sheets are drawn (Figure 3)
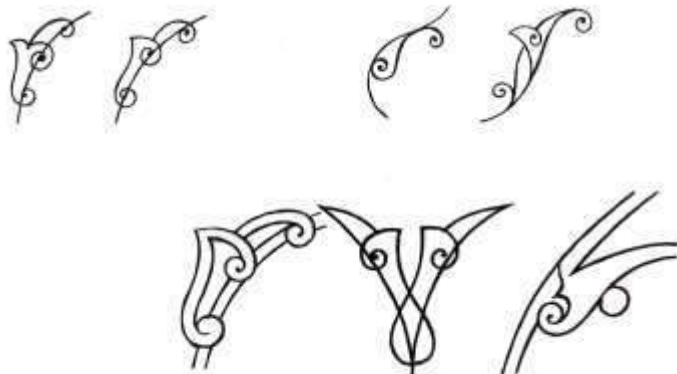
Figure 1.
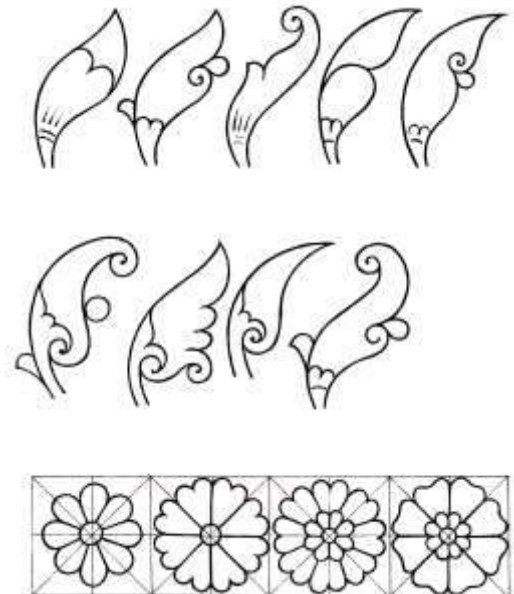
Figure 2.
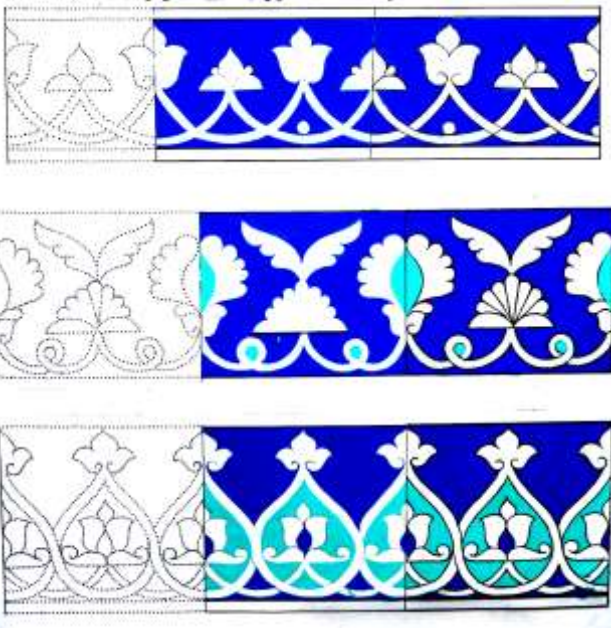
Figure 3.
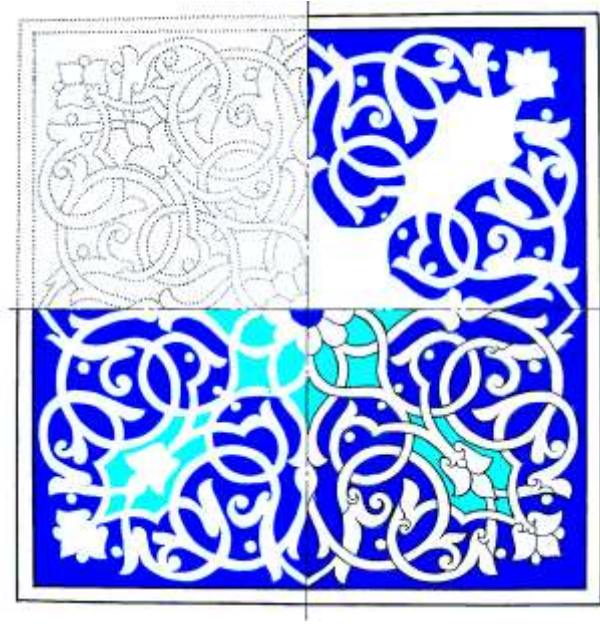
Figure 4.

Figure 5.
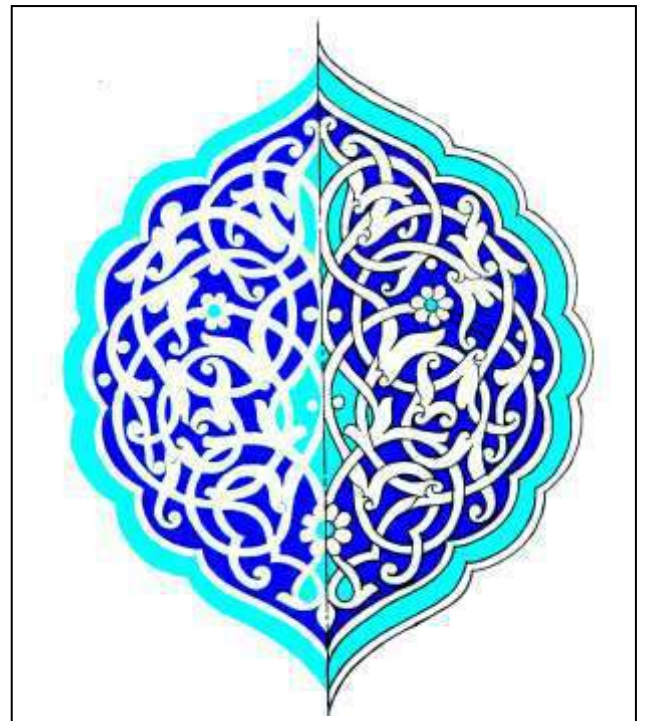
Figure 6.

In the second task, the elements of the flower are drawn. In the third task, the elements of the pattern (leaf and flower) are drawn together. (Fig. 3) On the fourth task, bofta and shkifta are studied, on the next task, with their help, compositions (pattern types) "madokhili", "turunzh" and "islimi" are drawn. (fig 4, 5 and 6)   In the second stage of the program, "gerich" patterns (geometric ornaments) are studied.

Gerich is an Arabic word meaning knot. Each gerich in the literal and figurative sense is a kind of knot. To find the gerich's solution, you need to find the main figure and its place in the composition.

Khiva gerich patterns are based on the geometry of a circle; this knot can be solved using a compass and a ruler. The basis of these patterns is dividing the circle into equal parts and creating a grid and straight lines in it. (Figure 7).

Figure 7.
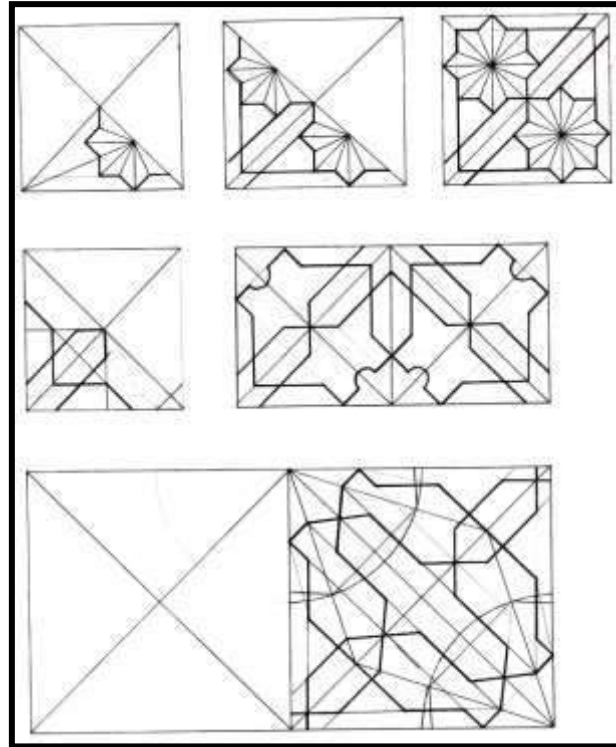
Drawing Gerich begins with linear diagrams. Then you need to create a gerich on nature. Here, it is not mathematical laws that come to the fore, but the aesthetic side, depending on the possibility of the material, the technique of the pattern, the individual style, art and style of the master.

The second side of the work is the execution of a pattern on a linear scheme and artistic execution are interconnected. The artistic execution of gerich creates a geometric pattern from complex compositions woven together.
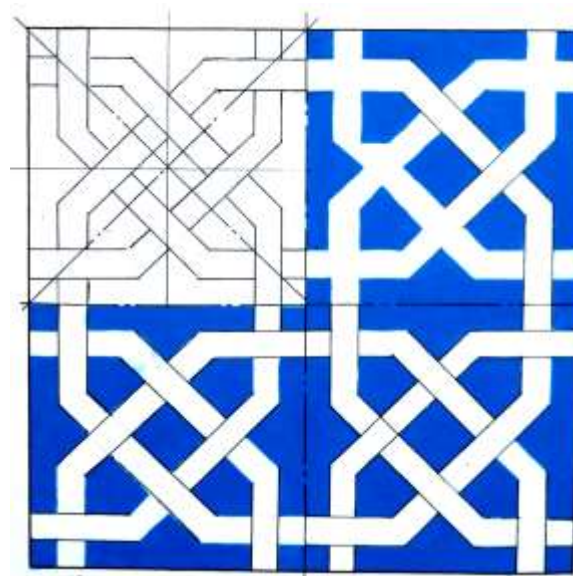
Figure 8. Geometric artisans have interesting problems to solve. For example, drawing a five-pointed star from a plexus of eight-pointed stars connected by ends.

The creation of a gerich requires knowledge of the features of geometric shapes and the artistic use of these features.

With the help of the square at the borders of the circle and the grid lines, the compositions of the Gerichs "tuzi shorkali" are created.
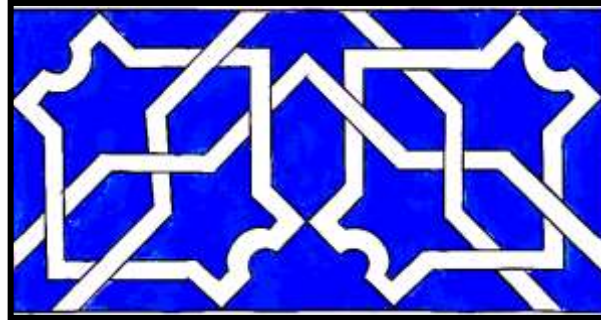
Figure 9. The style art of Khiva monumental patterns appeared in the first half of the 19th century, when construction work increased in the capital of the Khiva Khanate. This was based on the rich heritage of motives of Khorezm patterns, woodcarving of ancient Urgench, Kata and Khiva, as well as majolica.

Here it is necessary to mention the peculiar features of Khiva architecture. In the architectural monuments of the 19th century (the mausoleum of Pakhlavan Mahmud, the Kutlugmurad Inak madrasah, the Muhammad Aminkhan madrasah, the Allakulikhan madrasah, etc.), the domes, instead of appearing heavy and massive, seem to us light and airy. The multi-colored majolica that decorate the outer and especially the inner part of the monuments are important here.

In Khiva, a star-shaped gerich is widespread, creating regular pentagons at the ends.

After completing the assignments and studying the styles of creating a gerich, the students themselves begin to create a new composition of a gerich.

In the third step of the program, a complex composition is created, consisting of islimi patterns and geometric patterns. (fig 10 and 11)
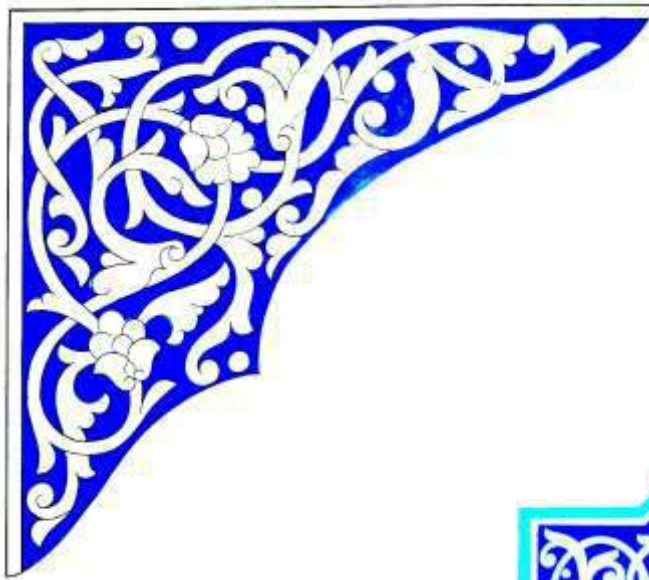
Figure 10.
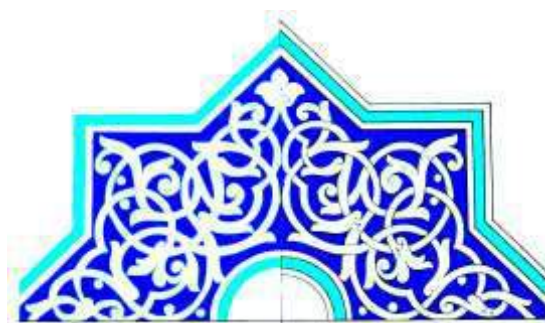
Figure 11.

This step is the last in the study of architectural patterns. In the process of completing these tasks, students learn to create delicate patterns, "islimi" and gerich using ordinary geometric drawings. Such assignments not only develop students' artistic abilities and imaginations, but also contribute to their spiritual strengthening. A student who has devoted his life to the problems of folk crafts should differ from the rest not only in success, but also in his human merits, since without this it is impossible to conquer the heights of success for any gifted student.

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CUSTOMER SATISFACTION ON HONDA ACTIVA A SPECIAL REFERENCE WITH COIMBATORE CITY

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ABSTRACT

Customer satisfaction measures how well the expectations of a customer concerning a product or service provided by a company have been met. Customer satisfaction is an abstract concept and involves such factors as the quality of the product, the quality of the service provided, the atmosphere of the location where the product or service is purchased, and the price of the product or service. It is considered to be the valuable assets of a business. Incomes of the automobile industries consider as important contribution of nation's economy and also generate more job opportunities in turn it makes rapid growth in economy, thus the study analyzed the customer satisfaction on Honda Activa two wheeler especially in north Chennai and find the effective service provided by the dealers. From the overall analysis of the study majority of the respondents agree with its price, style, mileage, service and its comfort but still they should improve to make easy access of their spare parts which is unique and scarce in nature and the service provided by the service station must follow their promise.

KEYWORDS: *Honda Activa customer satisfaction, effective service*

1. INTRODUCTION

Business always starts and closes with customers and hence the customers must be treated as the king of the market. All the business enhancements, profit, status, image etc of the organization depends on customers. Customer satisfaction is a part of customer's experience that exposes a supplier's behavior on customer's expectation; this depends on how efficiently it is managed and how prompt services are provided. The satisfaction could be related to various business aspects like marketing, product manufacturing, engineering, quality of products and services, responses customer's problems and queries, completion of project, post delivery services, complaint managementetc.

Higher the satisfaction level, higher is the sentimental attachment of customers with the specific brand of product and also with the supplier. This helps in making a strong and healthy customer – supplier bonding. This bonding forces the customer to be tied up with that particular supplier and chances of defection very less. Hence customer satisfaction is very important panorama that every supplier should focus onto establish a renounced position in the global market and enhance business and profit.

Here are the top six reasons why customer satisfaction is so important:

- It is a leading indicator of consumer repurchases intentions andloyalty
- It is point ofdifferentiation
- It reduces customerchurn
- It increases customer lifetime value
- It reduces negative word ofmouth
- It is cheaper to retain customers than acquire newones.

Honda has been calling the Activa the reigning 'King of Scooters' since the last 15 years and they aren't exaggerating. Since its launch in 2000, the scooter has been the top-selling scooter in India. India will, in the process, take over from Indonesia and Vietnam as Honda's biggest two-wheeler market over next five years. Asfor the bigger goal of 30% share in its global business, Honda's annual two-wheeler volumes here would have to be in the region of 10 million units annually. Observers believe this could become a reality by 2020.

2. OBJECTIVES

- Study on customer satisfaction of HondaActiva.
- To find the factors of customer satisfaction towardsHonda Activa.
- To analyze the effectiveness of customer service provided byHonda.
- To find the problems faced by customers of HondaActiva.
- To suggest suitable measures based on findings ofthe study.

3. REVIEW OF LITERATURE

Dr. Duggani Yuvaraju & Prof.S.Durga Roa (2014) The customer relationship management of Honda Bikes among a various customers launching new formulations can make Honda to the pioneer in many market segments. Honda was inferred that most customers of high-income group preferred the supply of Honda Bikes. About 70% of customers are aware of Honda Bikes. Most of the customers agree that Honda is best quality with reasonable price the attitude 50% customers towards price of Honda Bikes is reasonable. But 10% of the customers are asking for improvement in thequality.

Dr. K. Lakshmi Priya (2016)
Retaining customers is the only way to succeed in business. The study on the customers' satisfaction of Honda two wheelers among the customers within the Palakkad District, tries to reveal the factors responsible for preferring a particular brand. Most of the respondents are having a good opinion about the Honda two wheelers and the findings and suggestions of this study will support the company in an effective and better way.

R.Renganathan, C.Vijayabanu, V.Srinivasakumar and V. Vijayan (2016) In automobile industry dealers have an opportunity to contact buyers directly. Honda Motors dealer, Tiruvarur has to understand the requirements of the buyers in order to maintain the existing customers and to acquire new customers. In order to survive and outshine in the competitive scenario, Honda motorcycle and scooter India private limited and the dealers in Tiruvarur have to conduct these kinds of surveys periodically. This will pave the way to enhance the brand image of Honda Motorcycle and scooter India private limited automobile business and also their marketshare.

Abhijeet Singh (2011)
Honda motors use a customer relationship management and dealer management system which integrates one of the largest applications in the automobile industry, linking more than 1200 dealers across India. CRM has helped Honda Motors to improve its inventory management, tax calculation and pricing. This system has also proved to be beneficial to dealers because it has reduced their working capitalcost.

Need for the study
Customer satisfaction is important because it provides marketers and business owners with a metric that they can use to manage and improve their businesses. In a survey of nearly 200 senior marketing managers, 71% responded that they found a customer satisfaction metric very useful in managing and monitoring their businesses. Further to retain the customer for longer time the marketer has to know the customer satisfaction level. Thus this study is conducted to know the satisfaction level of customers and added to this to examine whether the manufacturers meet the expectations of the customers of HondaActiva.

4. SCOPE OF THE STUDY
The study focuses on customer satisfaction towards the Honda activa two wheeler and it includes to find the socio economic relationship of the respondent with their satisfaction level, to study the customers' awareness towards the product, to know the reason for becoming an Activa customer, to find the effectiveness of service provided by the dealers, the problems faced by the customer if any at Honda activa and to give the suitable suggestions.

5. LIMITATION OF THE STUDY
The study focused on the customer satisfaction of Honda Activa at Coimbatore city in Tamil Nadu and findings of this study based on the attitude of the respondents' and it is subject to change near future. They express their views based on their experience with their vehicle. Hence it cannot be generalized as a whole.

6. METHODOLOGY
The study is conducted by using both analytical and descriptive type of methodology and primarily depends on primary and secondary data. The data has been collected through well structured questionnaire from 100 customer of Honda Activa. The sampling type is convenience sampling. Secondary data has been gathered from different sources such as, books, journals, magazines and online sources.

Data Analysis
The primary data collected were analyzed by using the SPSS computer packages.
The statistical tools used for this study are as follows:
- Simple percentageanalysis
- ANOVA.

Frequency Table

Personal Factors		No. of Respondents	Percent age
Gender	Male	19	38.0
	Female	31	62.0
Age	18-20	16	32.0
	21-30	9	18.0
	31-40	6	12.0
	41-50	18	36.0
	50 Above	1	2.0
Occupation	Employee	15	30.0
	Professional	7	14.0
	Business	4	8.0
	Student	18	36.0
	Wife	6	12.0
Income	Below10,000	5	10.0
	10,000-20,000	14	28.0
	20,000-30,000	20	40.0
	Above 30,000	11	22.0

- From the above table it is found that 62% of the respondents are female and 38% are malerespondents.
- Maximum of 36% of respondents are fall in the age group of 18-20, 32% are belongs to 41-50 and least of 2% are in the age group of above 50years.
- Maximum of 36% of the respondents are students, 30% are employee 14% are professionals and the least of 8% are fall in the category of businesspeople.
- 40% of the respondents are in the income group of 20000-30000, 28% of the respondents are fall in the income group of 10000-20000, 22% of them are in the income group of above 30000 and the least of 10% of the respondents belong to the income group of below10000.

Customer Awareness and the reasons for choosing the Honda Activa

Particulars		No. of Respondents	Percentage
Awareness	Show room display	4	8.0
	Magazine	1	2.0
	Television	9	18.0
	Friends And Relatives	34	68.0
	All The Above	2	4.0
Reason	Required	3	6.0
	Convenience	33	66.0
	Brand image	7	14.0
	Reasonable cost	1	2.0
	Durable	3	6.0
	well service	1	2.0
	all the above	2	4.0

- Maximum of 68% of the respondents are getting aware of the product through friends and relatives, 18% are through television advertisement, 8% are through showroom display and the least 2% of them known through magazine.
- At most 66% of the respondents are using HA which is more convenient, 14% of them are believe brand image and the least of 2% of the respondents are having HA because of well service and reasonable cost.

Customer Satisfaction on Honda Activa

Customer Satisfaction			
Particulars		No. of Respondents	Percentage
Price	Disagree	4	8.0
	Neutral	2	4.0
	Agree	33	66.0
	strongly Agree	11	22.0
	Disagree	4	8.0
Style	Disagree	1	2.0
	Neutral	4	8.0
	Agree	25	50.0
	strongly Agree	20	40.0
Mileage	Disagree	1	2.0
	Neutral	12	24.0
	Agree	18	36.0
	strongly Agree	19	38.0
Comfort	Neutral	1	2.0
	Agree	13	26.0
	strongly Agree	36	72.0
Maintenance Cost	Strongly disagree	1	2.0
	Disagree	5	10.0
	Neural	6	12.0
	Agree	28	56.0
	strongly Agree	10	20.0
Spare Parts	Strongly disagree	2	4.0
	Disagree	11	22.0
	Neutral	7	14.0
	Agree	18	36.0
	strongly Agree	12	24.0
Road Grip	Strongly disagree	3	6.0

	Neural	7	14.0
	Agree	16	32.0
	strongly Agree	24	48.0
Service	Strongly disagree	1	2.0
	Disagree	5	10.0
	Neural	9	18.0
	Agree	18	36.0
	strongly Agree	17	34.0

- Maximum of 66% of the respondents agree with the price of the product, 22% of the respondents strongly agreewith the price of Honda Activa.
- At most 50% of the respondents agrees with its style,only 2% of them do not agree withthat.
- 38% of the respondents strongly agree with mile age which is given by Honda activa. 72% of the respondents highly satisfy with their vehicle keep and feel them very comfort.
- 56% of them agree with it incurs reasonable maintenance cost and only 10% of them are disagree with it. 36% of the respondents are agree with its spare parts are available. 48% of them strongly agree with that its road grip. 36% of them strongly agree with service which is provided by HA service centers and 10% of the respondents are disagree with that.

Effectiveness of customer Service provided by Honda Activa

Effectiveness On Customer Service			
Particulars		No. of Respondents	Percentage
Tolerance of sales executives	Neural	4	8.0
	Agree	24	48.0
	strongly Agree	22	44.0
Behavior of Sales executive	Neural	7	14.0
	Agree	21	42.0
	strongly Agree	22	44.0
Ambiance of show room	Disagree	4	8.0
	Neural	4	8.0
	Agree	31	62.0
	strongly Agree	11	22.0
Availability of service centers	Strongly disagree	1	2.0
	Disagree	3	6.0
	Neural	4	8.0
	Agree	20	40.0
	strongly Agree	22	44.0
Availability of spare parts	Strongly disagree	3	6.0
	Disagree	8	16.0
	Neural	7	14.0
	Agree	16	32.0
	strongly Agree	16	32.0
Post sales service as per the condition	Strongly disagree	1	2.0
	Disagree	7	14.0
	Neural	17	34.0
	Agree	14	28.0
	strongly Agree	11	22.0

- 48% of the respondents agree with the tolerance of the representatives and executives of Honda show rooms, 44% of them are strongly agree with the behavior of the salesexecutives.
- Maximum of 62% of the respondents are agree with ambiance of the show rooms, 44% of them are strongly agree with the availability of servicecenters.
- 32% of the respondents agree with its availability of spare parts and 14 of them are neutral in the opinion of post sales service provided by the dealers or agents as per the conditions when wepurchase.

Problems Faced by the Customers of Honda Activa.

Problems Faced By The Respondent		
	No. of Respondents	Percentage
Mileage	11	22.0
Brake	2	4.0
Tyre	3	6.0
Electrical problem	2	4.0
Post sales service	3	6.0
weight	22	44.0
All the above	7	14.0

Maximum of 44% of the respondents are discomfort its weight especially women respondents, 22% of them have not satisfied with its mileage, 6% of them are unhappy with post sale service and tyre which has not given more grip and the least of 4% of them are dissatisfied by electrical problem and working of brake.

One way Analysis of Variance
H1 - There is a significant difference between income level and satisfaction of the customers.
ANOVA was employed to identify the significant relationship between income level and satisfaction of the customers.

Factors	Income level of the respondents				F value	P value
	Below 10,000	10,000-20,000	20,000-30,000	Above 30,000		
Price	4.20 (0.447)	3.71 0.726)	3.95 (0.887)	4.45 (0.522)	2.206	.100
Style	4.60 (0.548)	4.29 (0.611)	4.00 (0.795)	4.04 (0.505)	2.588	.064
Mileage	4.40 (0.894)	4.50 (0.519)	3.85 (0.933)	3.91 (0.831)	2.207	.100
Comfortable	4.80 (0.447)	4.57 (0.646)	4.65 (0.489)	4.91 (0.302)	1.066	.373
Maintenance cost	3.20 (1.095)	3.86 (.663)	3.85 (0.663)	4.00 (1.183)	.865	.466
Spare parts	3.80 (1.643)	2.79 (0.975)	3.90 (1.119)	3.73 (1.104)	2.925	.044
Road grip	5.00 (.000)	3.71 (1.326)	4.35 (1.089)	4.00 (.632)	2.270	.093
Service	3.20 (1.095)	3.36 (1.216)	4.25 (0.851)	4.27 (0.786)	3.682	.019

From the above table it is found that $F = 2.925$. $P = .044$, $F = 3.682$. $P = .019$ are statistically significant @ 5% level.

Therefore it can be concluded that people from different income group have various opinion on factors of customer satisfaction such as availability of spare parts and services provided by the service stations. Further few of them often struggle to get exact spare parts of Honda Activa 3G, during the time of service or searching for the spare parts people from middle income group are needed to spend or replace the parts immediately with more than its actual cost irrationally (adnan83,2017).

H1 - There is a significant difference between occupation of customers and problems faced by the customers.

Occupation	Mean	Std. deviation	F value	P value
Employee	4.53	2.825		
Professional	5.57	2.370		
Business	1.25	.500	4.980	.002
Student	5.67	2.449		
Wife	7.67	.516		

From the above table it is found that $F = 4.980$. $P = .002$, are statistically significant @ 5% level. Therefore it can be concluded that respondents distributed from different occupations faced problems towards their HA. Employees who have used Honda Activa 3g suffered due to service centers located far from their residence and it might not worthy of money spent for frequent service. As well after wash layer of paint removed because of low quality paint used, no appropriate responses from the service centers regarding giving low mileage and even collect service faced by the students, business people and house wives.

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MERKMALE DER STRUKTUR DER TOPONYME DER DEUTSCHEN UND USBEKISCHEN SPRACHEN

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ANNOTATION

Dieser Artikel befasst sich mit der Berücksichtigung der strukturellen Merkmale von Ortsnamen im Deutschen und Usbekischen. Die Analyse ergab, dass die Struktur der Toponyme in beiden Sprachen eine Reihe von universellen und unterschiedlichen Merkmalen aufweist. Universelle Merkmale werden durch die gemeinsamen Strukturmerkmale der Sprachen und zusammengesetzten Modelle zur Bildung von Toponymen bestimmt. Differenzialmerkmale umfassen das Vorhandensein oder Fehlen spezieller morphologischen Einheiten und Unterschiede in der Zusammensetzung zusammengesetzter Modelle in einer der untersuchten Sprachen; weit verbreitete Verwendung verschiedener Arten von Isafet in Toponymen der usbekischen Sprache.

SCHLÜSSELWÖRTER: *zusammengesetzte Modelle; Differential; strukturelle Gelegenheit; Ortsnamen; morphologische Einheit; Vergleichsstudie.*

Das toponymische System jeder Sprache entwickelte sich im Laufe der Zeit Während dieser Zeit beruhte die Bildung von Toponymen auf Kultur, extralinguistisch in Bezug auf Mythologie, Religion und andere ähnliche Kulturen Faktoren beeinflussen. Es ist allgemein bekannt, dass die anfänglichen Toponyme gebräuchlich sind, waren einfache Namen, die sich nicht von Nomen unterschieden. Die Umwelt der Menschen, die Auswirkungen der Umwelt, auf die sie ausgeweitet wurde vom anderen, von einem zum anderen, von einem nahen Hügel weit weg das Bedürfnis nach Differenzierung zeichnet sich ab.

Natürlich, das soziale Bewusstsein an sich mit zunehmender Anzahl von Begriffen wurden die geografischen Namen grammatikalisch und zunehmend semantisch komplex geworden. In der Vergangenheit wurden die Toponyme verwendet und studiert ursprünglich von Geographen und Historikern. Toponyme sind im 20. Jahrhundert als ein System von den Linguisten untersucht worden. Daher hat es den Wissenschaftlern seit vielen Jahren kontroversen gegeben, unter ihnen es viel über die toponymische Wissenschaft und ihr Gebiet gibt.

Insbesondere V. A. Nikonov sagt: „Die Sprache sollte durch die Toponymie interpretiert werden, nicht durch sie " (11, 19). S. Karaev schrieb: „Geografische Namen, also Toponyme, sind eines der Sprachwörterbücher sei, ein Teil der Sprache und gehorche dem Gesetz der Sprache. Linguistik muss studieren "oder „toponymische Substantive, ist Teil der Onomastik, die wir studieren, und der Linguistik (14). Die Toponymik ist eine Disziplin, von der Historiker, Geografen und Linguisten gleichermaßen lernen können. Dies ist in diesem Fall ein Beweis für ihre Interdisziplinarität. Wir stimmen mit Hasanovs Kommentar überein: „Philologen, Geographen und Historiker erkennen, dass Toponymie ein Bereich in allen drei Disziplinen ist, und jeder, der sich mit Toponymie beschäftigen möchte, muss mehrere Disziplinen studieren. Geographie, Geschichtsphilologie, Geographie, Geografische Sprache, Geschichte sollte die Ethnographie kennen "(12).

Dieser Artikel ist eine Zusammenfassung der Toponymie in Deutsch und Usbekisch, vergleichende Analyse der Eigenschaften von Deutsch. Die strukturellen Merkmale der Toponyme von mehreren Wissenschaftlern wurden untersucht (3; 1; 4; 5; 9; 13). Vergleichende Untersuchung der Toponymik, hauptsächlich Englisch und Russisch, Deutsch und Russisch, Französisch und Russisch. Zum Beispiel Russischer Wissenschaftler R. Im Fall von Khisamidinova basiert auf Deutsch und Russisch Toponyme und ihre Derivate (13), in der Studie von L. Kunakkujina Deutsche und Baschkirische

Toponyme (8). Es ist zu beachten, dass es keine vergleichende Studie zu Toponymen in Deutsch und Usbekisch gibt. Diese Sprachen dienen jedoch als vergleichende Studie von Toponymen, um zum einen die Ähnlichkeiten zwischen deutscher und usbekischer Sprache zu beleuchten und zum anderen die theoretische und empirische Basis der toponymischen Wissenschaft zu bereichern. Die Analyse spezieller Studien die strukturellen und semantischen Aspekte der deutschen und usbekischen Toponymik zeigt, dass es um verschiedene Ansätze von Wissenschaftler geht. Zum Beispiel „Die deutsche Sprache. Kleine Enzyklopädie » Die Autoren der Studie sind einfache, künstliche Einfügungen deutscher Toponyme und solche mit komplexen Toponymen (2, 643). Bekannter russischer Wissenschaftler R. Z. Murjasow unterteilt die deutschen Toponyme jedoch strukturell einfach in komplexe Toponyme und zusammengesetzte Toponyme (9, 48). Es gibt zwei Hauptkategorien von Toponymen in Usbekistan 1) Einfach, dh ein Wort und 2) komplex, zwei oder mehr Worttoponyme. Einfache Toponyme sind auch zwei kleinere Gruppe, nämlich: a) einfacher Boden ohne Zusätze (Freitag, Navvot, Motrid) und b) einfaches Formen, dh Speer (Sparrow, Bozchi, Tachachi) (14; 12). Dies ist die Analyse des Sprachmaterials in Deutsch und Usbekisch zeigten, dass beide Sprachen Toponyme sind, die einfach sind, das heißt, ein Wort verfügbar: nem.: Wert, Dahn, Else, Dresden, Köln, Rhein; Usbekisch: Buchara, Durmon, Steamp, Frühling, Buston, Langar.

Es ist erwähnenswert, dass einfache Toponyme im Deutschen nur eines sind die Wortnamen enthalten (Wert, Dahn, Elze, Köln). Ihre eine spezielle Wortbildungsart in der Struktur, das heißt Topoformant

oder spezielle onomastische Suffixe sind nicht anwendbar. In Usbekisch ist es Deutsch im Gegensatz zu ihren einfachen, nichtadditiven Toponymen einfache Toponyme mit Anhängen, d. h. durch Anhängen hergestellte Toponyme auch verfügbar. In diesem Fall sind Linguisten-Turkologen (AA Kamalov und andere) Türken als Besonderheiten der Toponymie in türkischen Sprachen. Die toponymischen Anhänge existieren nicht und sind daher in der Sprache vorhanden, aus allen vorhandenen Anhängen geografische Namen zu machen

In der usbekischen Sprache umfassen die Wurzelsuffixe beispielsweise die folgenden Verben: -goh (Janggoh, Sayilgoh), -zor (Bodomzor, Chilanzar), -dor (Zarbdor), chi (Qazichi, Sangchi, Gilamchi); -li: (Urikli, Jeddah), -istan (Gulistan, Turkestan), -lik (suvlik, yoshlik, tinchlik): (Bibicha, Kyzyl, Kukcha), -laq: (Tashlak, Kumlak, Utlak), -lar(Hades, Araber, Töpfer). Im Gegensatz zur usbekischen Sprache ist die deutsche Sprache spezifisch onomastisch . Zusatzstoffe, dhtoponyme

Suffixe. Unter diesen sind a- Eicha, Erla, Dorna, Haina), die Flussnamen werden durch das Suffix gebildet.

Länder- und Regionsnamen (Italien, Norwegen, Spanien, Sibirien, Thüringen, Asien, Skandinavien, Sachsen, Preußen) sind Ausländer. Zusatzbezeichnung (Redlin), -itz (Bornitz, Dömitz), -ow (Buchow, Treptow), -au (Döhlau, Luckau, Zwickau). Wie wir aus der Analyse sehen können, ist es ein einfaches Wort auf Deutsch. In der usbekischen Sprache aufgeführte Topologien enthalten nur die Toponyme .EinfacheToponyme werden weiter in zwei Untergruppen unterteilt. Es hat einen einfachen Boden Toponyme ohne Zusatzstoffe und einfache Zusatzstoffe. Komplexe Topologien sind sowohl in Deutschland als auch in Usbekistan verbreitet ist und ein weit verbreitetes sprachliches Phänomen. Zwei oder mehr Topologien ist ein komplexes Wort, das aus lexikalischen und grammatikalischen Substantiven besteht in Bezug auf die Funktion. Zusammengesetzte Toponyme werden hauptsächlich von Topoformanten gebildet. Die häufigsten Topoformanten in der deutschen Sprache sind: -stadt (Ludwigstadt), -dorf (Dorndorf), -heim (Manheim, Kirchheim, Griesheim), -burg (Magdeburg, Dornburg), -berg (Bamberg, Arnsberg) ,Rastenberg), -fels (Rabenfelsen), -Furt (Ochsenfurt), -Bach (Birkenbach, Desselbach), -Graben (Aulsbachgraben, Fabrikgraben), -brunnen (Marienbrunnen, Märchenbrunnen), –Wasser (Wasserburg, Wasserberg), -walde (Schwarzwalde) (8).

Toponyme sind auch in Usbekistan komplexe Topoformanten basierend auf: -abad / obod (Yunusabad); -kend / kent / kand (Taschkent, Samarkand); -oul (Turkmenovul, Kazakovul), -kurgan (Kattakurgan, Akkurgan), -kum (Kyzylkum, Karakum), -kol (Tudakul, Aydarkul), -tosh (Aktash), -kala (Ayazkala, Tuprokkala), -saray (Aksaray, Kuksaroy), -shahar (Yangishahar), -tag (Korotag, Bobotag) -darya (Akdarya, Karadarya), -aryk (Buzaryk, Kyzyliq, Egriariq), -yangi (Yangiyul, Yangibazar, Yangiyer), -suven (Shorkishluk, Gulshishlok), -su, -suv (Oksuv, Chorsu, Qorasuv, Shursuv), -soy (Chukursoy, Chipchaksuv)), -Stück (Tausendfüßig, Fatimulak), - tepa (Oktepa, Oratepa, Tuytepa). Die obigen Beispiele sind im Deutschen und Usbekischen gleich. Sie können das Vorhandensein von Topoformanten erkennen, die Motivation und Bedeutung haben: nem: -berg, -burg, -stadt, -see, -felsen; Usbekisch: - Garten, - Festung, - Stadt, - See, Brunnen, - Wasser. Beispiele sind Bamberg, Magdeburg, Altstadt, Bodensee, Rabenfelsen, Turdakul, Sarchashma und andere. Dies ist der geografische Standort der Objekte, Merkmale und sozialer Bedeutung. Zum Beispiel: Das Komponententoponym gibt seinen geografischen Standort an, die Stadt in zusammengesetzten

Toponymen ist es das geografische Gebiet des Objekts, die soziale Wichtigkeit.

A. A. Kamal entsteht durch das Hinzufügen von Topographien komplexe Toponyme basierend auf die Art der Beziehung unterteilt in Paare und Identifizierung von Toponymen. Adhäsion von Paartopons können die Ebenen und Strukturen variieren: komplex, einfach und komplex: Oktepa - Khanimkurgan, Bogishamol - Amir Temur bogi. Unter den identifizierenden Toponymen A. A. Kamalov Joint, gemischt und trennt die erweiterten Toponyme. Die hinzugefügten Toponyme entsprechen strukturell dem Typ I der türkischen Sprachen (dh sie stimmen überein, bevor der Bezeichner identifiziert wird), wie Kashkadarya, Babatag, Turakurgan und andere. Zu den kombinierten Toponymen auch die Toponyme, die in der Definition von Qualität, Quantität, Adjektiv und Verb verwendet werden, wie Oktepa, Beshyush, Mingbulak, Kyzyltepa (6).

Unsere Analyse zeigt, dass in Deutsch und Usbekisch, Komplexe Toponyme können in mehreren Modellen erstellt werden:

"Nomen + Nomen": nem .: Heroldsberg, Eisenberg, Heidelberg, Wolfsburg; en.: Ketmontepa, Maybuloq, Hontaxti; "Adjektiv + Pferd": nem: Schönwalde, Altenberg, Blaustein; Usbekisch: Qiziltepa, Karadarya, Aksu. Aufgrund unserer Analyse sprechen wir mit größerer Wahrscheinlichkeit Usbekisch als Deutsch. Wir haben festgestellt, dass die folgenden Modelle häufiger vorkommen: "Anzahl + Nomen" Zweibrücken, Brandenburg, DreieichMingbulak, Altyaryk, Beshkapa, Uchtepa, Mingchinor, Uchkurgan, Fünf ist seltener als: Zweibrücken, Brandenburg, Dreieich. Die folgenden Modelle sind im Gegensatz zu Deutsch auch in Usbekisch erhältlich existiert: Nomen+ Überqueren: Nomenstärke, Schwalbe, Alpin. Es ist auch in der usbekischen Sprache in Persisch gemacht. Es gibt auch Toponyme: Bogishamol, Bogibaland, Cholibostan. Der Unterschied zwischen den zusammengesetzten Toponymen und den komplexen Toponymen besteht darin, dass das Objekt in dem als letzte Komponente verwendet wird

Die Begriffe werden in Kombination mit Anhängen von Drittanbietern verwendet: Republik Usbekistan, Region Samarkand, Kollektivbetrieb Amir Temur, Zarafshan Farmers Assosiation. Das deutsche Sprachsystem ist eines der Toponyme in der Liste oder aus einer Kombination von zwei identifizierenden und einem Schlüsselwort die Toponyme, aus denen sich zusammensetzt. Die erste Komponente der strukturellen Toponyme ist die zweite Komponente der Determinanten. Die Verbindung zwischen ihnen ähnelt der Beziehung zwischen Kernel und Satellit: Das Fehlen einer Kennung in einigen Funktionsmodi wirkt sich nicht auf die Funktion des Toponyms aus, sondern auf das

Schlüsselwort das Weglassen entzieht der Toponyme die Einheit (7, 15).

Strukturelle Toponyme decken verschiedene toponyme Klassen ab. Das Folgende sind toponyme Begriffe: Bands und Chöre. V.V. Kuzikov ist eines der Toponyme unterscheidet: a) hauptsächlich vorpositive Namen Potamonim, vergleiche: Pot. Kleine Roth, Topf. Epplinger Back Früher b) postpositive Namen - Frankfurt und Main sind zwei identifizierbare Namen, wie die Namen von Attraktionen, z. Bad Neustadt an der Saale. Darüber hinaus unterscheidet man je nach Form der präpositivenIdentifikatoren: a) Toponyme mit identifizierbaren Substantiven: z. B. pot.AlteFöritz ', chor.Fränkische Schweiz; op. Fränkische Alb; b) Namen nicht identifizierbarer Adjektive (einschließlich nur Potamo, Vergleiche: Pot Endseer Bach). Postpositive Identifikatoren können auch in zwei Gruppen unterteilt werden: a.Namen einer Gruppe mit Vorträgern, solche Namen lokalisieren den Namen der Siedlung mittels PotamonimHohenburg an der Eger; b) Beinhaltet Vorsteckerquerschnitt Einheiten, sie sind Dörfer mittels Arrays und Refrains Lokalisierung, vergleiche: Bär. Hain im Spessart (7, 15). Die Vielfalt der Vorlage ist charakteristisch. Sie sind vom folgenden Typ Predlogs: an, auf, bei, in, vorva, etc. (z. B. Neuhausen auf den Fildern, Hohenberg an der Eger, Kirchheim bei München et al.) Dies Predlogs bilden Toponyme der Kategorie "Pferd + Pferd" (Hohenberg - Nomen + an-predlog + der- Arikel + eger-Nomen). Wir haben im Vergleich der Strukturmerkmale deutscher und usbekischer Toponyme festgestellt, dass die Struktur der Toponymie in Deutsch und Usbekisch unterschiedlich ist. Zu den universellen Funktionen gehören: 1) die Existenz einfacher, zusammengesetzter, gemeinsamer und kombinierter geografischer Kategorien in beiden Sprachen; 2) Die kombinierten geografischen Bezeichnungen lauten Deutsch-Stadt, -dorf, -haus, -heim, -feld, -stein, -burg, -graben, -brunnen, -wasser und usbekisch -Typ, -Fluß, -Soja, -Sie, Anwendung; 3) mehrere zusammengesetzte Strukturen in beiden Sprachstrukturen-Modelle. Diese Modelle sind Wortkategorien. Sie stellt ein bestimmtes System dar, bestehend aus: „Nomen +Nomen, Adjektiv + Nomen und ihr Auftreten als "Nomen + Nomen + Nomen " sowie die Modelle "Nummer + Nomen " und "Verb + Nomen ".

Zu den Differenzialzeichen gehören: 1) Einfache Substantive in Usbekisch (Namen) unter den Toponymen der Substantive und Substantive, Deutsch und die Existenz von nur Nomen; 2) das Vorhandensein von speziellen onomastischen Suffixen und Wortbildungselementen im deutschen Toponymiesystem und das Fehlen solcher Komponenten in Der usbekischen Sprache. 3) Vorhandensein zusammengesetzter geografischer

Namen in der usbekischen Sprache auf der Grundlage des Modells "Risch + Nomen ", "Adjektiv + Nomen ", " Nomen + Verb", und gleichzeitig sind solche Toponyme nicht in deutscher Sprache verfügbar; 4) die Verwendung einer Reihe deutscher Vorwörter (an, auf, bei, in usw.) zur Bildung zusammengesetzter Toponyme. Zusammenfassend ist die Struktur der Toponymie in Deutsch und Usbekisch sowohl universell als auch differenziell. Universelle Merkmale beziehen sich auf die strukturellen Fähigkeiten von Sprachen und die Allgemeingültigkeit zusammengesetzter Modelle der Toponymbildung. Unterschiedliche Merkmale umfassen das Vorhandensein oder Fehlen spezifischer morphologischer Einheiten in einer der untersuchten Sprachen und Unterschiede in der Zusammensetzung von zusammengesetzten Modellen.

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SIMULTANEOUS ANALYSIS OF CYTARABINE AND DAUNORUBICIN IN BULK FORM AND MARKETED PHARMACEUTICAL COMBINED DOSAGE FORMS BY REVERSE PHASE-HIGH PRESSURE LIQUID CHROMATOGRAPHY-PDA METHOD

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ABSTRACT

Objective: The novel liposomal infusion formulation of cytarabine and daunorubicin liposomal infusion is considered as new hope in acute myeloid leukemia treatment. The objective of the present study is to develop and validate a simple, rapid, accurate, precise and sensitive reverse-phase high- performance liquid chromatographic (RP-HPLC) method for the simultaneous estimation of cytarabine and daunorubicin in bulk and infusion formulation.The chromatographic separation of the drugs was achieved on Denali C18 (250 mm×4.6 mm, 5 µm) in isocratic mode with mobile phase consisting of water (pH was adjusted to 3):acetonitrile in the ratio of 55:45 with a flow rate of 1 ml/min at a detection wavelength of 240 nm using photodiode array (PDA) detector. The column temperature was set at 30°C with 10 µl injection volume. The proposed method was validated as per the International council for Harmonisation (ICH) guidelines.The retention times for cytarabine and daunorubicin were found to be 2.323

±0.12 min and 3.140±0.16 min, respectively. Linearity (r^2=0.999) was observed over a concentration range of 16.2–97.5 µg/ml for cytarabine and 7.2–43.5 µg/ml for daunorubicin. The percentage relative standard deviation (RSD) for precision studies was found to be 0.2 for both the drugs. A simple, rapid, economic, accurate, and precise RP-HPLC method was developed for simultaneous quantitative estimation of cytarabine and daunorubicin, and the method was validated as per the ICH guidelines. Hence, the method can be employed for the routine analysis of cytarabine and daunorubicin in bulk and infusion formulation.

KEYWORDS: *Cytarabine, Daunorubicin, Reverse-phase high-performance liquid chromatographic, Method development, Method validation.*

INTRODUCTION

Cytarabine (Fig. 1) is a pyrimidine nucleoside analog used mainly in the treatment of leukemia, especially acute non-lymphoblastic leukemia, acute myelogenous leukemia, and meningeal leukemia. It is chemically 4-amino-1-[(2R,3S,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]pyrimidin-2-one. It has moderate emetogenicity which has been managed with antiemetic drugs [1].

Daunorubicin (Fig. 2) is an anthracycline antibiotic that has antineoplastic activity and is used for the treatment of acute leukemia and acquired immune deficiency syndrome-related Kaposi sarcoma. It is chemically (1S,3S)-3-Acetyl-3,5,12-trihydroxy-10-methoxy-6,11-dioxo-1,2,3,4,6,11-hexahydro-1-tetracenyl 3-amino- 2,3,6-trideoxy-α-L-lyxo-hexopyranoside. It is one among six Topo II inhibitors which is prescribed as highly antineoplastic drug in clinical use [2].

A detailed literature survey revealed that there were liquid chromatographic methods for the estimation of daunorubicin in bulk and pharmaceutical formulation [3-6]. An ultraviolet spectrophotometric method was reported for the determination of cytarabine [7]. Few reverse-phase high-performance liquid chromatography (RP-HPLC) methods were published for the estimation of cytarabine in bulk and pharmaceutical formulation [8-10]. In the above reported methods developed for the individual estimation of daunorubicin and cytarabine, they used buffers and a combination of three solvents as mobile phases. Usage of buffers in separation chromatography decreases the life of the column and complex mobile phase usage will increase the time of analysis. Hence, a method which uses simple mobile phase is needed for the estimation of drugs. In addition, this no analytical method has been reported for the simultaneous estimation of cytarabine and daunorubicin. This work accomplishes the criteria as a simple and rapid RP-HPLC method was developed using a simple mobile phase with shorter run time. The

developed method was validated as per the validation of analytical procedures, i.e. ICH guidelines: Q2(R1) Validation of Analytical Procedures: Text and Methodology [11].

METHODS
Chemicals and reagents

Pharmaceutical grade cytarabine and daunorubicin were provided as gift samples by Spectrum Pharma Research Solutions, Hyderabad, and the marketed formulation is available as Vyxeos liposome for injection (cytarabine-65 mg and daunorubicin-29 mg per vial), for intravenous use. The formulation is not available in India. Hence, the injection was prepared with the available excipients in the laboratory using evaporation method and was extracted with the mobile phase during the study. Acetonitrile, orthophosphoric acid, and HPLC grade water were purchased from Merck.

Instrument

Chromatography was performed on Waters HPLC 2695 equipped with PDA detector. The chromatographic separation was performed using Denali C18 (250 mm×4.6 mm, 5 μm). The data acquisition and integration were performed using Empower 2 software.

Chromatographic conditions

The developed method used a reverse-phase octadecyl column, Denali C18 (250 mm×4.6 mm, 5 μm), with a mobile phase consisting of water (pH adjusted to 3 with orthophosphoric acid):acetonitrile (55:45) which was pumped at a flow rate of 1.0 ml/min and a detection wavelength of 240 nm using PDA detector.

Preparation of diluent

The diluent used was water and acetonitrile in the ratio of 50:50.

Preparation of standard solutions

The standard stock solution of cytarabine and daunorubicin was prepared by accurately weighing 16.25 mg of cytarabine and 7.25 mg of daunorubicin pure drugs and was transferred into a 25-ml clean dry volumetric flask, and then, 10 ml diluent was added and sonicated for 10 min and made up to the final volume with diluent. From the above stock solution, 1 ml was taken into a 10-ml volumetric flask and made up to the volume with diluent so as to get the final concentration of 65 μg/ml of cytarabine and 29 μg/ml of daunorubicin.

Preparation of sample solutions

The sample stock solution of cytarabine and daunorubicin was prepared by taking volume of infusion equivalent to 65 mg of cytarabine and 29 mg of daunorubicin, transferred into a 100-ml volumetric flask, and then, 50 ml of diluent was added and vertexed for 25 min; further, the volume was made up with diluent and filtered by HPLC filters. 1 ml of
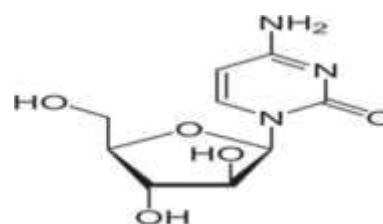
Fig. 1: Structure of cytarabine
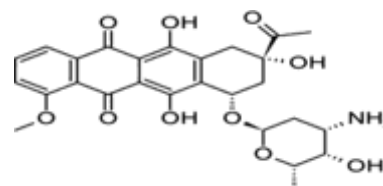
Fig. 2: Structure of daunorubicin

filtered sample stock solution was transferred to 10-ml volumetric flask and made up with diluent.

Validation of the developed method

The proposed analytical method was validated for accuracy, precision, linearity and range, limit of detection (LOD) and limit of quantitation (LOQ) in accordance with the ICH guidelines for analytical procedures Q2(R1).

Accuracy

Accuracy of the developed method has been carried out by recovery studies by applying the standard addition method. A known quantity of drug substance corresponding to 50%, 100%, and 150% of the label claim of drug was added to pre-determined sample solution. Each set of addition was repeated three times. The accuracy was expressed as the percentage of analytes recovered by the assay.

Precision

The precision of the developed analytical method was carried out at target assay concentration level. Six determinations were performed and the results were expressed in terms of percent relative standard deviation (RSD).

Linearity and range

The linearity expresses the proportional relationship between concentration and responses. This was evaluated at six concentration levels in the range between 16.2–97.5 μg/ml and 7.2–43.5 μg/ml for cytarabine and daunorubicin, respectively. A calibration curve was plotted by considering concentration against corresponding peak area, and using least square regression analysis, the correlation coefficient was determined.

LOD and LOQ

LOD and LOQ of the developed method were calculated from the standard deviation of the y-intercepts and slope of the calibration curve of cytarabine and daunorubicin using the following formula:

Table 1: Results of system suitability study with acceptance limits

Parameters	Acceptance limits	Cytarabine	Daunorubicin
Retention time* (min)	-	2.323±0.12	3.140±0.16
Resolution*	NLT 2	-	6.5±0.01
Theoretical plates*	NLT 2000	5287±2	7159±4
Tailing factor*	NMT 2	1.4±0.02	1.2±0.03
*Results of six determinations; NLT: Not less than, NMT: Not more than			
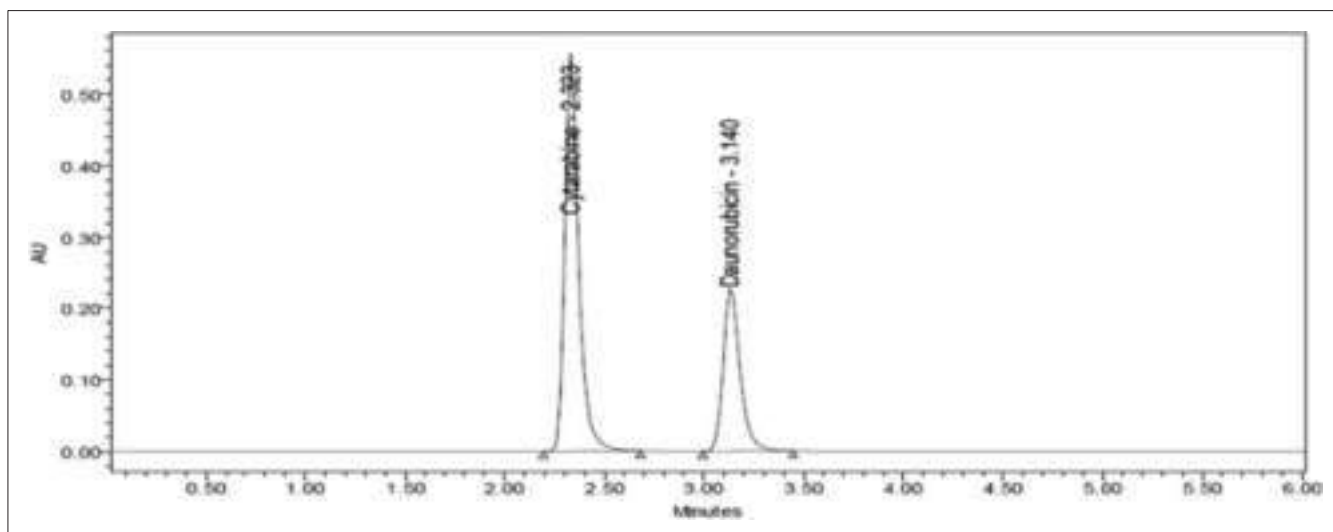
Fig. 3: Chromatogram of cytarabine and daunorubicin standards

Table 2: Results of accuracy

Level of standard added (%)	Cytarabine		Daunorubicin	
	% Recovery	% Mean recovery*	% Recovery	% Mean recovery*
50	99.45	99.05	99.50	99.45
50	98.36		99.25	
50	99.36		99.60	
100	100.22	99.81	99.38	99.32
100	99.68		99.51	
100	99.55		99.07	
150	98.98	99.30	99.28	99.44
150	99.53		99.11	
150	99.39		99.95	

*Average of three determinations; Acceptance criteria: % recovery must be 98%–102%

Table 3: Results of repeatability of precision studies

Number of injections	Cytarabine	Daunorubicin
	Peak area	Peak area
Injection 1	2,682,197	1,334,905
Injection 2	2,678,407	1,339,524
Injection 3	2,678,537	1,335,420
Injection 4	2,679,682	1,336,952
Injection 5	2,666,181	1,339,277
Injection 6	2,676,157	1,335,590
Mean*±SD	2,676,157±5948.9	1,338,111±2557.0
% RSD#	0.2	0.2

*Each value is represented as a mean±SD of six observations (n=6), SD: Standard deviation, RSD: Relative standard deviation,
#Acceptance criteria: RSD <2

LOD = 3.3
σ/s LOQ =
10 σ/s

Where, σ is the standard deviation of the y-intercepts and s is the slope
of the calibration curve.

RESULTS AND DISCUSSION
Method development

Various chromatographic conditions have been tried for best resolution and separation. After number of trials being performed, highly resolved symmetrical peaks were obtained by using Denali C18 (250 mm×4.6 mm, 5 µm) with a mobile phase consisting of water (pH adjusted to 3 with orthophosphoric acid):acetonitrile (55:45) pumped at a flow rate of 1.0 ml/min. The detection wavelength of 240 nm was fixed using PDA detector. A typical RP-HPLC chromatogram for simultaneous determination of cytarabine and daunorubicin from standard preparation is shown in Fig. 3. All the system suitability parameters such as theoretical plates, resolution, and tailing factor were found to be within the limits and are summarized in Table 1.

Method validation
Accuracy

The percentage recoveries of cytarabine and daunorubicin at three different levels (50%, 100%, and 150%) were evaluated and are shown in Table 2. The results of accuracy specify that the recovery values were within the acceptance range of 98–102%. Hence, the developed method was accurate for the determination of specified drugs.

Precision

The precision of the method was verified by repeatability. The standard solution of cytarabine and daunorubicin was prepared at working concentration and was injected six times into the chromatographic system. The results of precision are tabulated in Table 3. The RSD was calculated and reported. The RSD values were found to be <2%. This clearly assured that the developed method was found to be precise, repeatable, and reproducible.

Fig. 4: Calibration plot of cytarabine

$y = 4148.x + 340.7$
$r^2 = 0.999$
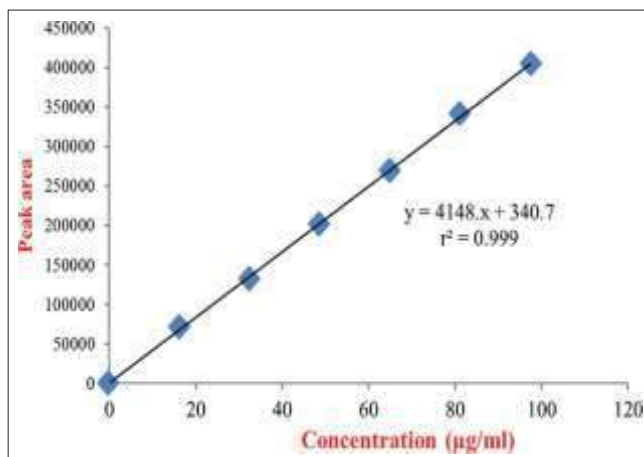
Fig. 5: Calibration plot of daunorubicin

$y = 45407x + 8773.$
$r^2 = 0.999$
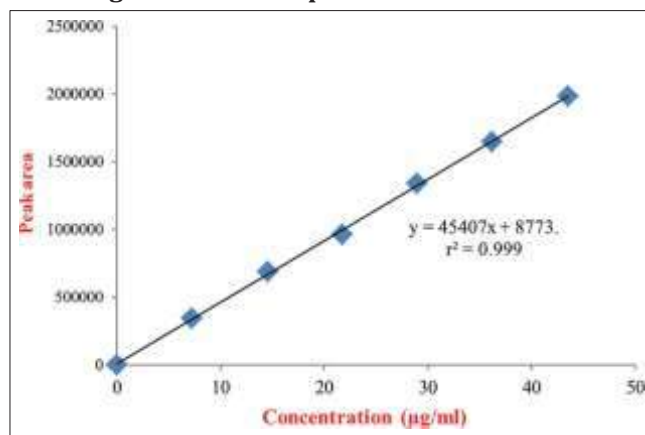
Linearity and range

The linearity of the assay method was checked by preparing test solutions from the standard stock solution at five concentration levels from 25% to 150% of assay concentration. The concentration range at which there is a proportional relationship with peak area is considered as range. The peak area versus concentration data was treated by least square linear regression analysis. The calibration plots are shown in Figs. 4 and 5. The results were obtained. The results showed an excellent correlation between peak areas and concentration within the concentration range of 16.2–97.5 µg/ml for cytarabine and 7.2–43.5 µg/ml for daunorubicin. The correlation coefficients were found to be 0.999 for both the drugs. The results indicate linear relationship between concentration of specified range and response which meet the method validation acceptance criteria, and hence, the method was said to be linear for the specified concentration range.

Table 4: Results of system suitability during robustness studies

Parameter	Cytarabine		Daunorubicin	
	Plate count#	Tailing*	Plate count#	Tailing*
Less flow rate (0.8 ml/min)	5834	1.23	7268	1.26
More flow rate (1.2 ml/min)	5119	1.30	6506	1.28
Less column temperature (28°C)	5610	1.19	7141	1.22
More column temperature (32°C)	5262	1.28	6649	1.28
Less organic phase (60:40)	4962	1.27	6531	1.26
More organic phase (50:50)	5014	1.19	7012	1.20

Acceptance criteria: #Plate count: >2000, *Tailing: <2

LOD and LOQ

LOD and LOQ were estimated from the formula. The LOD and LOQ were found to be 0.12 µg/ml and 0.28 µg/ml for cytarabine and 0.35 µg/ml and 0.85 µg/ml for daunorubicin. The results of LOD and LOQ clearly indicate the sensitivity of the developed method.

Robustness

Robustness of the developed method was determined by deliberately changing the method parameters such as flow rate (±0.1 ml/min), column temperature (±2°C), and mobile phase (±5%). The solutions were prepared as per the test method and were injected at different variable conditions; system suitability parameters were assessed. The results are tabulated in Table 4. From the results, it was concluded that even small changes that have made in the conditions did not affect significantly on system suitability parameters and were found to be within the limits. Hence, the developed method was found to be robust.

CONCLUSION

In the present study, a simple, rapid, and economic RP-HPLC method was developed for the simultaneous analysis of cytarabine and daunorubicin in bulk and infusion formulation. The developed method was validated as per the ICH guidelines and was found to be applicable for routine quality control of drugs in bulk and pharmaceutical formulation either individually or simultaneously.

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AUTHORS' CONTRIBUTIONS

All authors have contributed equally for this research article.

CONFLICT OF INTERESTS

Authors declare that no conflicts of interest exist in this research work.

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DEMAND FOR MONEY AND THE MACROECONOMIC VARIABLES NEXUS: A NON-LINEAR FREQUENCY DOMAIN APPROACH

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ABSTRACT

This paper offers an empirical evidence on the relationship between demand for money and the key macroeconomic variables in Nigeria. The empirical analysis is from the Nigerian data which covers the period 1980 to 2019; through the use of threshold autoregressive asymmetric co-integration, and a test of causality via the frequency domain was conducted to distinguish between a temporal and the permanent causality. In the analysis we ascertain whether the influence of demand for money is by exchange rate appreciation or depreciation. We found a one-way permanent causality from the demand for money to inflation, while interest rate and money demand appear to have a bidirectional causal relationship. The paper appeal to the Nigerian government to acknowledge the worth of money demand as a crucial monetary policy instrument as well as the real exchange rate fluctuation in order to avoid the pressures of inflation emanating from an increase in the demand for money.

KEYWORDS: *real exchange rate, money demand, frequency domain, inflation, interest rate*

***JEL Classification**: E58*

1. INTRODUCTION

Money demand plays an important role in the macro-economic discourse as it influences the choice of the intermediary monetary policy goal. Monetary policy decisions conducted by central banks have an immediate impact on the supply of currency, which is always the intermediate goal in developing nations. Under the balanced presumption of the money markets, a steady demand for money guarantees the handling of

money supply in such a way that stability in price, economic growth and exchange rate volatility are attained within the economy (Farouq, Sulong and Sambo, 2020). With rising trade liberalization, globalization of capital markets, the introduction of a floating exchange rate system, innovation and technical developments, central banks across the world are well over concerned with defining influencing factors of money demand (Farouq, Sulong and Umar, 2020).

The assessment of the threshold autoregressive asymmetric co-integration between the real exchange rate, inflation, interest rate and the demand for money remains one of the innovative contributions of this paper. In conjunction, from the current empiric literature, a test of causality via the frequency domain was conducted to distinguish between a temporal and the permanent causality among money demand and the scrutinized macroeconomic variables. This is following the reviewed literature and found out that most of the previous studies were mainly concerned with the estimation part, with no or little attention to the causal effect.

The basic argument follows that real exchange rate is a key contributing factor influencing demand for money. The chosen independent variables are consistent with previous literature. Attempting to draw evidence from the research of Mundell (1963). Investigating the money demand in Nigeria could provide an important case study for other developing countries. The case of Nigeria was considered in our analysis for the following purposes: firstly, foreign direct investment and the remittance of employees hold a substantial potion in the country's foreign reserve. The country's reserves are vulnerable to capital movements due to over-reliance on FDIs and remittances inflows (Dabachi et al., 2020). Second, with the current unpredictable macroeconomic conditions and the exchange-rate mechanism, money demand stability is a key concern. Under flexible exchange rates, the currency value sensitivity of money demand indicates the strength of monetary policy (Bahmani-Oskooee and Pourheydarian, 1990).

The presented findings of this research indicate that the Nigerian naira/dollar exchange rate is influenced by the Nigerian demand for money. Thus, the Nigerian government should acknowledge the worth of money demand as a crucial monetary policy instrument in order to avoid the pressures of inflation emanating from an increase in the demand for money. Meanwhile, the naira/dollar stability exchange rate, all things been equal, requires that this demand for money in Nigeria remains in a stable manner under the current flexible exchange rate system. In addition, the stability in the Nigeria's money demand is required in order to avoid excess naira/dollar exchange rate variability

2. LITERATURE REVIEW

Demand for money has been shown to respond unevenly to macroeconomic factors such as interest rate, inflation and exchange rate. These involve asymmetric price reactions to positive and negative monetary supply for a limited free market (Dobrynskaya, 2008); Important asymmetrical impact of exchange rate shifts on price inflation (Amoah and Aziakpono, 2018), circular economic spikes but severe economic recession suggesting that real economic activity shifts differently in various market cycles (McQueen and Thorley, 1993; De Long and Summers, 1988); asymmetric adjustment of financial shocks to real production and inflation where these are more likely to react to positive capital flows compared to negative uncertainties (Wooheon, 1995); non-linear relationship between demand for money and the exchange rates (Bahmani-Oskooee and Bahmani, 2015; Dreger and Roffia, 2007; Bahmani-Oskooee et al ., 2016; Arghyrou and Pourpourides, 2016).

The relationship between demand for money and exchange rate was first pointed out by Mundell (1963). He acknowledged that the free flow of capital and the liberalisation of trade have resulted in an insecure money demand. Later, McKinnon (1982) endorsed the "monetary substitution effect" in his report, suggesting that countries operating under flexible exchange-rate regimes undergo foreign monetary disturbances that propagate through global capital markets. Various perspectives have resulted in the emergence of studies (Bahmani-Oskooee and Pourheydarian, 1990; Arango and Nadiri, 1981; Ibrhim, 2001; Bahmani-Oskooee and Rehman, 2005) conducted across the last two decades concerning the effects of the real exchange rate on money demand. One view is that decrease in exchange rate negatively affects domestic demand for capital. As local currency depreciates, individuals expect more depreciation in the future. Thus, they tend to keep more hard currency and less national currency (BahmaniOskooee and Pourhedrian, 1990). On the opposite, currency depreciation could have a positive impact on domestic demand for currency. When country's currency loses value towards foreign currency, the domestic price of overseas currencies increases the wealth of the person. As a result, demand for actual cash holdings within the economy grew (Arango and Nadiri, 1981).

Throughout various asian markets, Ajmi et al. (2015) offers supporting studies of bi-directional causality between the real supply of money and the RRSP, as they show superiority of the substitutability, in which foreign exchange is replaced by national currency. In yet another trend of literature on asian nations, Bahmani-

Oskooee et al. (2019) find asymmetrical long-term and short-term effects of currency exchange on money demand. Research by Folarin and Asongu (2019) on the Nigerian economy uses quarterly data set and uses a co-integration bound testing methods that shows a long-term relationship between money demand and their factors. Both narrow and wide monetary aggregates have been found to be stable. The effect of the REER on the demand for money was shown to be significant and negative. The results of the analysis by Shokr et al. (2019) show a major impact of money supply on production, inflation and exchange rates in Egypt. Khan (1980) uses annual dataset from 1959 to 1978 and concludes that 99 per cent of the variation in money demand for Pakistan during that period was due to wages, the interest rates on time deposits, the monetization and the projected inflation rate.

Another research conducted by Khan (1994) used quarterly dataset from 1971 to 1993 and applied the ECM model. The study explores the relationship between financial sector reforms and the money demand. Results confirm the presence of a stable equilibrium vector between money demand and real income, nominal interest rates, inflation and the real interest rates. A further research performed by Anwar and Asghar (2012) on the Pakistan's stability for money demand, shows that demand for money co-integrates with the deciding factors (real wages, inflation rate and the real exchange rate). However, the measured elasticity of M2 is consistent over time, while the long-term matching relationship of M1 is unstable. Qayyum (2005) indicate that achieving M2 under monetary strategic goals is a challenge as it is significantly influenced by inflation.

These previous empirical studies also investigate either the factors of money demand or the stability of demand for money (Mangla, 1979; Hossain, 1994; Khan, 1980; Qayyum, 2005; Anwar and Asghar, 2012). The empirical analysis used are under the presumption of linearity approach. There are therefore advantageous reasons for pursuing yet another empiric step. The originality and the relevance of this study is exclusive on how it contributes to the literature as it utilises a non-linear cointegration approach that allows the analysis of possible asymmetrical effects, as well as the corresponding non-linear frequency domain causality to distinguish between a temporal and the permanent causality in Nigeria, which to the very best of our reach, there has not been a study of this kind before.

3. METHODOLOGY
3.1 Theoretical framework
There are different theories regarding money demand that answer a broad variety of hypotheses, mostly built on the premise that demand for money is not the same need to borrow additional money, but rather the need to remain liquid. The demand for money from the public is attributable to a need for daily transactions (Das and Wong, 2014). The long-term demand for money as described by Zehra *et al.* (2020) in its purest term as:

$$MD = f(S, OC) \quad (1)$$

where MD represents the money demand, S denotes the scale, which represents the selected macroeconomic variables to explain the behavior for money demand and OC is the opportunity cost linked to holding money. We consider inflation and interest rate as the opportunity cost. We therefore, following Zehra *et al.* (2020) and Ghumro and Karim (2017) specify the model as:

$$M_d = f(REXR, INF, INR) \quad (2)$$

where REXR is the real exchange rate, INF is the inflation rates proxied by CPI, INR is the interest rate. We specify the econometrics model as:

$$LMD_t = \beta_0 + \gamma_{1i}LREXR_t + \gamma_{2i}INF_t + \gamma_{3i}INR_{t-1} + u_{it} \quad (3)$$

3.2 Data and variables
The research seeks time-series dataset. Data on variables such as monetary demand is extracted from the SBP website, while data on inflation rates and real exchange rate are extracted from the World Development Indicators on the World Bank website. In order to avoid the problem of statistical harmonization, it was ensured that the base year considered in the calculation of the CPI corresponds to the constant basic prices being used by SBP. Annual data has been obtained for the past 40 years from 1980 to 2019. For meaningful research, all variables except inflation and interest rates have been converted into logarithms (Ahmad et al., 2020; Jakada et al., 2020; Jakada and Mahmood, 2020;. Monetary demand is considered to be contingent variables to calculate the influence of different variables on money demand, while three other variables were taken as independent variables, REER, interest rates and inflation rate. For various economies, the concept of money is unique (Boughton, 1992), various consolidates and components are being used to quantify money demand. Last but not the

least, money supply data has been used since data on money demand in Nigeria is not observable. REER is expressed as effective real exchange rate from WDI, call money rate is taken as the index for national interest rates, while inflation rate is measured as the annual percentage change in consumer prices. Extant money demand literature considers call rates to be a suitable proxy for interest rate (Khan, 1980, 1992; Mangla, 1979; Ahmad and Khan, 1990; Hossein, 1994; Arize, 1994).

3.3 BDS Test

The BDS test was first created in 1987 by Brock Dechert and Scheinkman. BDS is one of the most important time series strategies for detecting serial dependence. The BDS test is being used in the residual series calculated after the fitness of the ARIMA model has been developed to verify the existence of nonlinear dependence (Chu, 2001). Asymptotically, test figures are accompanied by the standard curve. The null hypothesis implies the independent distribution of the residuals and also that the instances expect several variations that make their dependence nonlinear towards the alternative hypothesis. The BDS experiment 's fundamental theory is based on the principle of integral interaction, which measures the rate at which the spatial pattern is reinforced by the series. The study of the BDS relies only on signs of a simultaneous return, with no concern in its measurements, and does not involve any conclusions as to the existence of the returns. A collection of slightly less or more runs suggests that the research is often not random (Chu, 2001).

The BDS assumption follows:

$$H_O: f_n = f_1^n$$

$$H_1: f_n \neq f_1^n$$

the null hypothesis is commonly rejected at 5 percent P-value when the $f_n > 1.96$

3.4 Unit Root

The advanced ESTAR unit root put forward by Kapetanios et al. (2003) and the DF-GLS unit root were used in this study. Elliott et al. (2006) developed a set of effective unit root tests based on GLS-distended results with regard to an effort to overcome the popular low-power problem of unit root tests. In their paper, ERS proposed a simple improvement to the GLS-detrending ADF test and showed that the proposed test, known as the DF-GLS test, was more successful than the ADF test. The nonlinear unit root testing by KSS is based on the fraying of a unit root against the elective principle 's nonlinear and large fixed exponential STAR (ESTAR) philosophy.

3.5 Threshold Autoregressive Model

Via the use of the Enders and Granger (1998) threshold cointegration method, we will examine the long-run relationship between demand for money, exchange rate, interest rate, and inflation rate in this section. The two stages of the residual-dependent procedures are based on this cointegration technique.

When evaluating a non-linear model, the pertinent issue that arises is the choice of an elusive limit. In order to identify the ideal edge, strong econometric methodologies have been proposed. It is important to choose the optimal edge value so that the baseline RSS of the fitted model can be derived from the plot Chan (1993). Enders and Granger (1998) used the technique of Chan to calculate the advantage of the knowledge limit. To choose the appropriate model best fit between the TAR and the M-TAR models, the AIC and BIC criteria measures will be used.

3.6 Asymmetric Error Correction Model

Constructing a non-linear interface with the M-TAR model threshold helps us to estimate with an asymmetric ecm, the reactions of exchange rate fluctuations to demand for money movements. The redress of asymmetrical errors in this study can be described as

$$\Delta LMD_t = v_1 + v_2 Zplus_{t-1} + v_3 Zminus_{t-1} + \sum_{i=1}^{k} \Omega_i lrexr_{t-1} + \sum_{i=1}^{k} \pi_i inf_{t-1}$$
$$+ \sum_{i=1}^{k} \mu_i int_{t-1} + z_t$$

3.7 Frequency domain causality

The causality of occurrence space offers a comprehensive point-by - point representation of causality across multiple recurrence positions for conventional causality tests carried out in prose,

by measuring the distribution of causality with recurrence groups varying from low to high. This approach 's fundamental intervention includes the inefficiency of the causal influence over the various classes of recurrence, is relevant and can

explain how the causal force varies. In order to determine the association between the neural data, the frequency-domain causality was widely used (Zhou et al., 2016). Empirical research in finance and economics have expanded its application to include economics (Ozer, and Kamisli, 2016; Gül and Özer, 2018).

4. RESULTS AND DISCUSSION

The descriptive statistical analysis together with the correlation analysis are shown in Table 1 below. The results demonstrate that among the variables, the exchange rate has the maximum variability, and money demand tends to be less unstable than the interest rate and the rate of inflation. In all the metrics, besides that, the standard deviation, which explains much about the data set, surfaces the mean. In addition, the kurtosis and the skewness value indicate the possible non-linear distribution of the dataset. Thus, in statistical analyses, we consider the asymmetric nature of the variables. In view of the correlation coefficient results, neither of the variables tend to have a multicollinearity problem.

Table 1: Descriptive Statistics

	LMD	LEXR	INF	INTR
Mean	2.323	14.853	11.725	3.024
Std. Dev.	1.317	13.546	6.208	2.612
Skewness	-3.192	2.810	1.400	0.205
Kurtosis	9.431	5.015	2.819	1.121
	LGDP	LEXR	LFD	LFGU
LMD	1.000			
LEXR	0.228*	1.000		
	(0.000)			
LINF	0.205*	0.214*	1.000	
	(0.000)	(0.000)		
LINTR	0.023*	0.031*	0.357*	1.000
	(0.000)	(0.000)	(0.000)	

4.1 Diagnostic Tests

Table 5.3 Diagnostic Tests

	χ^2_{NT}	χ^2_{SERIAL}	χ^2_{ARCH}
MD=F(EXR, INF,INTR)	0.627 (0.413)	0.816 (0.538)	1.912 (0.304)

All of the P values are insignificant according to the above three diagnostics. The data is thus said to be free of serial correlation and heteroscedasticity; the normality result also tells us that the data is normally distributed.

4.2 BDS Test

The test of BDS is used to assess the asymmetric nature of time series results. In specific, the test was used for the residual data series generated from ARIMA models (Dorina and Simina, 2007). The test was named after prominent economists, Brock, Dechert, and Schneinkman. The test is premised on the idea that the series exhibits randomness within the sequence against the alternative presumption that the sequence is asymmetric within the model. And for the findings of the BDS test, see Table 2 below. The table indicates that the null hypothesis is dismissed at a significance level of 1% in all the proportions. This indicates a nonparametric structure.

Table 2: BDS Linearity Test

Series	D2	D3	D4	D5	D6
LMD	0.286*	0.323*	0.262*	0.295*	0.934*
LEXR	0.520*	0.487*	0.142*	0.397*	0.530*
INF	0.078*	0.122*	0.168*	0.642*	0.451*
INTR	0.057*	0.059*	0.096*	0.067*	0.074*

4.3 Unit Root

The findings of the conventional unit root test, the DF-GLS, are shown in table 4 below, showing that the unit root null hypothesis for all the variables analyzed at level could not have been rejected at 5 percent. But we reject the null hypothesis of no stationary after first differentiation, thus I(1). It is very well-founded that, when non-linear effects represent the process of producing series outcomes, traditional linear unit root tests have lower power. We would also perform a new advanced unit root testing technique in this analysis that integrates non - linearity into the system to measure the nonlinear stationary properties of the sequence parameters. Furthermore, the findings of the KSS root unit experiments are shown in Table 3, which shows that the KSS test did not actually reject the null hypothesis also at level among all variables, but after first differencing, it was rejected. Thus, our variables become nonlinear stationary at first difference I (1).

Table 3: Stationarity Test of Unit Root

VARIABLES	DF-GLS	KPSS
LMD	-1.804	-1.025
LEXR	-1.885	-2.014
INF	-2.014	-3.026
INTR	-2.040	-2.084
ΔlMD	-3.527**	-4.214*
ΔlEXR	-4.821*	-3.303**
ΔINF	-4.421*	-4.103*
ΔINTR	-3.061**	-6.732*

4.4 Co-integration Test

Table 4 below presents the MTAR and TAR models. We estimate the M-TAR through the adjustment speed differential variation. With the HQC vectors indicating the TAR and the M-TAR models having an optimal lag of 2. The BIC and AIC all show that the momentum model is the most appropriate for Nigeria. The results of the M-TAR and TAR reveals that we can reject the null hypothesis of $\rho 1 = \rho 2 = 0$ at the 1% significance level. This follows that exchange rate fluctuation, financial development, financial globalization uncertainty, and economic growth are cointegrated, the asymmetric. The study evaluates the null hypothesis through normal F-statistics (Enders and Granger, 1998).

The symmetric adjustment could not reject the null hypothesis in both the M-TAR and TAR estimates. The result reveals that in line with the M-TAR and TAR specifications, there is no symmetric in the adjustment between exchange rate fluctuation, financial development, financial globalization uncertainty, and economic growth. However, the TAR threshold model rejects both the null hypothesis of no long-run relationship and the corresponding symmetric adjustment at a 1% significance level. This means that the aforementioned variables are cointegration with a significant asymmetric adjustment. This offers empirical evidence to the presence of an asymmetrical threshold for the long-run relationship between exchange rate fluctuation, financial development, financial globalization uncertainty, and economic growth in Nigeria. As such, these variables are asymmetrically interdependent, making it extremely hard for investors to achieve adequate diversification of portfolios.

Table 4: Cointegration Asymmetric Results

	TAR	T-Statistics	Momentum TAR	T-Statistics
ρ^1	-0.862**	3.546	-0.791**	2.482
ρ^2	-0.654**	3.712	-0.863**	2.191
γ^1	0.759*	4.486	0.817**	2.304
γ^2	0.563*	5.971	0.528**	0.174
Tau	0.000		0.000	
F-Joint $\rho^1 = \rho^2 = 0$ $\Phi/\phi M$	4.342**	11.052	4.639*	11.308
F-equal $\rho^1 \neq \rho^2 \neq 0$	0.184*	4.043	0.358*	1.573

In addition, we note that the pace of adjustment to the long-run appears to be statistically significant in the context of Table 5. Regarding that, the model follows the standards for convergence. This explains that in the moment of deviations from the lower regime, this would take just 38 percent (the coefficient of Zminust-1) pace for the model to return to its equilibrium. Approximately 28 percent (coefficient. of Zplust-1) changes pace to return to its long-term equilibrium, though higher regime imbalance duration. Regarding the results below, we can infer that the level of change in the lower regime is higher.

Table 5: MTAR Error Correction Model

Dependent variable: $LGDP_t$

Variables	Coefficients	Standard error	p-value
ΔLMD_t	0.843* [3.441]	0.245	0.000
$\Delta LEXR_t$	1.048* [5.664]	0.185	0.000
ΔINF_t	0.517* [4.517]	0.121	0.000
$\Delta INTR_t$	0.240* [5.106]	0.047	0.000
$ZPLUS$	-0.281* [-4.763]	0.059	0.000
$ZMINUS$	-0.384* [-4.085]	0.094	0.000

4.5 Causality

The spectrum causality strategy of Breitung and Candelon (2006) suggests that the responsiveness of a variable to transient high-frequency shocks in the other variable is indeed not equal to temporal, medium and permanent frequency shocks, unlike traditional causality tests, which define the relationship between variables by measuring a fixed coefficient in a general form. This method helps one to break down the statistical causality test into various frequencies. It is worth noting that the result of the frequency domain causality test is different from those of other causality tests, because the results are presented at different frequencies. This reinforces the need for temporary, medium and permanent causality to be uncovered.

Following the results of the causality test in Table 6, there exist a bi-directional causal relationship between the real exchange rate and money demand in a temporary period that translates the fixed exchange rate regime of the Nigerian exchange rate system: the demand for money under the fixed regime induced the weakening of the exchange rate. The market exchange rate dropped below the pegged

exchange rate after rising money demand, this is because when exchange rate depreciates, it negatively affects the domestic money demand. As people would expect subsequent depreciation in the future. As such, they take the advantage of holding more foreign assets and less of local money (BahmaniOskooee and Pourhedrian, 1990; by Folarin and Asongu 2019; Farouq et al., 2020; Sulong et al., 2020; Ahmad et al., 2020; Sulong and Sanusi, 2020).

Such disparity between the pegged exchange rate and the real exchange rate would cause arbitrage activities on the market. These activities would be forced to reduce the demand for money, resulting to a subsequent increase in the real exchange rate. Money demand eventually decreased to its early stage and the real exchange rate returned to its original level. Therefore, the fixed exchange rate mechanism is characterized by a bi-directional causal effect between the exchange rate and the demand for money.

There is a unidirectional causality flowing from the demand for money to the real exchange rate under the flexible exchange rate regime. the rise in the demand for money in the flexible scheme triggers a decrease in the exchange rate (i.e. Naira's depreciation). However, the floating scheme is distinguished by the lack of any arbitration activities following adjustments in the exchange rate. As a result, there would be no mitigating shift in money demand and thus the exchange rate failed to trigger changes in money demand. Here, unidirectional causality exists from money demand to exchange rate, and this tends to be a particular function of the flexible exchange rate system.

While in the case of inflation, a one-way permanent causality exists from the demand for money to inflation, which is in line with the findings of Makinen & Woodward (1989); Chimobi (2010); Bhattarai (2011); Waingade (2011); Bakare (2011); Bello & Saulawa (2013). The finding indicates that monetary stability leads to stable prices in the Nigerian economy, considering the fact that price increases are often caused by the demand for money, and this makes inflation in Nigeria a very significant economic phenomenon.

On the other hand, interest rate and money demand appear to have a bidirectional causal relationship. The potential explanation for this is related to the fact that demand is likely to differ with the interest rates they could receive from alternative investments, such as bonds. As interest rates increase compared to the rates that can be paid on deposits of money, people keep less money. When interest rates decline, people keep more money. Thus, when interest rate increases, it causes the demand for money to decrease, thereby resorting to holding more assets than in its liquid form. While, increase in the money demand would force the interest rate to go up in order to attract more money holders to keep their wealth in assets than the liquid form.

Table 6: Frequency domain Causality Test

	Long-run		Medium-term		Short-run	
	0.01	0.05	1	1.5	2	2.5
$LEXR_t \rightarrow LMD_t$	0.375	0.243	0.752	0.733	6.058*	9.028*
$LMD_t \rightarrow LEXR_t$	7.051*	6.927*	5.721*	8.042*	1.029	0.248
$INF_t \rightarrow LMD_t$	0.827	0.931	0.021	0.608	0.724	0.354
$LMD_t \rightarrow INF_t$	8.729*	10.031*	0.121	0.587	6.497	6.043
$INTR_t \rightarrow LMD_t$	4.079*	5.128*	3.016*	3.163*	4.352*	4.260*
$LMD_t \rightarrow INTR_t$	5.052*	3.952*	3.013**	3.481**	5.421*	4.021*

5. CONCLUSION AND POLICY IMPLICATIONS

In this study, we offer an empirical evidence on the relationship between the demand for money, inflation rate, interest rate and the real exchange rate in Nigeria. The study analyzes the Nigerian data which covers the period 1980 to 2019, through the application of threshold autoregressive asymmetric co-integration, and a test of causality using the frequency domain to ascertain the nature of the causal effect (whether temporary, medium or permanent). In the analysis we were able to observe a bi-directional causal relationship between the real exchange rate and money demand in a temporary period (the fixed exchange regime), while a unidirectional causal effect exists from money demand to real exchange rate in the permanent exchange rate regime. We further found a one-way permanent causality from the demand for money to inflation, while interest rate and money demand

appear to have a bidirectional causal relationship. The presented findings of this research indicate that the Nigerian naira/dollar exchange rate is influenced by the Nigerian demand for money. Thus, the Nigerian government should acknowledge the worth of money demand as a crucial monetary policy instrument in order to avoid the pressures of inflation emanating from an increase in the demand for money. Meanwhile, the naira/dollar stability exchange rate, all things been equal, requires that this demand for money in Nigeria remains in a stable manner under the current flexible exchange rate system. In addition, the stability in the Nigeria's money demand is required in order to avoid excess naira/dollar exchange rate variability. The paper, therefore, shows that the Nigerian monetary authority is required to put more effort in bringing back stability in the demand for money. The Friedman's **k**-percent rule might be considered.

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HALF LOGISTIC MODIFIED EXPONENTIAL DISTRIBUTION: PROPERTIES AND APPLICATIONS

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ABSTRACT

In this study, we have introduced a three-parameter probabilistic model established from type I half logistic-Generating family called half logistic modified exponential distribution. The mathematical and statistical properties of this distribution are also explored. The behavior of probability density, hazard rate, and quantile functions are investigated. The model parameters are estimated using the three well known estimation methods namely maximum likelihood estimation (MLE), least-square estimation (LSE) and Cramer-Von-Mises estimation (CVME) methods. Further, we have taken a real data set and verified that the presented model is quite useful and more flexible for dealing with a real data set.

KEYWORDS— *Half-logistic distribution, Estimation, CVME ,LSE, , MLE*

1. INTRODUCTION

Since probability distributions are frequently used for the forecast of lifetime of components in various fields of applied sciences. Several lifetime distributions are introduced to model such types of data but existing distributions do not always produce an adequate fit. Hence in the last few decades generalizing distributions and exploring their flexibility and shapes are of interest to researchers. These new family of continuous distribution provides a better fit as compared to usual classical distributions and are acquired with the introduction of one or more additional shape parameter(s) to the baseline distribution.

Some of the well-known generating families are; Gamma-G (Zografos and Balakrishnan (2009)), Beta-generated (Beta-G) (Eugene et al. (2002)), exponentiated generalized class (Cordeiro et al. (2013)), gamma-exponentiated (Ristic and Balakrishnan (2011)), Exponential Half-Logistic family (Cordeiro et al. (2014), Kumaraswamy Weibull-G (Hassan and Elgarhy (2016)), (Cordeiro et al. (2015)) has introduced type first half-logistic family, Weibull-G (Bourguignon et al. (2014)), Garhy-G (Elgarhy et al. (2016)), additive Weibull- G (Hassan and Hemeda (2016)),exponentiated Weibull-G (Hassan and Elgarhy (2016)), Type II half logistic-G(TIIHLG) (Hassan et al. (2017)), exponentiated extended-G (Elgarhy et al. (2017), odd Frechet-G (Haq and Elgarhy (2018)), generalized additive Weibull-G (Hassan et al. (2017)), Muth-G (Almarashi and Elgarhy (2018)) Type II Half Logistic Rayleigh Distribution (Muhammad et al (2018)) and power Lindley-G (Hassan and Nassr (2018).

Cumulative distribution function (CDF) of the half logistic distribution given by (Balakrishnan, 1985) is,

$$F(y;\lambda) = \frac{1 - e^{-\lambda y}}{1 + e^{-\lambda y}} \quad ; y > 0, \lambda > 0$$

and its corresponding Probability density function(PDF) is

$$f(y;\lambda) = \frac{2\lambda e^{-\lambda y}}{\left(1+e^{-\lambda y}\right)^2} \quad ; y > 0, \lambda > 0$$

The CDF and PDF of type I half logistic-G family which was introduced by Cordeiro et al. (2015) are,

$$F(x) = \frac{1-\left(1-G(x)\right)^{\lambda}}{1+\left(1-G(x)\right)^{\lambda}}, \quad x, \lambda > 0 \tag{1.1}$$

and

$$f(x) = \frac{2\lambda g(x)\left(1-G(x)\right)^{\lambda-1}}{\left[1+\left(1-G(x)\right)^{\lambda}\right]^2}, \quad x, \lambda > 0. \tag{1.2}$$

where G(x) and g(x) are CDF and PDF of baseline distribution.

The key objective of this article is to establish a new distribution using half-logistic generator, compare and investigate its various natures and behaviors. The remaining part of the article is structured as, In Section 2 we have explained the behavior of PDF and DCF, survival and hazard rate function, quantile function of the observed model. In Section 3 we have discussed the method of estimation namely the maximum likelihood estimation (MLE), least-square estimation (LSE) and Cramer-Von-Mises (CVM) methods. In section 4 we have estimated the model parameters using the above-mentioned methods and also for MLEs we have constructed asymptotic confidence interval of the estimate. The comparison of the flexibility of the observed model with some other models and application of the model using a real data set are illustrated in this section. In section 5 overall conclusions of the study are presented.

2. THE HALF LOGISTIC MODIFIED EXPONENTIAL DISTRIBUTION(HLME)

To develop HLME distribution we have used the modified exponential distribution as a baseline distribution which was introduced by (Rosaiah et al., 2007). The distribution function of the modified exponential distribution (MED) with two parameters $(\alpha, \lambda) > 0$ is

$$F(x; \alpha, \lambda) = 1 - \exp\left\{-\alpha \, x \exp(\lambda x)\right\} \; ; (\alpha, \lambda) > 0, \quad x > 0 \tag{2.1}$$

where $(\alpha \,\square\, \lambda)$ are the shape parameters. The probability density function is

$$f(x; \alpha, \lambda) = \alpha\left(1+\lambda x\right)\exp\left\{\lambda x - \alpha \, x \exp(\lambda x)\right\} \; ; (\alpha, \lambda) > 0, x > 0 \tag{2.2}$$

Now substituting (2.1) and (2.2) in (1.1) and (1.2) respectively we get the new half logistic modified exponential distribution whose CDF is obtained as

$$F(x) = \frac{1-\mathrm{e}^{-\alpha\lambda x e^{\beta x}}}{1+\mathrm{e}^{-\alpha\lambda x e^{\beta x}}}; \quad \alpha, \beta, \lambda > 0, \; x > 0 \tag{2.3}$$

and corresponding PDF is

$$f(x) = \frac{2\alpha\lambda\left(1+\beta x\right)\mathrm{e}^{\beta x - \alpha\lambda x e^{\beta x}}}{\left(1+\mathrm{e}^{-\alpha\lambda x e^{\beta x}}\right)^2}; \alpha, \beta, \lambda > 0, \; x > 0 \tag{2.4}$$

The reliability/survival function of HLME is

$$R(x) = \frac{2e^{-\alpha\lambda x e^{\beta x}}}{1+e^{-\alpha\lambda x e^{\beta x}}}; \alpha, \beta, \lambda > 0, \; x > 0 \tag{2.5}$$

The hazard rate function (HRF) is

$$h(x) = \frac{\alpha\lambda(1+\beta x)e^{\beta x}}{1+e^{-\alpha\lambda x e^{\beta x}}}; \alpha, \beta, \lambda > 0, \ x > 0 \tag{2.6}$$

The Quantile function

The quantile function related to the random variable's probability distribution, in probability statistics, defines the value of the random variable in a way that the probability of the variable being less than or equal to the value is equal to the probability assigned. It is also called the inverse cumulative distribution function or percent-point function. The definition of the pth quantile is following equation's real solution.

$$Q(p) = F^{-1}(p)$$

And we get quantile function by inverting (2.3) as

$$\ln x + \beta x - \ln\left[-\frac{1}{\alpha\lambda}\ln\left(\frac{1-p}{1+p}\right)\right] = 0, \quad 0 < p < 1 \tag{2.7}$$

For the generation of the random numbers of the HLME distribution, we suppose simulating values of random variable X with the CDF (2.3). Let U denote a uniform random variable in (0,1), then the simulated values of X is obtained by

$$\ln x + \beta x - \ln\left[-\frac{1}{\alpha\lambda}\ln\left(\frac{1-u}{1+u}\right)\right] = 0 \ ; \quad 0 < u < 1 \tag{2.8}$$

Skewness and Kurtosis:

These measures are used mostly in data analysis to study the shape of the distribution or data set. The Bowley's skewness based on quartiles is,

$$S_k(B) = \frac{Q(3/4) + Q(1/4) - 2Q(1/2)}{Q(3/4) - Q(1/4)}, \text{ and}$$

Coefficient of kurtosis based on octiles given by (Moors, 1988) is

$$K_u(Moor) = \frac{Q(0.875) - Q(0.625) + Q(0.375) - Q(0.125)}{Q(3/4) - Q(1/4)}$$

Plots of probability density function and hazard rate function of HLME(α,β,λ) with different values of parameters are shown in Figure 1.
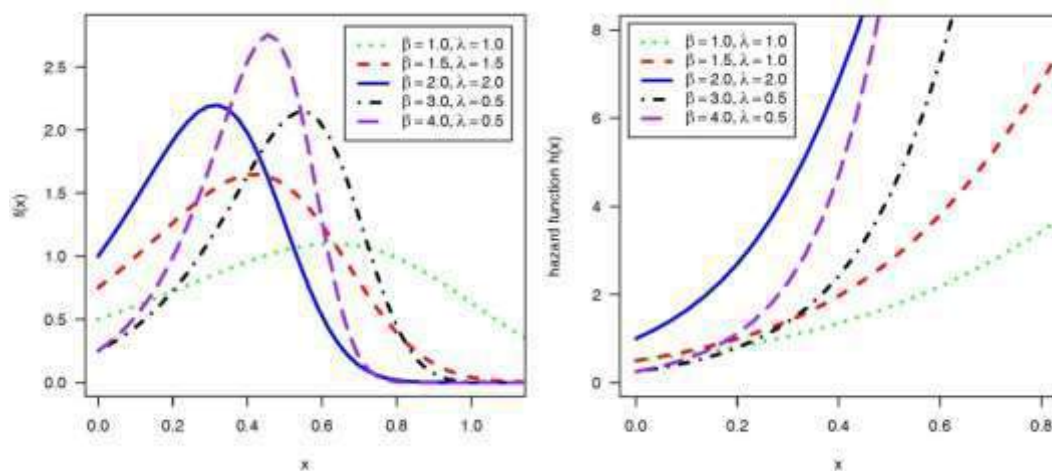

Figure 1. Plots of PDF (left panel) and hazard function (right panel) for α = 1 and different values of β and λ.

3. METHOD OF PARAMETER ESTIMATION

3.1 Maximum Likelihood Estimation (MLE):

Here we discuss the maximum likelihood estimators (MLE's) of the HLME distribution. Let $\underline{x}$ = $(x_1,\dots,x_n)$ be a random sample of size 'n' from HLME(α, β, λ) then the likelihood function L(α, β, λ / $\underline{x}$) can be written as

$$L\left(\alpha,\beta,\lambda \mid \underline{x}\right) = 2\alpha\lambda \prod_{i=1}^{n} \frac{\left(1+\beta x_i\right) e^{\beta x_i - \alpha\lambda x_i e^{\beta x_i}}}{\left(1+e^{-\alpha\lambda x_i e^{\beta x_i}}\right)^2} \qquad (3.1.1)$$

Now the log-density of HLME is

$$l = \sum_{i=1}^{n}\beta x_i - \alpha\lambda\sum_{i=1}^{n} x_i e^{\beta x_i} + n\ln\left(2\alpha\lambda\right) + \sum_{i=1}^{n}\ln\left(1+\beta x_i\right) - 2\sum_{i=1}^{n}\ln\left(1+e^{-\alpha\lambda x_i e^{\beta x_i}}\right) \qquad (3.1.2)$$

By differentiating (3.1.2) with respect to parameters and equating to zero we get maximum likelihood estimator of the parameters.

$$\frac{\partial l}{\partial \alpha} = \frac{1}{\alpha} - \lambda x e^{\beta x} + \frac{2\lambda x e^{\beta x}}{1+e^{\alpha\lambda x e^{\beta x}}} = 0$$

$$\frac{\partial l}{\partial \beta} = x - \alpha\lambda x^2 e^{\beta x} + \frac{x}{1+\beta x} + \frac{2\alpha\lambda x^2 e^{\beta x}}{1+e^{\alpha\lambda x e^{\beta x}}} = 0 \qquad (3.1.3)$$

$$\frac{\partial l}{\partial \lambda} = \frac{1}{\lambda} - \alpha x e^{\beta x} + \frac{x}{1+\beta x} + \frac{2\alpha x e^{\beta x}}{1+e^{\alpha\lambda x e^{\beta x}}} = 0$$

Manually it is not possible to solve these nonlinear equations so we can use iterative techniques such as Newton-Raphson algorithm to calculate the estimated value of the parameters. The optim() function in R software can be used to solve them numerically. Let us denote the parameter vector by $\underline{\Omega} = (\alpha, \beta, \lambda)$ and the corresponding MLE of $\underline{\Omega}$ as $\hat{\underline{\Omega}} = (\hat{\alpha}, \hat{\beta}, \hat{\lambda})$, then the asymptotic normality results in, $\left(\hat{\underline{\Omega}} - \underline{\Omega}\right) \rightarrow N_3\left[0, \left(I\left(\underline{\Omega}\right)\right)^{-1}\right]$ where $I\left(\underline{\Omega}\right)$ is the Fisher's information matrix given by,

$$I\left(\underline{\Omega}\right) = -\begin{pmatrix} E\left(\dfrac{\partial^2 l}{\partial\alpha^2}\right) & E\left(\dfrac{\partial^2 l}{\partial\alpha\partial\beta}\right) & E\left(\dfrac{\partial^2 l}{\partial\alpha\partial\lambda}\right) \\[3mm] E\left(\dfrac{\partial^2 l}{\partial\beta\partial\alpha}\right) & E\left(\dfrac{\partial^2 l}{\partial\beta^2}\right) & E\left(\dfrac{\partial^2 l}{\partial\lambda\partial\beta}\right) \\[3mm] E\left(\dfrac{\partial^2 l}{\partial\alpha\partial\lambda}\right) & E\left(\dfrac{\partial^2 l}{\partial\lambda\partial\beta}\right) & E\left(\dfrac{\partial^2 l}{\partial\lambda^2}\right) \end{pmatrix}$$

In reality, since we do not know $\underline{\Omega}$, it is meaningless that the Maximum Likelihood Estimates has asymptotic variation $\left(I\left(\underline{\Omega}\right)\right)^{-1}$. Therefore by putting in the expected value of the parameters, we measure the asymptotic variance. The common technique is using the observed Fisher information matrix $O(\hat{\underline{\Omega}})$ as an estimate of the information matrix $I\left(\underline{\Omega}\right)$ is as follows,

$$O(\hat{\underline{\Omega}}) = -\begin{pmatrix} \dfrac{\partial^2 l}{\partial \alpha^2} & \dfrac{\partial^2 l}{\partial \alpha \partial \beta} & \dfrac{\partial^2 l}{\partial \alpha \partial \lambda} \\[2mm] \dfrac{\partial^2 l}{\partial \alpha \partial \beta} & \dfrac{\partial^2 l}{\partial \beta^2} & \dfrac{\partial^2 l}{\partial \beta \partial \lambda} \\[2mm] \dfrac{\partial^2 l}{\partial \alpha \partial \lambda} & \dfrac{\partial^2 l}{\partial \beta \partial \lambda} & \dfrac{\partial^2 l}{\partial \lambda^2} \end{pmatrix}_{(\hat{\alpha},\hat{\beta},\hat{\lambda})} = -H\left(\underline{\Omega}\right)_{(\Omega=\hat{\Omega})}$$

Where Hessian matrix is denoted by H

With the help of Newton-Raphson algorithm, maximizing the likelihood, gives observed information matrix. Therefore, the variance-covariance matrix is as follows,

$$\left[-H\left(\underline{\Omega}\right)_{(\Omega=\hat{\Omega})}\right]^{-1} = \begin{pmatrix} \text{var}(\hat{\alpha}) & \text{cov}(\hat{\alpha},\hat{\beta}) & \text{cov}(\hat{\alpha},\hat{\lambda}) \\ \text{cov}(\hat{\alpha},\hat{\beta}) & \text{var}(\hat{\beta}) & \text{cov}(\hat{\lambda},\hat{\beta}) \\ \text{cov}(\hat{\alpha},\hat{\lambda}) & \text{cov}(\hat{\lambda},\hat{\beta}) & \text{var}(\hat{\lambda}) \end{pmatrix}$$

Therefore from the asymptotic normality of MLEs, approximate 100(1-α) % confidence intervals for α,β, λ can be produced as,

$$\hat{\alpha} \pm Z_{\alpha/2} SE(\hat{\alpha}) , \ \hat{\beta} \pm Z_{\alpha/2} SE(\hat{\beta}) \text{ and } \hat{\lambda} \pm Z_{\alpha/2} SE(\hat{\lambda})$$

where upper percentile of standard normal variate is denoted by $Z_{\alpha/2}$

3.2. Method of Least-Square Estimation (LSE)
The weighted least square estimators and least-square estimators, proposed by Swain et al. (1988), is used for estimating the parameters of Beta distributions. In this article, the same technique is applied for the HLME distribution. The unknown parameters α, β, and λ's the least-square estimators of HLME distribution can be acquired by minimizing

$$S\left(X;\alpha,\beta,\lambda\right) = \sum_{j=1}^{n}\left[F(X_j) - \frac{j}{n+1}\right]^2 \qquad (3.2.1)$$

with respect to unknown parameters α, β, and λ.

Let us consider $F(X_{(j)})$ represet the distribution function of the ordered random variables $X_{(1)} < X_{(2)} < \ldots < X_{(n)}$, where $\{X_1, X_2,\ldots,X_n\}$ denote random sample of size n from a distribution function F(.). Thus, in this case, the least square estimators of α, β, and λ say $\hat{\alpha}$, $\hat{\beta}$ and $\hat{\lambda}$ respectively, can be acquired by minimizing

$$S\left(X;\hat{\alpha},\hat{\beta},\hat{\lambda}\right) = \sum_{j=1}^{n}\left[\frac{1-e^{-\alpha \lambda x_j e^{\beta x_j}}}{1+e^{-\alpha \lambda x_j e^{\beta x_j}}} - \frac{j}{n+1}\right]^2 \qquad (3.2.2)$$

with respect to α, β, and λ. Differentiating (3.2.2) with respect to α, β, and λ we get the following three nonlinear equations as

$$\frac{\partial S}{\partial \alpha} = -4\lambda \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{j}{n+1} \right] \frac{x_j\, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

$$\frac{\partial S}{\partial \beta} = -4\alpha\lambda \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{j}{n+1} \right] \frac{x_j^2\, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

$$\frac{\partial S}{\partial \lambda} = -4\alpha \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{j}{n+1} \right] \frac{x_j^2\, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

The unknown parameters' weighted least square estimators can be obtained by minimizing

$$S\left(X;\alpha,\beta,\lambda\right) = \sum_{j=1}^{n} w_j \left[F(X_{(j)}) - \frac{j}{n+1} \right]^2$$

with respect to α, β, and λ. The weights w_j are $\quad w_j = \dfrac{1}{V(X_{(j)})} = \dfrac{(n+1)^2(n+2)}{j(n-j+1)}$

Hence, the weighted least square estimators of α, β, and λ respectively, can be acquired by minimizing,

$$S\left(X;\alpha,\beta,\lambda\right) = \sum_{j=1}^{n} \frac{(n+1)^2(n+2)}{j(n-j+1)} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{j}{n+1} \right]^2 \qquad (3.2.3)$$

with respect to α, β, and λ.

3.3. Method of Cramer-Von-Mises (CVM)

We are interested in Cramér-Von-Mises type minimum distance estimators, (Macdonald 1971) because it provides empirical evidence that the bias of the estimator is smaller than the other minimum distance estimators. The CVM estimators of α, β, and λ are acquired by minimizing the function

$$C\left(\alpha,\beta,\lambda\right) = \frac{1}{12n} + \sum_{i=1}^{n} \left[F\left(x_{i:n} \mid \alpha,\beta,\lambda\right) - \frac{2i-1}{2n} \right]^2 \qquad (3.3.1)$$

$$= \frac{1}{12n} + \sum_{i=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{2i-1}{2n} \right]^2$$

Differentiating (3.3.1) with respect to α, β, and λ we get the following three nonlinear equations as

$$\frac{\partial C}{\partial \alpha} = -4\lambda \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{2i-1}{2n} \right] \frac{x_j\, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{-\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

$$\frac{\partial C}{\partial \beta} = -4\alpha\lambda \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{2i-1}{2n} \right] \frac{x_j^2 \, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{-\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

$$\frac{\partial C}{\partial \lambda} = -4\alpha \sum_{j=1}^{n} \left[\frac{1-e^{-\alpha\lambda x_j e^{\beta x_j}}}{1+e^{-\alpha\lambda x_j e^{\beta x_j}}} - \frac{2i-1}{2n} \right] \frac{x_j^2 \, e^{\alpha\lambda x_j e^{\beta x_j}+\beta x_j}}{\left(1+e^{\alpha\lambda x_j e^{\beta x_j}}\right)^2}$$

4. APPLICATION OF REAL DATASET

In this portion, we demonstrate the applicability of HLME distribution with the help of a real dataset used by earlier researchers. The following data shows the service times of 63 Aircraft Wind shield (Kundu & Raqab, 2009) and listed as follows

0.046, 1.436, 2.592, 0.140, 1.492, 2.600, 0.150, 1.580, 2.670, 0.248, 1.719, 2.717, 0.280, 1.794, 2.819, 0.313, 1.915, 2.820, 0.389, 1.920, 2.878, 0.487, 1.963, 2.950, 0.622, 1.978, 3.003, 0.900, 2.053, 3.102, 0.952, 2.065, 3.304, 0.996, 2.117, 3.483, 1.003, 2.137, 3.500, 1.010, 2.141, 3.622, 1.085, 2.163, 3.665, 1.092, 2.183, 3.695, 1.152, 2.240, 4.015, 1.183, 2.341, 4.628, 1.244, 2.435, 4.806, 1.249, 2.464, 4.881, 1.262, 2.543, 5.140

From Figure 2 it is seen that the estimated values of the parameters via MLE method are unique.
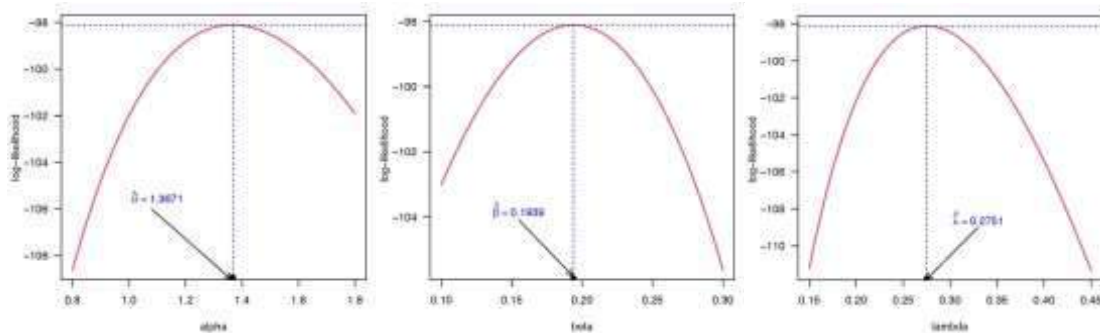
Figure 2. Profile log-likelihood functions of α, β and λ.

For checking model's validity is checked by computing the Kolmogorov-Smirnov (KS) distance between the fitted distribution function and the empirical distribution function when the parameters are acquired from maximum likelihood method. The KS plot is presented in Figure 3 demonstrates that the estimated exponential extension model provides excellent fitt to the given data. By maximizing the likelihood function in (3.1), we have computed the maximum likelihood estimates directly by using R software (R Core Team, 2020) and (Rizzo, 2008). We have obtained $\hat{\alpha}$ = 1.3671, $\hat{\beta}$ =0.1939, $\hat{\lambda}$ =0.2751 and corresponding Log-Likelihood value is I= -98.10808. In Table 1 we have demonstrated the MLE's with their standard errors (SE) for α, β, and λ.

Table 1

MLE and SE for α, β and λ

Parameter	MLE	SE	t-value	Pr(>t)
alpha	1.3671	14.9193	0.092	0.9269
beta	0.1939	0.0629	3.084	0.00204
lambda	0.2751	3.0028	0.092	0.92701

In Table 2 we have displayed the estimated value of the parameters, log-likelihood, AIC, BIC and AICC for the MLE, LSE and CVE methods. It is found that the MLEs are quite better among these three estimation methods.

Table 2

Estimated parameters, log-likelihood, AIC, BIC, AICC and HQIC

Method	$\hat{\alpha}$	$\hat{\beta}$	$\hat{\lambda}$	-LL	AIC	BIC	AICC	HQIC
MLE	1.3671	0.1939	0.2751	98.1081	202.2162	208.6456	202.6229	204.7449
LSE	1.5304	0.2193	0.2308	98.2072	202.4145	208.8439	202.8212	204.9432
CVE	1.5290	0.2378	0.2220	98.4171	202.8342	209.2636	203.2410	205.3630

In Table 3 we have displayed the value of the test statistic of Kolmogorov-Simnorov (KS), the Anderson-Darling (AD) and the Cramer-Von Mises (CVM) to assess the goodness of fit of MLE, LSE and CVE estimation methods.

Table 3

The goodness-of-fit statistics and their corresponding p-value

Method	KS(p-value)	AD(p-value)	CVM(p-value)
MLE	0.0665(0.9254)	0.0351(0.9578)	0.2425(0.9741)
LSE	0.0609(0.9622)	0.0304(0.9756)	0.2561(0.9670)
CVE	0.0590(0.9714)	0.0294(0.9788)	0.2932(0.9430)
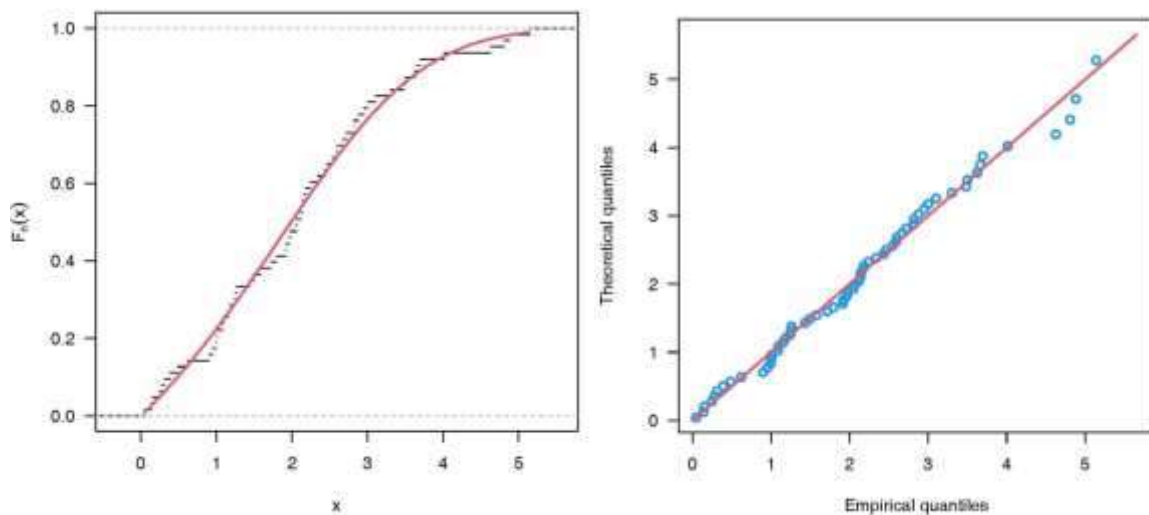
Figure 3. The graph of the CDF (left panel) and the Q-Q plot (right panel) of HLME distribution.

To illustrate the goodness of fit of the HLME distribution, we have taken some well known distributions for comparison purpose which are listed below,

    I.   Exponentiated Exponential Poisson (EEP) distribution

The probability density function of EEP (Ristić & Nadarajah, 2014) can be expressed as

$$f(x) = \frac{\alpha\beta\lambda}{\left(1 - e^{-\lambda}\right)} e^{-\beta x} \left(1 - e^{-\beta x}\right)^{\alpha-1} \exp\left\{-\lambda\left(1 - e^{-\beta x}\right)^{\alpha}\right\} \quad ; x > 0, \alpha > 0, \lambda > 0$$

II. Generalized Exponential Extension (GEE) distribution

The PDF of GEE distribution has introduced by (Lemonte, 2013) with parameters α, β and λ is

$$f_{GEE}(x; \alpha, \beta, \lambda) = \alpha\beta\lambda \left(1 + \lambda x\right)^{\alpha-1} \exp\left\{1 - \left(1 + \lambda x\right)^{\alpha}\right\}$$

$$\left[1 - \exp\left\{1 - \left(1 + \lambda x\right)^{\alpha}\right\}\right]^{\beta-1} \quad ; x \geq 0.$$

III. Generalized Gompertz (GGZ) distribution

The PDF of GGZ distribution has introduced by (El-Gohary et al., 2013) is

$$f_{GG}(x) = \theta\lambda e^{\alpha x} e^{-\frac{\lambda}{\alpha}\left(e^{\alpha x}-1\right)} \left[1 - e^{-\frac{\lambda}{\alpha}\left(e^{\alpha x}-1\right)}\right]^{\theta-1} \quad ; \quad \lambda\theta > 0, \alpha \geq 0, x \geq 0$$

IV. Exponential Extension (EE) distribution

The density of exponential extension (EE) distribution (Nadarajah & Haghighi, 2011) with parameters α and λ is

$$f_{EE}(x) = \alpha\lambda \left(1 + \lambda x\right)^{\alpha-1} \exp\left\{1 - \left(1 + \lambda x\right)^{\alpha}\right\} \quad ; x \geq 0, \alpha > 0, \lambda > 0.$$

In order to check the goodness of fit of a given distribution we generally use the PDF and CDF plot. To get the additional information we have to plot CDF and P-P plots. Particularly the CDF plot may give information about the lack-of-fit at the tails of the distribution, whereas the P-P plot emphasizes the lack-of-fit. From Figure 4 it is proven that the HLME model fits the data very well.
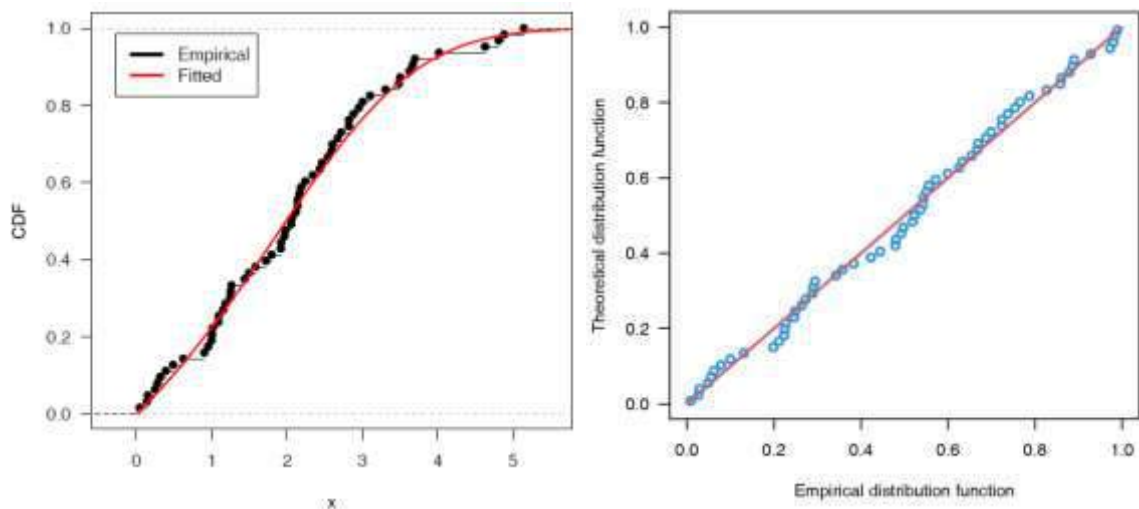
Figure 4. The graph of empirical distribution function with estimated distribution function (left panel) and P-P plot (right panel) of HLME distribution.

For the assessment of potentiality of the proposed model we have calculated the Bayesian information criterion (BIC), Akaike information criterion (AIC),Corrected Akaike information criterion (CAIC) and Hannan-Quinn information criterion (HQIC) which are presented in Table 4. It is observed that the HLME distribution have the smallest value of log likelihood, AIC, BIC, CAIC and HQIC.

Table 4

Log-likelihood (LL), AIC, BIC, CAIC and HQIC

Model	-LL	AIC	BIC	CAIC	HQIC
HLME	98.1081	202.2162	208.6456	202.6229	204.7449
EEP	103.5468	213.0936	219.5230	213.5004	215.6224
GEE	98.6627	203.3254	209.7548	203.7322	205.8541
GGZ	98.2316	202.4633	208.8927	202.8701	204.9920
EE	100.1167	204.2335	208.5197	204.4270	205.9193

The Histogram and the density function of fitted distributions and Empirical distribution function with estimated distribution function of HLME and some selected distributions are presented in Figure 5.
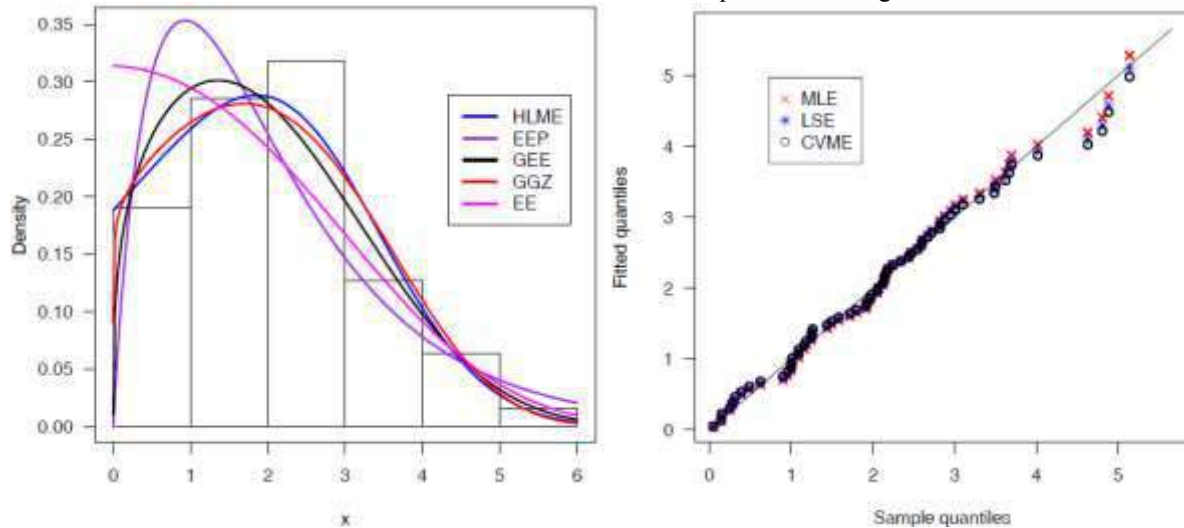
Figure 5. The Histogram and the density function of fitted distributions (left panel) of HLME distribution and fitted quantiles of estimation methods MLE, LSE and CVME (right panel).

For comparing the goodness-of-fit of the HLME distribution with other competing distributions we have presented the value of Kolmogorov-Simnorov (KS), the Anderson-Darling (AD) and the Cramer-Von Mises (CVM) statistics in Table 5. It is observed that the HLME distribution has the minimum value of the test statistic and higher p-value thus we derive the conclusion that the HLME distribution gets quite better fit and more consistent and reliable results from others taken for comparison.

Table 5

The goodness-of-fit statistics and their corresponding p-value

Model	*KS(p-value)*	*AD(p-value)*	*CVM(p-value)*
HLME	0.0665(0.9254)	0.0351(0.9578)	0.2425(0.9741)
EEP	0.1431(0.1373)	0.2298(0.2167)	1.3052(0.2306)
GEE	0.0958(0.5771)	0.0684(0.7633)	0.4040(0.8442)

GGZ	0.0694(0.9009)	0.0428(0.9197)	0.2890(0.9460)
EE	0.1446(0.1296)	0.2949(0.1397)	1.3923(0.2044)

5. CONCLUSIONS

In this study, we have studied the three-parameter half logistic modified exponential (HLME) distribution. We have demonstrated the PDF, the CDF, and the shapes of the hazard function. The PDF's shape of the HLME distribution is unimodal and positively skewed, while the hazard function of the HLME distribution is increasing. The P-P and Q-Q plots demonstrates that the purposed distribution is quite better for fitting the real dataset. Finally, using a real data set we explore the maximum likelihood estimates of the parameters and their corresponding confidence interval. Further, we also investigate the least square estimates, and Cramer-Von-Mises methods of estimation for estimating the parameters. We have compared the potentiality of the proposed distribution with some other distributions by employing goodness of fit test and found that the HLME distribution fits quite better than others taken in consideration.

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THE LIMITS OF INTERACTION AND CELEBRATIONS WITH NON-MUSLIMS IN A PLURALISTIC SOCIETY-(AN ANALYTICAL STUDY)

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ABSTRACT

In this article, it has been endeavoured to analyze the concepts of The limits of interaction and celebrations with non-Muslims in a pluralistic society. Actually, the pluralistic Religious pluralism is a combination of two words. "Religion and pluralism" follows them separately. Religion (noun) is the meaning of the way, attitude, origin and belief. The literal meaning of religion is the method or the way. The literal meaning of religion is "the road", which goes on. It is derived from the Arabic word "z-ah-b",Which means to go (walk) or pass away. After all, religion is the code of conduct by which human beings can succeed in the world and the hereafter. This way is called religion. Moreover, Greetings to non-Muslims in a pluralistic society, Exchange of gifts in a pluralistic society, Marrying a non-Muslim in a pluralistic society, Participation in non-Muslim celebrations of plural society, The slaughter of non-Muslims in a pluralistic society and its limits for Muslims, Condolences to non-Muslims in a pluralistic society and participation in funerals, Attending non-Muslim funerals in a pluralistic society, Participation in national celebrations and festivals in a pluralistic society, The problem of treatment and medicine from non-Muslims in a pluralistic society are the main issues discussed here in detail.

KEY WORDS: *Pluralistic, Society, Muslims, celebrations, History, philosphy, peace*

INTRODUCTION AND DATA Description Islam recognizes the differences between religions and recognizes a society in which people of different religions live. The Qur'an is wise:

" وَلَوْ شَاء رَبُّكَ لَجَعَلَ النَّاسَ أُمَّةً وَاحِدَةً وَلاَ يَزَالُونَ مُخْتَلِفِيْن"

[1]

"Surely your Lord could have made all

[1]   Surah Hood : 118

mankind one group, if He please, but they will follow a different course."

In this verse, it is clearly stated that the religion of truth is one and the same in the sight of Allah Almighty and His pleasure is that people should accept it, but His will is not that all human beings should have the religion of truth. It has given them freedom of choice. They can choose whichever path they want and follow whatever religion they want. It is inevitable that there will be mutual relations between the people who live in the society. The teaching of Islam is that these relations should be based on justice and good conduct and differences of religions should not be allowed to stand in the way. Allaah says :

" ۞لا يَنْهٰكُمُ اللَّهُ عَنِ الَّذِيْنَ لَمْ يُقَاتِلُوكُمْ فِيْ الدِّيْنِ وَلَمْ يُخْرِجُوكُم مِّن دِيَارِكُمْ أَن تَبَرُّوْبُمْ وَتُقْسِطُوا إِلَيْهِمْ إِنَّ اللَّهَ يُحِبُّ الْمُقْسِطِيْنَ"[2]

“Allah does not forbid you to deal kindly and justly with those who have not fought you in religion and have not driven you out of your homes. God loves those who do justice. ”

This verse is very important in relation to social relations with non-Muslims. It mentions non-Muslims who are not ready to fight Muslims, but live together in peace and tranquility. There are two words to read:

"أَن تَبَرُّوبُم" اور " تُقْسِطُوا إِلَيْبِم3"

"Bur" means good behavior and merciful reward. It has the connotation of being as good as possible. The installment has been taken by some commentators in the sense of justice, ie deal with non-Muslims with justice. And that means they have to be moderate in their dealings with non-Muslims. Don't be too close to them, don't stay too far away from them.

Ibnul Arbi Maliki Says:[4]

تُقْسِطُوا إِلَيْبِم

It means giving them some of your wealth as a merciful reward" .

These teachings of the Qur'an have been observed by Muslims in every age. During the Makkahn period, they lived with and among the polytheists.

[2]   Surah Al-Mumtahinah ;8

[3] Al-Asfihani, Raghib, Imam, Al-Mufrdat fi Ghareeb ul Quran, (Egypt: Darul Saadah, 1322AH), p, 93

[4]   Abul Hassan Al-Mawardi, Al-Nikat Waluyoon (Tafseer Almawardi),(Maktbah Al-Waqfia, 2011) p, 223/4

There were Jewish tribes around Madina and they were accompanied by Muslims. There were good social relations between the followers of these different religions. Allah's Messenger (peace and blessings of Allah be upon him) never exaggerated them and never tried to limit them. Celebrations - An important part of social life is in the nature of man to meet other human beings on different occasions, to share in their joys and to share in their joys, to comfort them when they are in trouble and He should seek consolation and sympathy from others when he himself has an affliction. On occasions of joy, happiness and sorrow, when people from different relationships gather, they are called celebrations. These celebrations can be social as well as religious. Religious ceremonies also include certain rituals, which are based on a belief. When people from different walks of life in a multi-religious society hold their ceremonies, they also invite followers of other religions because of their social ties. While Muslims invite their non-Muslim neighbors, visitors, business associates and sometimes religious figures to their celebrations, non-Muslims also invite their Muslim friends to their celebrations. The question arises as to what are the limits and restrictions on the participation of Muslims in non-Muslim ceremonies, which should be observed? In the present era, this question has also become important because of the tendency of Muslims to invite non-Muslims to their ceremonies and non-Muslims to invite Muslims to their ceremonies in order to promote sectarian harmony. Has grown and is being called a need of the hour. Monotheism One of the basic tenets of Islam Before looking at the answer to the above question and considering its details, it seems necessary to shed some light on the importance of monotheism in Islam. Monotheism is one of the basic tenets of Islam. In contrast, he has sharply criticized polytheism. At the time of the revelation of the Qur'an, people were involved in polytheism and idolatry. Christians exaggerated and made Jesus God. Some of its sects believed in the 'Aqanim-e-Salatha'. The Quraysh had made thousands of gods and goddesses, before whom they bowed their heads. The Qur'an clarifies the error of all these sects and makes shirk an unforgivable crime:

" إِنَّ اللّٰهَ لاَ يَغْفِرُ أَن يُشْرَكَ بِهِ وَيَغْفِرُ مَا دُونَ ذٰلِكَ لِمَن يَشَاءَ ۖ وَمَن يُشْرِكْ بِاللّٰهِ فَقَدِ افْتَرَى إِثْماً عَظِيْماً" [5]

[5]   Surah Al-Nisa 4:48

"Allah does not forgive shirk alone, but He forgives as many sins as He wills for whomever He wills. Whoever associates anything with Allah, then he has forged a lie and committed a grievous sin. "It is narrated on the authority of Aisha that the Messenger of Allah (saw) said: If he is present, there will be three types of deeds in his book of deeds. Some deeds will be those which Allah will not forgive under any circumstances and these will be polytheistic deeds. Allaah says (interpretation of the meaning):"

"إِنَّهُ مَن يُشْرِكْ بِاللَّهِ فَقَدْ حَرَّمَ اللَّهُ عَلَيْهِ الْجَنَّةَ وَمَأْوَاهُ النَّارُ " [6]

"Whoever associates anything with Allah, Allah has forbidden Paradise to him, and his abode is Hell."

Therefore, when attending the ceremonies of non-Muslims, one must abstain from all acts that are explicitly polytheistic, or which contain evidence of polytheism. There is another principle that must be kept in mind in this regard. That is, Islamic law urges Muslims to maintain their identities and forbids them to imitate other nations. It is narrated on the authority of Hazrat Abdullah bin Umar that the Prophet (peace and blessings of Allaah be upon him) said:

"من تشبّه بقوم فهو منهم " [7]

"Anyone who imitates a nation is one of them." In another hadith, he said:

"ليس منا من تشبّه بغيرنا " [8]

"He is not one of us who imitates others." In the time of the Prophet, Jews and Christians were counted among the religious nations. In worship and in society, he performed many things that became his identity. Allah's Messenger (peace and blessings of Allah be upon him) forbade Muslims to imitate him in these deeds.

Greetings to non-Muslims in a pluralistic society:

When attending an event, the first encounter is with the host. If he is a non-Muslim, can he be greeted? There are different rules in the hadiths regarding greeting non-Muslims. In some ahaadeeth it is forbidden to greet them, while it is proven from some of the Sahaabah and their followers that they used to greet them. Can There is also a debate over what words to use to greet or respond to greetings. Can they be greeted in the same way as Muslims? Or will other appropriate words be used for them?

Syed Jalaluddin Umri has written in detail on this subject. (Refer to him for the hadiths and relics of the Companions).

"We should think of a society that is a mixed and mixed society of Muslims and non-Muslims, that is, a pluralistic society, where there are different cultural, social, economic, purposeful relations between the two and both legal and constitutional relations. I'm tied up. In such a society, if non-Muslims are greeted in a polite manner, it will not be an anti-Salaf act. In this way, they may gradually become accustomed to Islamic etiquette and their meaning may become clearer to them. If it feels abominable, other words of respect, love and kindness can be used for them. However, care must be taken not to use expressions that are specific to another religion or culture, and not to use words that contradict Islamic beliefs. "9

Exchange of gifts in a pluralistic society:

Gift exchange ceremonies, if happy, are also presented with gifts. Hadiths show that gifts can be given to non-Muslims and their gifts can be accepted. Kasra (King of Iran), Caesar (King of Rome) and other kings sent gifts in the service of the Prophet (sws), which he accepted and sometimes he also sent gifts in response to them. The king of the Hamir tribe, Zwizan, sent a precious pair to his service. He accepted it and sent him a similar precious pair as a gift. Najashi Shah of Abyssinia gave him a mule as a gift, which he used for riding. The King of Alexandria (Egypt) sent many gifts in your service, such as a thousand shekels of gold, twenty (20) soft clothes, a mule called Daldal, a donkey named Yafur, a glass cup, a wooden jar, a mirror. , Comb, etc.

Marrying a non-Muslim in a pluralistic society:

Muqawqas Shah of Egypt, as we mentioned earlier, had sent with him two slaves and a slave, one of whom he had taken to his homeland, Yemen. So this text justifies marriage with non-Muslim People of the Book. As for the problem of other Muslims, there is definitely a text in it.
The guidance is from the Almighty.

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[6]   Surah Al-Maidah 5:72
[7]   Sunan Abu Dawood, Kitabul Libas, Bab fi Lubsulshahrah, Hadith no, 4031
[8]   Sunan Al-Termazi, Kitabul Istizan, Hadith no, 2695

[9] Ghair Mulmoun sy Taalukat aour Un k Haqooq, p, 67

" وَلَا تَنْكِحُوا الْمُشْرِكَاتِ حَتَّى يُؤْمِنَّ وَلَأَمَةٌ مُؤْمِنَةٌ خَيْرٌ مِنْ مُشْرِكَةٍ وَلَوْ أَعْجَبَتْكُمْ وَلَا تُنْكِحُوا الْمُشْرِكِينَ حَتَّى يُؤْمِنُوا وَلَعَبْدٌ مُؤْمِنٌ خَيْرٌ مِنْ مُشْرِكٍ وَلَوْ أَعْجَبَكُمْ أُولَئِكَ يَدْعُونَ إِلَى النَّارِ وَاللَّهُ يَدْعُو إِلَى الْجَنَّةِ وَالْمَغْفِرَةِ بِإِذْنِهِ وَيُبَيِّنُ آيَاتِهِ لِلنَّاسِ لَعَلَّهُمْ يَتَذَكَّرُونَ " [10]

"And do not marry idolatrous women until they become MuslimsIndeed a Muslim slave-girl is better than a (free) idolatress, however pleasing she may seem to youNor give (the Muslim women) in marriage to idolaters till they embrace IslamAnd certainly a Muslim slave is better than an idolater, even though he should please youThese (idolaters and disbelievers) call you to Hell while Allah invites, by His Decree, to Paradise and Forgiveness and explains His Verses clearly to people so that they may take direction and guidance"

The commentary in Dure Mansoor states that it is not permissible to marry a polytheist:

Imam Hakim (he called it Sahih) narrated from Mu'adh Jahni (may Allah be pleased with him) that the Messenger of Allah (may Allah bless him and grant him peace) said: Whoever gives to someone for the sake of Allah and not for the sake of Allah. He gave and loved someone for the sake of Allah and became angry with someone for the sake of Allah. He completed his faith.[11]

People of the Book, even if the woman is not a Muslim, the children born of such a marriage will be called Muslims, because the lineage is always with the man and if the man is a Muslim, then the children belonging to his lineage will also be Muslims.

The problem of marrying a Qadiani or an apostate in a pluralistic society:

Imam Abu al-Hasan Ali ibn Abi Bakr al-Marghinani said:

"اعلم أن تصرفات المرتد على أقسام نفاذ بالاتفاق كالاستيلاء والطلاق... وباطل بالاتفاق كالنكاح والذبيحة لأنه يعتمد الملة ولا ملة له" .

"It should be noted that there are several types of apostate dispositions: One type is unanimously enforced, such as subjugation and divorce. The second type is unanimously invalid, such as nikah and zabiha, because they are both dependent on the nation and the apostate has no nation."

Ibn 'Abidin al-Shami says:

ولا يصلح (أن ينكح مرتد أو مرتدة أحدا) من الناس مطلقًا وفى الشامية (قوله مطلقًا) أى مسلمًا أو كافرًا أو مرتدًا.[12]

"And the marriage of an apostate or an apostate with a human being is absolutely not valid, that is, neither with a Muslim, nor with a disbeliever, nor with an apostate. "

In Fatwa Alamgiri, it is written that the marriage of an apostate is void:

فلا يجوز له أن يتزوج امرأة مسلمة ولا مرتدة ولا ذمية ولا حرة ولا مملوكة.[13]

"Therefore, an apostate is not allowed to marry a Muslim woman, an apostate, a dhimmi woman, a free man or a female slave."

From all the above quotations it is clear that a Muslim man cannot marry an apostate. Similarly, a Muslim woman can marry only a Muslim man.

Participation in non-Muslim celebrations of plural society:

Eating and drinking is considered an essential part of all celebrations. If it doesn't happen at an event, it seems incomplete. In short ceremonies, tea biscuits, fruits, fruits, etc. are sufficient, while in large ceremonies, a variety of food is arranged. It is important to keep in mind the basic teachings of Islam regarding food and drink:

Alcohol and other alcoholic beverages are commonly used in non-Muslim celebrations. In Islam, it is explicitly forbidden and it is urged to avoid it. Allaah says (interpretation of the meaning):

"يَاأَيُّهَا الَّذِينَ آمَنُوا إِنَّمَا الْخَمْرُ وَالْمَيْسِرُ وَالْأَنْصَابُ وَالْأَزْلَامُ رِجْسٌ مِّنْ عَمَلِ الشَّيْطَانِ فَاجْتَنِبُوهُ لَعَلَّكُمْ تُفْلِحُونَ " [14]

"O Believers! Wine and gambling and idols mounted (for worship) and divining arrows (for seeking luck, all) are filthy works of Satan. So turn away from them (completely) so that you may prosper."

The slaughter of non-Muslims in a pluralistic society and its limits for Muslims:

One of the animals that Islam forbids eating is pork. This has been clarified in several places in the Holy Qur'an. Allah Almighty has said:

"إِنَّمَا حَرَّمَ عَلَيْكُمُ الْمَيْتَةَ وَالدَّمَ وَلَحْمَ الْخِنزِيرِ " [15]

"If there is any restriction on you from Allah,

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[10] Surah Al-Baqarah, 2: 221
[11] Tafseer Aldurar Al-Mansoor, 543/1
[12] Shami, Ftawa Shamia, p, 200/3
[13] Ftawah Aalamgiri, p, 580/3
[14] Surah Al-Maidah 5:90
[15] Surah Al-Baqarah 2: 173

it is that you should not eat carrion, but should eat it with blood and pork."

In mahrams (as is clear in the above verse) there is also dead. In Surat al-Ma'ida (verse 3) it is stated that whether he died a natural death or was strangled or injured or fell from a high place or died by hitting the horns of another animal, it is haraam to eat its meat. Is.

It is also haraam to eat the meat of an animal that has been slaughtered in the name of other than Allah or on the thresholds of idols.

In this verse, the word) طَعَامُ food) is mentioned, which is commonly found, but it is narrated from various companions and followers that it means sacrifice. Allama Ibn Katheer in his commentary on this verse, after quoting the sayings of his companions and followers, wrote:

وهذا أمر مجمع عليه بين العلماء أن ذبائهم حلال للمسلمين، لأنهم يعتقدون تحريم الذبح لغير الله ولا يذكرون على ذبائهم الا اسم الله وان اعتقدوا فيه تعالیٰ ما هو منزّه عن قولهم۔ [16]

"The consensus of the scholars is that the slaughter of the People of the Book is permissible for Muslims, because they consider slaughter in the name of other than Allah to be haraam and slaughter in the name of Allah alone, even though they are about Allah Almighty. Some have beliefs that he is free from."

Sayyid Abu al-'Ali Maududi has pointed out an important point in the following verse: Have been done. From this it became clear that the People of the Book should abide by the rules of purity and purity which are necessary from the point of view of Shari'ah, or if their food contains haraam things. For example, if they slaughter an animal without mentioning the name of Allah or use the name of someone other than Allah on it, then it is not permissible for us to eat it. Similarly, if there is alcohol or pork or any other haraam thing on their table, we cannot associate with them.[17]

Items made by non-Muslims, such as sweets or other food items, pizza, etc., are permissible for Muslims to use. Provided that no haraam thing is mixed in them and they are not offered to idols. As at McDonald's pizza, some people suspect that it contains pork

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[16]   Tafseerul Quran Al-Azeem, p, 321/2
[17]   Moudodi , Abu Aala, Molina Syed, Tafheemul Quran, (New Delhi : Markazi Maktabah Islami Publishers) , p, 446-448/1

Condolences to non-Muslims in a pluralistic society and participation in funerals:

If a non-Muslim loved one, neighbor, business partner or visitor dies, he should be offered condolences. This is a social requirement, which is permitted by Shariah. However, while offering condolences, one should not utter anything that contradicts any Islamic belief. A Christian used to attend the meeting of Hazrat Hassan Basri. When he died, they offered condolences to his brother. He said:

"Be patient with the trouble that has befallen you." Allah will give you a good reward for it. "[18]

Attending non-Muslim funerals in a pluralistic society:

Non-Muslims can attend the funeral. The purpose is to express the relationship with the deceased and to comfort and console his loved ones and relatives. In funerals, of course, religious matters and instructions are observed, non-Muslims will manage it in their own way, but a Muslim is allowed in any case to have a human relationship and express sympathy. So be present on this occasion and attend his funeral. Numerous Companions and great followers give practical proof of this

However, it is important to be careful that a Muslim does not engage in any act that is illegal from an Islamic point of view, such as setting fire to a pyre, that Islamic law does not allow the burning of human corpses, or prayers for forgiveness. And reciting the Qur'an for the sake of reward, that it is explicitly forbidden for a non-Muslim deceased to do so. In Quraan Majeed:

" مَا كَانَ لِلنَّبِيِّ وَالَّذِينَ آمَنُواْ أَن يَسْتَغْفِرُواْ لِلْمُشْرِكِينَ وَلَوْ كَانُواْ أُوْلِيْ قُرْبَى مِن بَعْدِ مَا تَبَيَّنَ لَهُمْ أَنَّهُمْ أَصْحَابُ الْجَحِيْمٌ" [19]

"It is not the glory of the Messenger (blessings and peace be upon him) and the dignity of the believers that they pray for forgiveness of the polytheists, even though they are kindred, after it has become clear to them that they (the polytheists) are the inmates of Hell."

In the same way, once the Messenger of Allah visited his mother's grave. There, a state of weeping fell upon him and the Companions, seeing him, began to weep. On this occasion he said:

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[18]   Kitabul Khiraj, p, 217
[19]   Surah tauba 9:113

استأذنت ربى أن استغفرلها فلم يأذن لى۔[20]

"I asked my Lord for permission to seek forgiveness for my mother, but I did not get permission".

Participation in national celebrations and festivals in a pluralistic society:

In our country, some events are held which are of a national nature and do not usually involve participatory activities, although the organizers of the event are non-Muslims, so some of the events have their own culture. A glimpse of In India, for example, the country's flag is hoisted and saluted on Independence Day, Republic Day and some other occasions. When the national anthem is recited on these occasions, it is considered necessary for all present to stand. Can a Muslim participate in such events?[21]

In films made in Muslim countries, it is possible for Muslims to imitate other religions in fictitious roles, to imitate their rituals, to use tilak and to utter obscene words against Muslims. This should also be uprooted- .

At the beginning of some ceremonies, candles are lit, coconuts are boiled, ribbons are cut, or other such things are done. All of these activities are in conflict with Islamic culture, so their performance is not desirable, but if they do not have a polytheistic background, there may be scope to participate in such events. Participation in religious ceremonies Some ceremonies of non-Muslims are of a purely religious nature. Participatory functions are performed in them. It is not normal for Muslims to attend such events under normal circumstances.

Allaah says (interpretation of the meaning :

" وَالَّذِينَ لَا يَشْهَدُونَ الزُّورَ وَإِذَا مَرُّوا بِاللَّغْوِ مَرُّوا كِرَاماً" [22]

" (And the servants of the Most Gracious are those) who do not bear witness to falsehood, and when they pass by a nonsense, they pass by like noble men."

In this verse, 'Zor' means some of the Companions and followers (such as Hazrat Abdullah bin Abbas, Abu Al-Aliyah, Mujahid, Taus, Ibn Sirin, Rabi 'bin Anas and Zahak etc.) have taken the festivals of the polytheists.[23]

In the time of the Prophet, a man made a vow that he would slaughter a camel at a place called Bawana. He mentioned his vow to the Messenger of Allah (peace and blessings of Allah be upon him) and asked: Is there any idol of the Jahiliyyah that is worshiped? People said: No. He asked: Are any of the festivals of Jahiliyyah celebrated there? The people replied: No. Then he said: Fulfill your vow. A woman came to the service of Allah's Messenger (peace and blessings of Allah be upon him) and said: I had made a vow that I would sacrifice animals in some place (where people used to slaughter animals in the pre-Islamic era). He asked: Did the people of Jahiliyyah offer sacrifices to an idol of clay or stone there? He replied: No. Then he said: Fulfill your vow.24 It is clear from these ahaadeeth that when it is forbidden to slaughter the vows in places where idols are worshiped and polytheistic acts are performed, it will not be permissible to participate in the festivals held there. Allama Ibn Taymiyyah, after quoting the above hadiths, has written: "When a devout person is forbidden to attend ignorant festivals and places of worship, then participation in ignorant festivals itself will be prohibited in the first place."25 For this reason, many of the Companions of Ifta 'have declared the participation of non-Muslims in religious ceremonies to be forbidden. However, if a person has to attend a non-Muslim religious ceremony for the purpose of religious expediency, national requirements, da'wah spirit, compilation of heart or Islam, he may be allowed to do so, provided he participates in a religious act. Don't be and stay away from the religious rituals that are performed on this occasion. It is known from the books of Sira that the Messenger of Allah (peace be upon him) used to attend the festivals of Okaz, Zulmajna and Zulmajaz and used to meet the people there and present the message of Islam to them. Similarly, if there is a party on the occasion of various festivals as a goodwill gesture, such as Holi Milan, etc., and religious ceremonies are not performed in it, then in view of the wider da'wah interests, goodwill and communal harmony Can be attended. An example of a religious ritual is the wearing of a qashqa on the forehead, which is related to Hindu religious rites, so it is not permissible.26

[20]   Mahnama Al-Rashad, shumara no 335, vol 40, november 2000
[21]   ibid
[22]   Surah Al-Furqan, :72
[23]   Tafseer ibne Kathir, Aljamei Mae Liahkam ul Quran, p, 356/5

[24] Sunan Abu Dawood, Hadith no, 3313
[25]   Kifaytul Mifti, Ftawa Rashidiyah,(Deuoban: Rashidiyah Kutub Khana), p, 556/9
[26] Khalid Saifullah Rehmani, Molina, Muslimanon aur Ghair Muslimon k drmiyan Rwabit Islami Taleemat ki roshni min, (New Delhi:2013) p, 27

In some ceremonies in India, the song 'Vande Mataram' is sung. The song is openly polytheistic, as it addresses 'Bharat Mata'. According to the Hindus, 'India' has been portrayed as a goddess and idols have been erected and temples have been built in different parts of the country. Based on this, it is not permissible for a Muslim to sing this song. The resolution was passed in this regard on June 20-22, 2004 at the seminar of Islamic Jurisprudence Academy, New Delhi, Hyderabad:

"Songs like Vande Mataram have polytheistic words and the idea of giving the land of India the status of a deity is found. Therefore, it is haraam for Muslims to recite such a song and they must avoid it.27

The problem of treatment and medicine from non-Muslims in a pluralistic society:

There are a few texts that show that there is a justification for this.

Imam Ahmad, Ibn Majah and Abu Dawud have narrated from Jabir that they say that when Abi ibn Ka'b fell ill, the Prophet sent a doctor to treat him and he put a scar on his arm vein. It is narrated on the authority of Ibn 'Umar (may Allaah be pleased with him) in Musnad Ahmad that he said:' Umar (may Allaah be pleased with him) sent a physician to me to examine my wound. He said: He drank grapes from Allah and likened grapes to blood.[28]

Ibn al-Qayyim said: "Having hired Abdullah ibn Ariqat al-Dawli for guidance during the migration of the Prophet (peace and blessings of Allaah be upon him) proved that even though he was a kaafir, it is permissible to refer to a kaafir in medicine, medicine, writing, arithmetic, etc. There should be no work in which the court is a condition and just because you are a kaafir does not mean that you should not rely on anything at all, especially in times of migration, there can be no work that is more dangerous than showing the way.29

CONCLUSION

As we know, meeting two or more people together creates a family, and a few families together form one society by living together in one place. In the same way, this process takes on the form of a global society, taking on a region, country and then global. The society is like the human body, just as a perfect and healthy body requires that all its organs are natural. Stay connected to each other. Likewise, for the formation of a strong society, it is essential that unity and harmony between different people be maintained.

In his book "In The Quest for Meaning: Developing a Philosophy of Pluralism", Tariq Ramadan spoke of promoting mutual respect and tolerance among people of different faiths and ideas in a pluralistic society. He says that the world is shrinking like a global village. Europe and America are no longer a distant world. Now Muslim scholars are realizing that they are living in a world where different religions, philosophies and ideologies are revived. The believers are living. In the texts of the Qur'an and Sunnah, the most important attribute of the society which has been declared as the desired society of God is that it imprints the worship of Allah on the obedience and worship of Allah, and people worship and worship the zakat with full religious spirit Play with. Individual and collective agreements should be enforced; the spirit of witnessing the truth is alive and the collective existence of Muslims is the title of martyrdom of truth in the world, regardless of personal or group interest and without taking into account the reproach of an offender; The needs of parents and honors should be respected; the rights of the orphans are protected; prostitution and indecency are a taboo thing and arrangement to block all avenues of promotion; Always be vigilant and avoid such forms of tyranny and other forms of repression on the life and death of such criminals. God-ordained sentences should be imposed without exception; a general atmosphere for inviting goodwill and preventing evil is established in society, and society at all levels is sensitive in this regard; Be judged on the basis of justice; no superiors can exploit or infringe on their rights; opportunities for people to develop their academic skills to the best of their ability and showcase their abilities in the field of their own tastes. Be available; the system of wealth distribution should be just and fair and remove the inequities arising out of it collectively. Always be dynamic for crying; God's law is fully organized at every level and no fear, interest, greed or pressure can be obstructed in its implementation; brotherhood, brotherhood, sympathy and Behaviors are common and people should not mock one another for personal or

[27]   Naii msail aur fiqh academy ky faisly, (India: Islami Fiqh Academy, 2014), p, 5

[28]   Ibne Majah , Muhammad bin Yazid, Sunan ibne Majah,(Maktabah Islamiyah, 2015) p, 315/2

[29]   Ibne Qayyam, Bdai Al-Fwaid,(Al-Jiddah, Al-Majma Al-Fiqhul Islami, 2008) p, 208/2

group displeasure, to preach to each other, or to engage in racial discrimination; full respect for religion and religious ideology. To be settled in mosques and to be included in the basic priorities of the teaching of religion and its broadcasting society; To exaggerate, the spirit of sacrifice for the sake of life and peace of the heart is imperative; minority groups have full freedom to protect their lives and practice their religion and they are completely devoid of political and cultural rights. I have discussed the above, which will be helpful in determining the boundaries and scope of a pluralistic society.

A STUDY TO ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED TEACHING PROGRAMME REGARDING MNEMONIC'S, CHUNKING AND MIND MAPPING IN ENHANCING THE PERCEIVED MEMORY AMONG THE SCHOOL CHILDREN (9TH STD) IN SELECTED GOVERNMENT HIGHER SECONDARY SCHOOL, AT KARAIKAL

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ABSTRACT

BACKGROUND
"Memory means by which we draw on our past experience in order to use this information in the present"(Sternberg, 1999). It is a term given to the structure and process involving in the storage of past experiences and subsequent retrieval of information. Memory is very essential to all your lives.

AIM'S &OBJECTIVES
To assess the pretest level of perceived memory among the school children, To assess the effectiveness of video – assisted teaching programme regarding mnemonic's, chunking & mind mapping in enhancing the perceived memory among the school children and To find the association between pre - test level of perceived memory among the school children with their selected demographic variables.

RESEARCH DESIGN AND METHOD
Pre-experimental with one group pre-test and post-test design was used. 60 children (9th std) studying in NSC Bose higher secondary school, Karaikal were selected by using purposive sampling technique. Demographic data was collected and pre-test was conducted by using structured knowledge questionnaire to assess the student's knowledge regarding mnemonics, chunking and mind mapping from their subject. Video assisted teaching programme was given about mnemonics, chunking and mind mapping. After 7 days post test was conducted by using the same structured knowledge questionnaire.

RESULT
Descriptive statistical methods like percentage, mean, standard deviation and inferential statistics like paired't' test and chi-square was used to analyze the collected data. The results revealed that in pre-test 96.7% had inadequate level of perceived memory, 3.3% had moderate level of perceived memory and none of them had adequate level of perceived memory. Where as in post-test 93.3% had moderate level of perceived memory, 5% had inadequate level of perceived memory and 1.7% had adequate level of perceived memory. It was effective video assisted teaching programme on mnemonic's, chunking and mind mapping. The level of perceived memory in school children has statistically significant association with their favorite subject.

CONCLUSION
From the findings of the present study it can be concluded that the video – assisted teaching programme was very effective in enhancing perceived memory on mnemonic's, chunking and mind mapping among school children. The findings can be utilized for supporting the research studies on the effectiveness of video teaching programme.
Key Words: Assess, effectiveness, mnemonic's, chunking, mind mapping.

INTRODUCTION

It is a great to reminisce about good memories of our past. It was enjoyable when it was today. So learning to enjoy today has two benefits. "It gives me happiness right now, and it becomes a good memory later".

George Foreman

Memory is the faculty of the brain in which information is encoded, stored, and retrieved when we needed. Memory is a vital to experiences it's a retention of information over time for the purpose of influencing future action. "If we can't remember past events, we can't learn or develop language, knowledge, relationships, or personal identity".

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Wikipedia

A mnemonic device (memory device), it is a learning technique that backing information retention or retrieval (remembering) in the human memory. Mnemonic devices are techniques for improving memory. People with super memories sometimes use mnemonic's, and we can also learn to do so. Most of the mnemonic techniques depend on the linking, or association, of to be remembered material with a systematic and organized set of images or words that are already forcibly established in long term memory and can therefore serve as reminder cues.

In cognitive psychology (chunking), it is a process by which single pieces of a new information set are broken down and then grouped together. A chunking is defined as a familiar collection of more basic unit that has been inter-related and stored in memory repeatedly and act as a coherent, integrated group when retrieved.

-Tulving & Craik

A mind map is a diagram used to visually organize and easy to recall the information. Mind map is a scale and shows relationships among pieces of the whole. It is often generated around an each concept, draw as an image in the center of a blank paper, to which associated presentations of concepts such as images, words and parts of words are added. Major ideas are connected straightly to the central concept, and other ideas branch out from those major ideas.

Of the 17,752 students, who appeared for the examination from the two regions (Puducherry and Karaikal), 16,407 students were declared successful and 1,345 students are failed in their examination. An overall pass percentage was 92.42%

The examination result shows that poor achievement in academic performance of high school student. This situation indicates the relevance of memory training for the high school students for the better achievement in their academic performance. There are several studies conducted to improve the memory or to assess the factors influencing memory. These factors influence the researcher to implement the mnemonic, chunking and mind mapping techniques on school students and assessing its effectiveness. These memory improvement techniques not only enhance the memory power of the students but also reduce their examination tension.

AIM'S &OBJECTIVES

To assess the pretest level of perceived memory among the school children, To assess the effectiveness of video – assisted teaching programme regarding mnemonic's, chunking & mind mapping in enhancing the perceived memory among the school children and To find the association between pre - test level of perceived memory among the school children with their selected demographic variables.

METHODOLOGY

Pre-experimental with one group pre-test and post-test design was used. 60 children (9th std) studying in NSC Bose higher secondary school, Karaikal were selected by using purposive sampling technique. Demographic data was collected and pre-test was conducted by using structured knowledge questionnaire to assess the student's knowledge regarding mnemonics, chunking and mind mapping from their subject. Video assisted teaching programme was given about mnemonics, chunking and mind mapping. After 7 days post test was conducted by using the same structured knowledge questionnaire.

Written permission was obtained from CEO from educational department. Written permission was obtained from the principal of Nethaji subash Chandra bose higher secondary school, Karaikal. The collected data was planned to be organized, tabulated and analyzed based on the objectives of the study by using descriptive statistics such as percentage, mean, standard deviation and inferential statistics such as chi-square and paired t- test. The paired t-test was planned to be used to find out the effectiveness of video assisted teaching programme and chi-square test to find out the association between demographic variable with pre-test knowledge. The data was planned to be presented in the form of tables and figures.

RESULTS

The highest percentage 43(71.7%) of children were in the age of 14 years; whereas lowest percentage 3(5%) of children were in the age of 15 years old.The most of the school children 42(70%) were male and 18(30%) were female.The highest percentage

25(41.7%) children's parents had primary education; whereas lowest percentage 5(8.3%) children's parents were graduates. The highest percentage 40 (66.7%) children's father were working as a coolie; whereas lowest percentage 4(6.7%) children's father were working in private sector and self- employed.The majority of children's mother 29(48.3%) were working as a daily wages; and 3 (5%) children's mother were working in government/ private sector.The lowest percentage 6 (10%) had between Rs.6001-Rs10000 and 6 (10%) more than Rs.10001; The highest percentage 34 (56.7%) of children's family income was less than Rs.4000. Most of the 59 (98.3%) children's were belongs to Hindu, and 1 (1.7%) children's were belongs to Christian.The maximum 51 (85%) children's were belongs to rural area, whereas 9 (15%) children's were from urban area.The majority 30 (50%) of children were living in Hut house; whereas 15 (25%) were living in Thatched house and 15 (25%) were in Pacca house.The most of the 26 (43.3%) children favorite subject was physics; whereas 11 (18.3%) have interest in chemistry, 20 (33.4%) have interest in botany and 3 (5%) have interest in zoology.The majority 26 (43.3%) of children favorite class was class teaching, 9 (15%) have interest was experiment, 21 (35%) have interest was through studying and 4 (6.5%) have interest in mass media.

Table ; 1 Demographic variable (N=60)

Variable	%
Age	
a)13 years	14
b)14 years	43
c)15 years	3
Sex	
a)Male	42
b)Female	18
Educational qualification of parents	
a)Illiterate	11
b)Primary education	25
c)High school	19
d)Graduate	5
Occupation of father	
a)Coolie	40
b)Government employee	4
c)Private employee	4
d)Self employee	12
Occupation of mother	
a)Home maker	29
b)Daily wages	20
c)Government/Private employee	2
d)Self employee	9
Family income	
a)> Rs.4000	34
b)Rs.4001to Rs.6000	14
c)Rs.6001to Rs.10000	6
d)< Rs.10001	6
Religion	
a)Hindu	59
b)Muslim	0
c)Christian	1
Domicile	
a)Rural	51

b)Urban	9
Type of house a)Hut house b)Thatched house c)Pacca house	30 15 15
Favorite Subject a)Physics b)Chemistry c)Botany d)Zoology	26 11 20 3
Favorite Class a)Teaching b)Experiment c)Studying d)Mass Media	26 9 21 4

Table : 2 Comparison of pre- test and post- test level of perceived memory on mnemonic's, chunking and mind mapping among school children

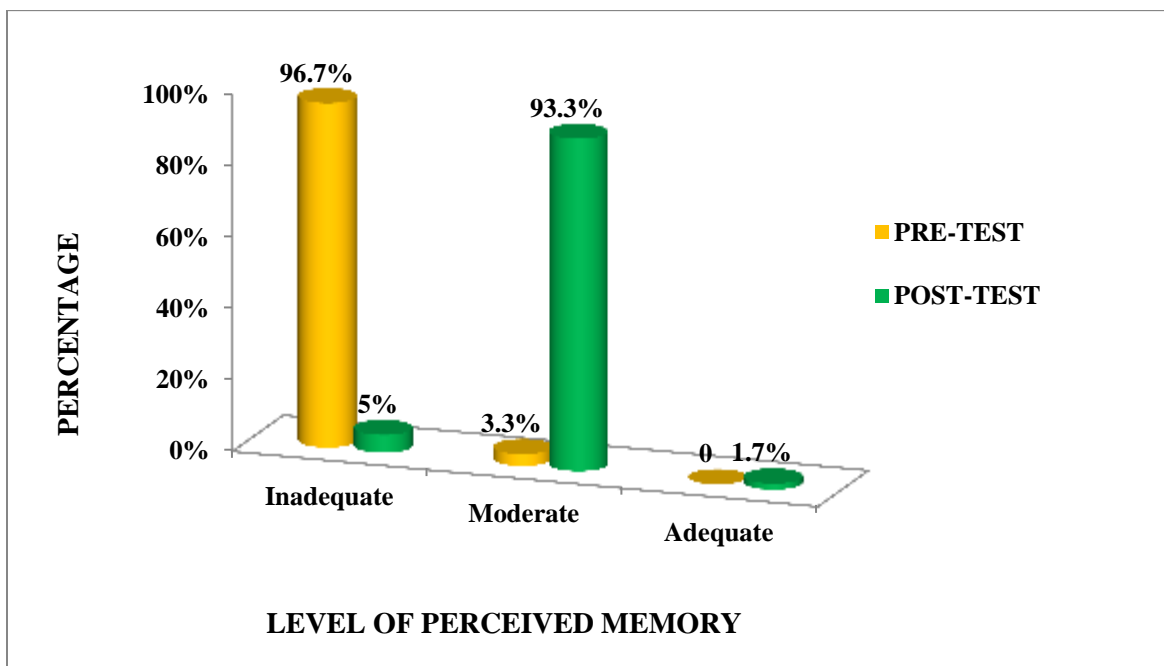| S.No.	Level of Perceived memory	Pre-test		Post-test	
		Frequency	%	Frequency	%
1	Inadequate	58	96.7	3	5
2	Moderate	2	3.3	56	93.3
3	Adequate	-	-	1	1.7

Table.2 shows that during pre-test 58(96.7%) of children had inadequate level of perceived memory, 2(3.3%) had moderate level of perceived memory. Whereas during post-test 3 (5%) of children had inadequate level of perceived memory 56(93.3%) of children had moderate level of perceived memory and

1(1.7%) of children had adequate level of perceived memory.

Table.3: Dimension wise comparison of mean and standard deviation of pre-test and post-test level of perceived memory on mnemonic's, chunking and mind mapping among school children

S.No	Memory Dimension	Max Score	Pre-test score			Post-test score			Difference in Mean (%)
			Mean	SD	Mean (%)	Mean	SD	Mean (%)	
1	Level of perceived memory on mnemonic's	10	2.93	1.471	2.93	7.18	1.434	71.8	68.87
2	Level of perceived memory on chunking	20	6.90	2.427	34.5	11.75	2.486	58.75	24.25
3	Level of perceived memory on mind mapping	20	6.92	2.360	34.6	12.27	2.448	61.35	26.75
	TOTAL	50	16.75	6.258	33.5	31.2	6.368	62.4	28.9

Table.3shows that in all three dimensions mean percentage of post-test score has increased than mean percentage of pre-test score in level of perceived memory on mnemonic's, chunking and mind mapping among children. Pre-test level of perceived memory mean score was 16.75 ± 6.258(SD) which is 34 % of the total mean score, whereas in post-test, the mean score was 31.2 ± 6.368 (SD) which is 62% of the total mean score. Difference obtained level of perceived memory of mnemonic's, chunking and mind mapping 34% to 62%.

DISCUSSION

This findings of the present study was supported by **Helen Widia W.P (2018)** conducted a pre-experimental one group pre – test and post- test design on effectiveness of biology subject based mnemonic strategies-assisted process mind mapping against learning retention of students. The data collection procedure was in the form of test. The technique of data analysis was using the formula recognition process. Based on the analysis of the data shows the average value of the post-test 1 is 83.86, the average value of post-test 2 is 96.48. The results showed that the Biology subject based mnemonic strategies-assisted method of mind mapping effective against retention of student learning.

CONCLUSION

The subjects of the study have gained thorough knowledge on mnemonic's chunking and mind mapping from their subject by the video assisted teaching programme. Prior to implementation of video assisted teaching programme 96.7% of children had inadequate level of perceived memory and 3.3% had moderate level of perceived memory, whereas after the video assisted teaching programme on mnemonic's chunking and mind mapping from their subject 93.3% of children had moderate level of perceived memory. In which proves that the video assisted teaching programme is effective on mnemonic's, chunking and

mind mapping from their subject among school children.

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PROFESSIONAL JARGON AS AN INTEGRAL PART OF TERMINOLOGY
(ON THE EXAMPLE OF COMPUTER AND INTERNET JARGON)

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ANNOTATION

This article reflects the experience of a comprehensive systematic and phenomenological study of computer and Internet jargon, which is now widely recognized as an important tool and subject. One of the unique features of computer and Internet terminology is the emergence of computer jargon specific to their users. After all, special vocabulary is only used in industry and is self-explanatory. The terminological lexical units are also closely connected with general literary language, which means that it gives the chance of representing and naming newly appeared notions. Practical means of creating the terms are determined in the process as well. Meanwhile, professional jargons are also enriched by means of non-professionally-used terminological lexical units in its turn.

KEY WORDS: *computer and Internet jargons, slangs, terms, scientific and technical terminology, approach, concept*

INTRODUCTION

In terminology, the issue of the ratio of the language of science and technology and the language of general literature as a special professional language is of great importance. It is known that the language of science and technology appeared and developed on the basis of the national universal language. This situation is manifested not only by the structure of the language of science and technology, its subordination to the language system, but also by the manifestation in it of the basic types of linguistic units. Therefore, the relationship between the language of science and technology and the universal language is considered by us as a systematic and systematic, i.e., literary language relationship of computer and internet jargon.

There are two situations in the professional communication of computer and Internet users: common words in literary language (uses a common layer of general scientific vocabulary); use of non-literary language (dialect, rude words, slang, jargon, etc.). As noted above, terminological lexicon is related to the universal language, which gives it the means to name new concepts and defines the means of constructing practical terms. Professional jargon, like general literary language, is in turn enriched by the use of terminological vocabulary for non-specific

purposes. Professional goal-oriented vocabulary plays an important role in the literary language system. A special language is a language that is always prone to the principle of traditional internationalism, which is considered national on this basis, and E.I. Golovanova interprets the special language as a functional type of the national language, noting that "the language of professional communication, although it is not an artificially separated system within the natural language, is autonomous. [1]"

The following types of professionalism are distinguished: 1) original professionalism; 2) communicative professionalism. The first type reflects the specific mechanisms of cognition during the subject-practical activity, the second type is created for practical purposes (for example, for the purpose of speech-saving, to give methodical coloring, etc.). Professional jargon. Modern terminology distinguishes between professionalism

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1 Голованова, Е. И. Категория профессионального деятеля в динамическом пространстве языка (лингвокогнитивный анализ) [Текст] : дис. ... докт. фил. наук / Е. И. Голованова. – Челябинск, 2004. – 367 с.

and professional jargonism. In jargonism, unlike professionalism, the evaluative component takes precedence over the informational component. Nevertheless, the classification criteria of the mentioned professional units are still controversial. In this case, the identification of the imagery and evaluation component is related to the feelings of the particular subject. In our opinion, research in this area should be aimed at revealing the essence of special lexical tools, ie jargon, which are convenient for computer and Internet users.

From what has been said, it is clear that the problems of distinguishing terms, professionalism and jargon are becoming clear in the field of network technology. In computer language, jargon performs specific functions — they are associated with increasing expressiveness, conveying emotions, and appreciation. Computer and Internet jargon emphasizes the emotional or axiological aspects of the content of professional speech, its lexical structure, thematic structure reflects these aspects of professional activity. languages are words used mainly by computer language owners, which, on the one hand, constitute computer and internet jargon and, on the other hand, are a source of filling common jargon for both languages, although they reflect the realities of the unprofessional field.

L.M. Alekseeva is a staunch supporter of such views. He believes that it is enough to divide the vocabulary into terms and terminoids for special purposes. At the same time, the second group includes all other units, such as nomenclature, professionalism, jargon, and, in his opinion, have not yet reached the threshold of terminology [Alekseeva L.M., 1998; 15].

Difficulties in distinguishing between terms, professionalism and jargon are evident in the field of networking. A separate category is formed by assimilated units, ie, lexemes formed on the basis of morphologically assimilated verbs, foreign or assimilated words. Scale to scale; units such as «shrink or enlarge», «scale» and «scale» [Golovanova E.I., 2008; 9] refer to such units. These units are neither figurative, nor emotionally expressive, nor evaluative, therefore they should be considered as terms. However, we call these lexemes professionalism because their use is limited.

In addition to the lexical-semantic variation, there is a more functional-stylistic variation, which is associated with the presence of similar denotative lexical units, designated in terms of belonging to different styles. This type of variation is closely related to the phenomenon of functional and methodological migration of vocabulary [Erkinov S.E. , 2020; 105], including the transfer of linguistic units from one terminological field to another, and the variants themselves are used in different social dialects and / or literary languages. A social dialect (sheva) or sociolect is a set of linguistic features

characteristic of a social group [Belikov V.I., Krysin L.P., 2001; 30]. This is a group of people interested in networking. Examples of sociolects are slang, slang, and slang. Argon, unlike slang, is a somewhat mysterious language, it was created so that the speech of this social group would not be understood by others. Jargon and slang are words that are close to each other in meaning. The term slang is typical of Western linguistic traditions. Jargons can be professional or social, and sometimes reflect both of these traits together [Belikov V.I., Krysin L.P., 2001; 33]. Functional and stylistic variation «simple speech - slang», or «general - simple speech - slang», «special - slang»; «Special talk» and so on. k. as shown in the comparisons [Alexandrov O. A., Bogoslovskaya, Z. M., Shchitova O. G., etc., 2015; 132].

The vagueness of newly emerging term systems in language is characterized by the inability of many people to control the creation of terms. This is due to the widespread informatization and the transition of many users from the recipient of information to the category of the transmitter [Vvedenskaya L.A., Pavlova L.G., Kashaeva E.Yu., 2010; 139]. The jargon of professional language, the lack of stability in the form and meaning of terms, and the blurring of boundaries between terms and professionalism are the result of this process. This situation is also typical for the Uzbek language.

JARGON (FR. Jargon - a word belonging to a certain group). Words and phrases characteristic of any social or professional group, which only they understand and differ from the literary language [Chepelyuk V.V., 1992; 74].

T.G. Nikitina defines slang as follows: slang is «a type of social speech characterized by a special use of lexical and phraseological means that differ from the common language (often expressively rethought)» [Nikitina T. G., 2003; 4].

Yu.M. Skrebnev slang refers to the words of professional and social groups that are informal in the neutral sphere of the literary language and exchange humor of words. In his opinion, the creators of the jargon call formal and even neutral words excellent and even sublime. The use of jargon requires some defiance of linguistic behavior [Skrebnev Yu.M., 2000; 67].

Jargon is a relatively open social or professional group speech that differs from the literary language in the composition of words and phrases [Skrebnev Yu.M., 2000; 21].

Jargon is a vocabulary related to a profession or activity. Computer jargon consists of a unique vocabulary of people (professional programmers and some users) who have become a profession, a hobby, a way of life (sometimes the meaning of life) by working with computer technology.

The main function of slang is to express belonging to a relatively independent social group using certain words, forms and expressions. Sometimes the slang term is also used to express distorted, mispronounced speech. It is a conventional language that can only be understood in a certain environment, in which there are many artificial and sometimes conventional words and phrases.

However, now there is a principle of jargon that goes beyond professional or social groups, on the one hand, the growing gap between literary and slang speech, on the other hand, it is to some extent associated with the democratization and «vulgarization» of public life.

Jargon (or social dialect, dialect) is «a type of national language used in oral communication of a relatively stable social group that unites people in accordance with their profession, position in society, interests and age» [Skrebnev Yu.M., 2000; 40].

The linguistic essence of slang is also a metaphor for the meanings of words in order to create a play on words or a play on words, expressive, emotionally colored linguistic means of expression.

S. Ozhegov and A. According to the Explanatory Dictionary of the Russian Language Shvedova, this is «group speech, different from the usual language, including artificial, and sometimes conventional, with many social or other common interests with many words and phrases» [Ozhegov S., Shvedova N. Yu., 1992; 24].

Jargon is both a language (part of the national language) and speech. Then we learn jargon as a kind of national language.

Jargon, slang is the speech of people united in a social group by common interests, hobbies, and social status [Ozhegov S., Shvedova N. Yu., 1992; 27].

V.P. Korovushkin clarified the topical issues of professional jargon, highlighting the following: historically formed and far from genetic homogeneity, relatively stable and open, complex, systemic organization; includes specific lexical and socially-methodologically defined words within the national language or its national variant; events can be used in special professional speech communication; the presence of differences in characters and processes, ethical and specific methodological aspects and other lexical forms, etc. [Korovushkin V.P., 2007; 116].

Professional jargon is found primarily in the association of speakers in relation to the structure of social groups, primarily based on professional characters.

The definition of professional jargon as an object of linguistics and its systematic study led to the formation of definitions of the concept of «jargon», the description of this concept, the development of solutions to related problems. The

figurative «inner form» of professional jargon is a mediator between the new meaning and reality, which contributes to the «fixation» of knowledge about the world through the use of certain images [Abdullayeva Sh. N., 2018; 84].

Considering the concept of slang in modern linguistics, it is worth noting that all definitions assert that slang manifests itself in the speech of a certain social group united by common age interests.

Slang is a set of features of colloquial speech that arise between people who have common interests and spend time together in the same professional and home environment; it is a vast area of language tools that are inflexible, mobile and can change quickly from other language tools. Jargon is a source that enriches the vocabulary of the modern language.

Russian linguist I. Komleva identifies the following thematic areas in the formation of computer terminology:

- general information about computers (history of creation, development, models and their application);
- hardware (monitor, system unit, keyboard and mouse for a desktop computer, devices for laptops and smartphones;
- software (operating system with a standard set of software applications);
- programming (extensive information processing capabilities associated with the creation and use of various algorithmic programs);
- computer system function (arithmetic operations and computer exercises);
- computer technologies (information and communication technologies, multimedia technologies, etc.) [Komleva I.L., 2006; 16].

CONCLUSION

Language belongs to a social phenomenon and reflects the specific characteristics of the speakers, ie culture, social status, worldview, ethnic values. In linguistics, slang is an integral part of language and is considered one of the most controversial issues in lexicology. Jargon, slang can be associated with a particular phenomenon that is constantly evolving and changing in linguistics. Computer and Internet vocabulary includes literary vocabulary consisting of terminology and non-literary vocabulary consisting of computer professionalism and jargonism, and both categories of vocabulary perform their functions and have their own field of application. Only as a result of the analysis of the nature of the nomination can professionalism be distinguished from the term: professionalism usually uses a sign that does not make sense on the basis of a nomination, while a term nomination is based on a sign of meaning. Computer and Internet jargon provide stylistically low stylistic, expressive features to speech, perform

the function of emotional evaluation, require the need to create words individually.

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ETHNOMEDICINALLY IMPORTANT PLANTS USED BY THE LOCAL PEOPLE OF AL GALABAT LOCALITIES, GEDAREF STATE, SUDAN

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ABSTRACT

This research aims to document the medicinal plants used by the local people in two localities of El Gadaref state in eastern Sudan. Information was obtained during several visits using a semi-structured questionnaires in group discussions at herbal medicine practitioners homes, market, and healers shops. Most of the information was obtained from respondents of age 51 to 65 years. The study documented 79 species belonging to 36 families used to treat various ailments. The most utilized plant families were Leguminosae (45%) followed by Combretaceae (11%). 7% of the total plants used belongs to Asteraceae, Capparaceae, and Solanaceae. This study document the use of Martynia annua fruits to treat tumors and dysentery for the first time in Sudan. Common treated diseases are abdominal pains, unary tract infections, fever, and malaria. Further pharmacological research studies are recommended to identify the active chemical components in the reported plants.

KEYWORDS- *Medicinal plants; local people; Gadarif state ; Sudan*

1. INTRODUCTION

Ethnobotany explains the relationship between people of a given community or society, the environment and the plant diversity in that particular community (Osawaru, & Dania-Ogbe, 2010). Ethnobotanists focus primarily on how plants are used, managed and perceived across human societies. This includes use for food, clothing, medicine, dyes, construction, cosmetics and more (Acharya and Shrivastava, 2008). Modern ethnobotanical approaches are significant in highlighting locally important plant species, particularly for new crude drugs. They have been broadened to include data not only from anthropology and botany, but also from pharmacology and phytochemistry (Cotton 1997). Documentation of the indigenous knowledge about medicinal values of plant species, provided various vital modern drugs (Cox and Balick, 1994).

In Sudan, medicinal plants used by local people of certain districts were documented as part of medicinal and aromatic plants and tradition medicine research institute (MAPTMRI) projects. Areas covered by MAPTMRI studies include Erkawit (El Ghazali, 1986), Nuba mountains (El Ghazali *et al*, 1987), White Nile (Ghazali, 1994), North Kordofan (Ghazali, 1997), and Ingassana (Ghazali, 2003). Musa *et al* 2011 and Gibreel

et al 2013 Studied the medicinal plants in the Blue Nile State, Haidar *et al.* 2013 documented the medicinal and aromatic plants in Jabel El dair national reserve, and Ahmed *et al* 2014, reported the ethnomedicinally important plants in Ga"ab El Lagia Oasis in the northern Sudan. Ahmed et al 2020 documented the traditional use of medicinal plants among the Barti tribe community in Fangoga area in Sennar State. This study is confined to Galabat localities of El Gedaref state in eastern Sudan. There is no previous ethnobotanical reports documented for this area which is inhabited by ethnic groups representing different tribes.

2. MATERIALS AND METHODS
2.1. Study area
This study was conducted in two localities of El Gadaref state which is a regional state located in the eastern part of Sudan (longitudes 33–36° E and latitudes 13–16 °N). It is bordered by Ethiopia to its East, Kassala and Khartoum State to the North, El Gezira State to the West and Sennar State to the South. The total area of the State is approximately 71,000 km². El Gadaref State is divided into ten administrative localities which include Gadaref, Central Gadaref, Alrahad, Alfaw, Eastern Algalabat, Western Algalabat, Alfashqa, Albutana, , Galaa alnahal and Alquresha (OCHA, 2012). This study is confined to Eastern Algalabat and Western Algalabat localities (Figure 1). According to the vegetation cover map of Sudan, wooded Gadaref state is located in the zone of low rainfall woodland savanna (Harison and Jackson, 1958). The rainfall ranges between 300 mm in the North to more than 800 mm in the South. (Sulieman and Elagib, 2012). Highest temperature is recorded in April when the mean daily is 40 °C (Elsafori, 2000). The total population exceeds 4.3 million people, with an annual growth rate of 3.87%. 80.5% of the population lives in rural areas (Sulieman and Buchroithner, 2009).

2.2. Ethnobotanical data collection survey
Eethnobotanical information was obtained during several visits in the period 2014-2016. using a semi-structured questionnaires and from group discussions organized at herbal medicine practitioners homes, market, and healers shops with the assistance of some local people known to the authors. Documentation was taken from a total of 31 informants. Most of the information was obtained from respondents of age 51 to 65 years. Informants were asked about the plants and the harvested parts they use to cure the prevalent diseases, methods of preparing the herbal remedy, and administrative details.

1. Results and discussion
In this study, 79 species belonging to 36 families were documented as medicinal plants used by the local people who are mostly relay on traditional medicine in their healthcare system Table1. The local people show high knowledge of understanding of the local vegetation and knew the proper time and places to collect the medicinal plants from their natural habitats. Analysis of the information showed that most of the medicinal plants used in this area belong to the Leguminosae (45%) with six species belong to genus *Acacia*, followed by Combretaceae (11%) , and equal number of species from the families Asteraceae, Capparaceae, and Solanaceae were reported as 7% of the total plants. Figure 2. Ahmed et al., (2020) conducted a similar study in Fangoga area in Sinnar state and reported that Leguminosae have the highest number of medicinal plants species used by the local people. It is reported by many authors that fruits decoction of *Acacia nilotica* is an effective remedies to treat cough, sour throat, and fever in different areas in Sudan (El Ghazali 1986; El Ghazali et al. 1987; Musa et al. 2011; and Ahmed et. al. 2014). Treatment of diarrhea by eating of the fruits of *Adansonia digitata* and using of root decoction of *Hydnora abyssinica* to treat dysentery were also reported for the local people in northern Kordofan (Ghazali, 1997). Eating of the whole plant of *Aristolochia bracteolate* to treat stomach pains is also reported by El Ghazali et al 1987 for the local people in the Nuba mountain area. Using of bark decoction and poultice, followed by the whole plant (as raw) were the most treatments used frequently by the locals. Seeds were rarely used. Figure3.These results were in agreement with previous studies conducted in this region by Bayafers, 2000 and Endalew, 2007. The main preparation methods of herbal remedies used in this study were decoction (37%), maceration (26%) followed by Powder (15%), poultice (14%), burnt and using of whole plant as raw (4%) figure 4 . Some applications were also prepared as a mixture of plants with other ingredients such as salt, sugar and pepper as additives to improve the taste. The commonly occurred aliments and parasitic diseases in the study area were abdominal pains, unary tract infections, fever, rheumatism, malaria and tapeworm. This study documented for the first time in Sudan, the use of *Martynia annua* fruits decoction and maceration to treat dysentery and tumors respectively.
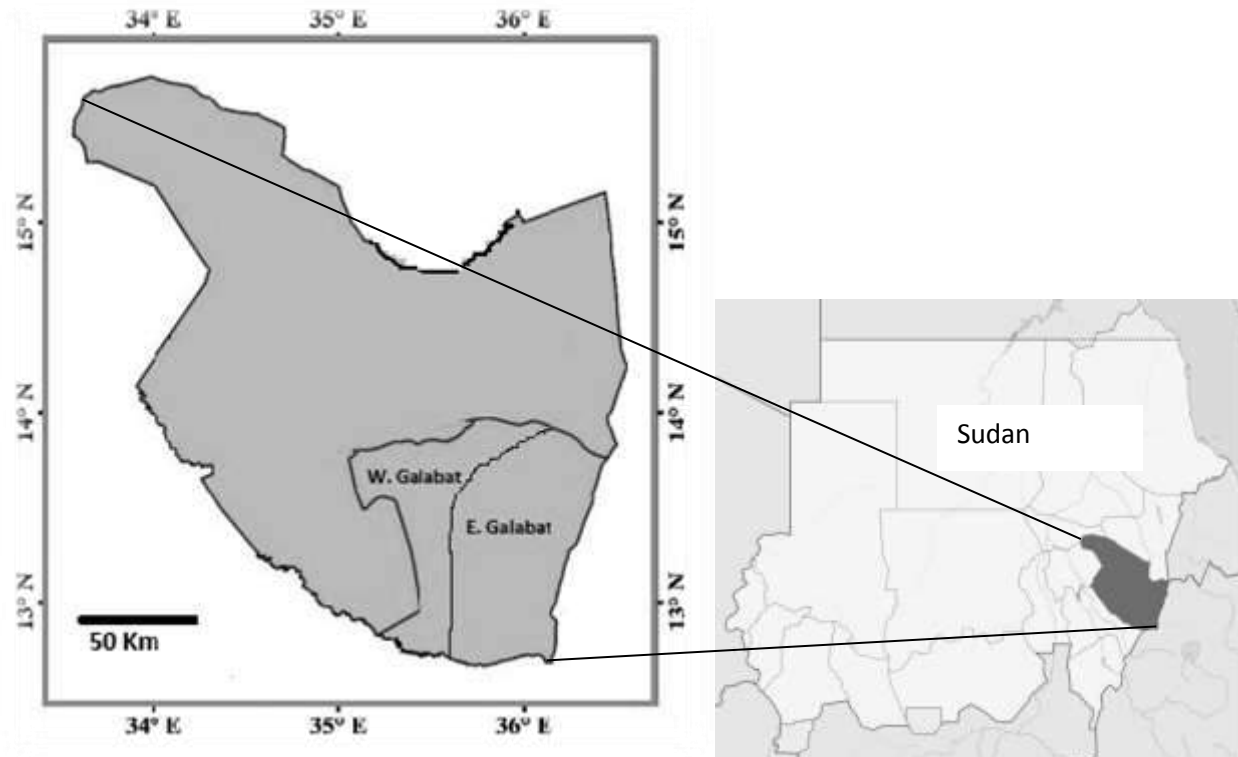
Figure 1. Location of eastern and western Galabat localities, Gadarif state, Sudan

Table 1: List of Medicinal plants used by local people in Galabat localities, Gadarif state, Sudan

Species name	Family name	Part used	Preparation	Medicinal use
Acacia nilotica	Leguminosae	Fruits	Decoction	Fever
			poultice	Joint pain& cough& fever
			Burnt	Fever
Acacia oerfota	Leguminosae	Bark	Decoction	HIV
Acacia polyacantha	Leguminosae	Roots	Decoction	Urinary tract infections
Acacia seyal	Leguminosae	Bark	Decoction	Colic
			Poultice	Hemorrhoids.
			Powder	Wound healing
Acacia sieberiana	Leguminosae	Bark	Maceration	Abdominal pains &infections
			Decoction	Fever
Adansonia digitata	Bombacaceae	Bark	Poultice	Rheumatism
		Fruits	Raw	Diarrhea
Aerva javanica	Amaranthaceae	Whole plant	Powder	Anthelmintic
Albizia amara subsp. sericocephala	Leguminosae	Bark	Decoction	Chest infection
Albizia amara	Leguminosae	Bark & Leaves	Decoction	Jaundice
Anogeissus leiocarpus	Combretaceae		Decoction	Stomach pains& Cough& Inflammations.

		Bark	Powder	Rheumatism
			Poultice	Rheumatism
		Fruits	Decoction	Inflammations & Jaundice&Dysentery
			Maceration	Flatulence & Stomach pains
Aristolochia bracteolate	Aristolokhaceae	Whole plant	Decoction	Malaria &stomach pains &wound healing
			Powder	Rheumatism
			Poultice	Skin diseases
			Maceration	Stomach pain
Azadirachta indica	Meliaceae	Bark & seeds	Decoction	Fatigue
		Bark	Decoction	Tumors &Throat pains
		Seeds	Poultice	Rheumatism
Azanza garckeana	Malvaceae	Fruits	Raw	Tapeworm
Balanites aegyptiaca	Zygophyllaceae	Fruits	Maceration	Dysentery
		Seedling	Decoction	HIV
Bauhinia reticulata	Leguminosae	Leaves	Powder	Abdominal diseases &Constipation
Boscia senegalensis	Capparaceae	Whole plant	Powder &poultice	Tumors
Blumea aurita	Asteraceae	Whole plant	Poultice	Fungal infections& Skin diseases
			Decoction	stomach pains
Calotropis procera	Apocynaceae	Fruits	Poultice	Measles
			Ash poultice	Prostate infections
Camellia sinensis	Theaceae	Leaves	Powder	Wound healing
			Maceration	Eye infections
Capparis decidua	Capparaceae	Whole plant	Decoction	Jaundice
			Decoction	Fungal infections &Jaundice
			Maceration	Jaundice
Cassia arereh	Leguminosae	Bark	Maceration	Stomach pains
			Maceration	Urinary tract infections
Cissus quadrangularis	Ampelidaceae	Whole plant	Powder	Wound heeling
Citrullus colocynthis	Cucurbitaceae	Roots&Fruits	Maceration	Stomach pains
Clerodendrum capitatum.	Verbenaceae	Roots	Eaten	Tonic
Combretum collinum	Combretaceae	Bark	Decoction	Dysentery
Combretum hartmannianum	Combretaceae	Bark	Powder	Wound heeling
		Bark& Gum& Stem	Decoction	Urinary tract infections
			Powder& Poultice	Rheumatism
		Gum	Burnt	Headache
		Bark&wood	Burnt	Rheumatism
Commiphora africana	Burseraceae	Bark & gum	Decoction	Chest infection
			Burnt	Inflammation
		Bark	Decoction	Tuberculosis

|				
Cucumis prophetarum	Cucurbitaceae	Fruits	Decoction	Stomach infections
Cucurbita maxima	Cucurbitaceae	Seeds	Raw	Worms
Cymbopogon nervatus	Poaceae	Whole plant	Decoction	Fever
			Maceration	Kidney infections & Gallstone
Cymbopogon schoenanthus	Poaceae	Whole plant	Maceration	Fever
Dalbergia melanoxylon	Mimosaceae	Roots	Maceration	Fever
		Bark	Decoction	Fever
Dichrostachys cinerea	Mimosaceae	Leaves	Powder	Fungal infection
		Bark	Maceration	Wound healing
Ficus sycomorus	Moraceae	Leaves	Decoction	Facilitates delivery
		Bark	Decoction	Female infertility
Gardenia lutea	Rubiaceae	Roots	Decoction	Fever
		Bark	Maceration	Chest diseases
Grewia sp	Tiliaceae	Fruits	Poultice	Snake bites and scorpion sting
Glycyrrhiza glabra	Leguminosae	Whole plant	Decoction	Wound healing
Gueira senegalensis	Combretaceae	Leaves	Decoction	Snake bites
Vernonia sp	Asteraceae	Whole plant	Decoction	Abdominal disease &Urinary tract infections
			Maceration	Stomach pains & Colic
			Poultice	Rheumatism
Hibiscus sabdariffa	Malvaceae	Leaves	Maceration	Urinary tract infections
Khaya senegalensis	Meliaceae	Bark &roots	Maceration with sugar	Malaria &Stomach pains
		Bark &Leaves	Decoction	Hemorrhoids
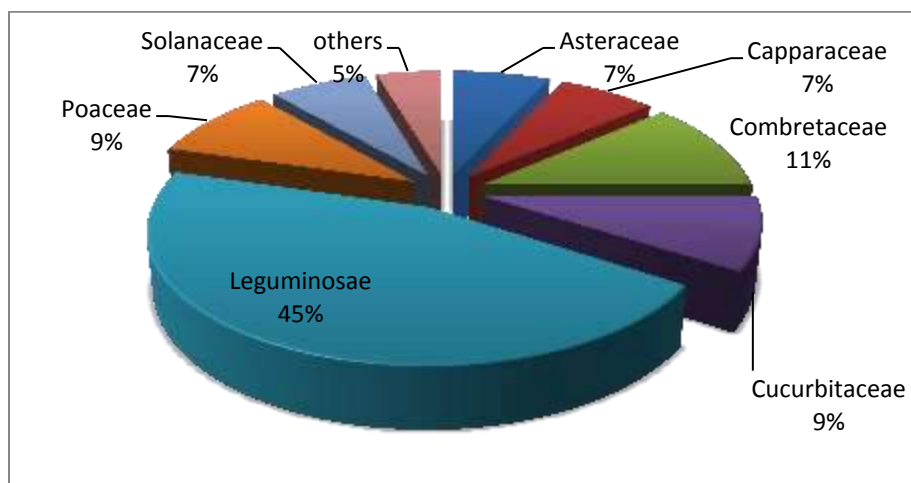
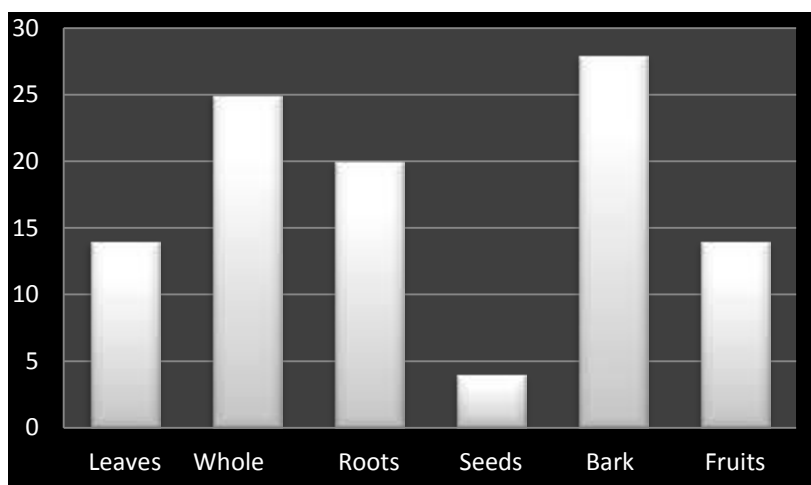**Figure 2. The percentages of medicinal species in each family**

Figure 3. Different plant parts used from the medicinal plants of the study area
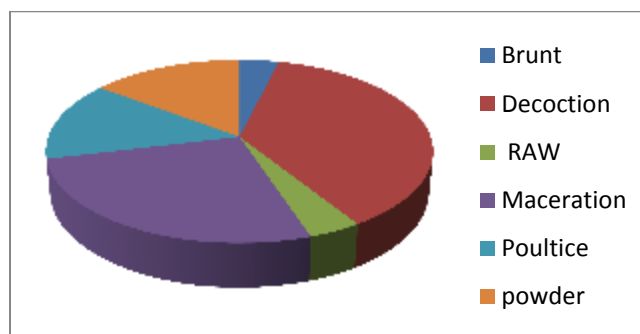

Figure 4. The main preparation methods of herbal remedies used in the study area

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MIND MAPPING AND ACHIEVEMENT MATHEMATICS OF THE HIGHER SECONDARY SCHOOL STUDENTS

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ABSTRACT

The primary goal of teaching and learning mathematics is to encourage and enable students to recognize that mathematics is an interesting subject. The present study aims to find out the relationship between mind mapping and achievement in mathematics of higher secondary students. Fifty five higher secondary students were randomly selected as sample. Survey method was adopted for the study. The data was collected using a test on mind mapping method. Interpretation was drawn based on the findings. Mind mapping ability of the higher secondary students was found to be an average and there was a high positive correlation between mind mapping and achievement in mathematics.

KEY WORDS: *Mind Mapping, Achievement, Higher Secondary School Students.*

INTRODUCTION

Mind mapping is a way of linking key concepts using images, lines and links. A central concept is linked via lines to other concepts which in turn are linked with other associated ideas. It is similar as a technique to concept mapping and spider diagrams, the difference being that true mind mapping involves constructing a hierarchy of ideas instead of pure random association. Mind mapping uses the concept of "radiant thinking" – that is, thoughts radiate out from a single idea, often expressed as an image. Branches flow backwards and forwards from and to the central idea.

The educational literature suggests that meaningful engagement is a critical factor in promoting deeper learning. Unfortunately, some of the most common learning methods—such as listening to a lecture or reading a textbook—do not create meaningful engagement. Mind mapping, on the other hand, does create meaningful engagement because learners actively engage in the process of brainstorming, generating ideas, and connecting concepts together while reviewing and developing mind maps. Many academic experts believe that studying using Mind Maps, through proper practice, is one of the most effective and easy ways of remembering any text or figure.

NEED AND SIGNIFICANCE OF THE STUDY

Mind mapping play an important role in teaching and learning of mathematics. Mind mapping increases the creativity and productivity of a student. It will help in categorizing and organizing the ideas brainstormed. It also identifies the relationships between different topics of the same subject. Mind mapping method stimulates students learning abilities in a better way. Mind mapping method helps students to solve the problems in order to enhance their knowledge and comprehension. This type of activity develops student's curiosity in solving mathematics

problems and successfully enhances their cognitive processes.

OBJECTIVES OF THE STUDY
1. To find out whether there is any significant relationship between mind mapping method and achievement in mathematics at the higher secondary school students.
2. To find out whether there is any significant difference between mind mapping method and achievement in mathematics at the higher secondary school students with respect to
   1. Gender
   2. Group of study
   3. Type of school

METHOD OF STUDY
Survey method was adapted for the study
Research tools
The following research tools are adopted ;
1. Mind Mapping Test (MMT)
2. Achievement Test
Sample of the study
Fifty five eleventh standard students were selected using random sampling technique from various schools of Thiruchirappalli district for this study.
Statistical techniques used
This study utilizes descriptive and differential analysis
Testing of Hypotheses

Hypothesis 1
There is no significant relationship between mind mapping method and achievement in mathematics at the higher secondary level

variables	r	Table value
problem solving ability and achievement in mathematics	0.097	0.254

(at 5% level of significance the table value 'r' is 0.254)

It is inferred from the above table that the calculated value of 'r' (0.097) is greater than the table value of 'r' (0.254) at 5% level of significance. Hence the null hypothesis is rejected. Therefore, there is a significant relationship between mind mapping method and achievement in mathematics of higher secondary students. Further, it can be stated that there exist high positive correlation between mind mapping method and achievement in mathematics of higher secondary school students.

Hypothesis 2
There is no significant difference between mind mapping method and achievement in mathematics at the higher secondary school students with respect to Gender

Gender	N	Mean	S.D	't' value
Boys	30	23.5	4.39	0.45
Girls	25	24.2	6.27	

(at 5% level of significance the table value ''t'' is 1.67)

It is inferred from the above table that the calculated value ''t'' (0.45) is less than the table value of ''t'' (1.67) at 5% level of significance. Hence the null hypothesis is accepted. Therefore, there is no significant difference between mind mapping method and achievement in mathematics at the higher secondary school students with respect to Gender

Hypothesis 3
There is no significant difference between mind mapping method and achievement in mathematics at the higher secondary school students with respect to group chosen

Group of study	N	Mean	S.D	't' value
Bio-Maths	29	24.06	5.92	0.347
C.S-Maths	26	23.50	4.78	

(at 5% level of significance the table value ''t'' is 1.67)

It is inferred from the above table that the calculated value "t"(0.347) is less than the table value of "t"(1.67) at 5% level of significance. Hence the null hypothesis is accepted. Therefore, there is no significant difference between mind mapping method and achievement in mathematics at the higher secondary level students whose major group was biology-mathematics and computer science – mathematics.

Hypothesis 4

There is no significant difference between mind mapping method and achievement in mathematics at the higher secondary school students with respect to type of school.

Type of school	N	Mean	S.D	't' value
Govt	19	23.78	5.33	0.49
Private	36	23.60	5.47	

(at 5% level of significance the table value "t" is 1.67)

It is inferred from the above table that the calculated value "t" (0.49) is less than the table value of "t" (1.67) at 5% level of significance. Hence the null hypothesis is accepted. Therefore, there is no significant difference between mind mapping method and academic in mathematics at the higher secondary school students with respect to type of school.

FINDINGS

1. 68 percentages of higher secondary students had an average level of mind mapping ability and achievement in mathematics.
2. There is high positive correlation between mind mapping and academic achievement in mathematics of higher secondary students.
3. Boys and girls higher secondary students do not differ significantly in mind mapping and achievement in mathematics.
4. Higher secondary students whose major group was biology-mathematics and computer science – mathematics did not differ significantly in mind mapping and achievement in mathematics.
5. Higher secondary students studying in government and Private schools did not differ significantly in mind mapping and achievement in mathematics.

Educational Implications

There is high positive correlation was exist between mind mapping and achievement in mathematics of higher secondary students. For improving mind mapping technique among students, teachers can adopt various teaching techniques like heuristic method, blended learning and experimental methods. Special lectures on complex concepts may be arranged to facilitates their learning, guidance programme can be provided in schools according to their knowledge level.

CONCLUSION

The purpose of the present study was to find the significance of mind mapping in mathematics of higher secondary students and this study concludes there is high positive correlation between mind mapping and achievement in mathematics of higher secondary students. In addition to recommending that teachers use mind maps in the classroom while teaching, researcher suggests having students create mind maps of their own that can be used to assess learning—and to compare their mind maps with those of their classmates for additional meaningful learning activities. The study result may be useful in the field of education, which may serve as database for further research.

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CONCEPT OF EARLY MARRIAGES IN THE LIGHT OF ISLAMIC TEACHINGS -(A RESEARCH STUDY)

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ABSTRACT

In this article, it has been labored to discuss the issue of child marriage. This has become a burning issue of the date. Actually all the member countries of the United Nations are compelled due to the rule of child marriage in which the marriage age has been fixed. Actually, it is a contradictory law due to the contradictory theology about the marriage perspectives of the Islam and the West. Infact Islam focuses the importance of Faith, male & female honour innosece and prefer the hereafter success on the worldly lusts and earnings while the philosophy of the West about this world and hereafter is totally opposite. The West prefer the worldly lusts, enjoyment and success on the Hereafter success and eternal life. All the contradictory issues among the West and Islam should be perceived in this perspectives. So, in this article it has been endeavoured to elaborate this contradiction which has divided the Muslims into different sects.
KEY WORDS: *Child marriage, Islam, Librals, West, Quran, Sunnah*

INTRODUCTION

There are generally two opinions in our circles about the marriage of early ages, but there is no difference in Islamic circles about marrying after puberty. Those who seek to limit the age of marriage are, in fact, trying in vain to please other forces, not Islam. Let us first study the insistence and intentions of global public opinion and the ruling powers on child marriages, then explore the ideological differences in the Islamic world, and finally make a moderate comment and summary.

One of the major problems in our society is the age of marriage. On the one hand, it is customary in some tribes and families to marriage their siblings in early ages, and on the other hand, there are cases of delay in marriage. Apparently, these are two simple issues, but the numerous problems and crimes that occur in the society are related to these two issues, so it is necessary to discuss them separately. It is necessary to find a solution to these problems by seriously considering them, otherwise it is impossible to solve the problems that arise as a result.

The Viewpoint of the first class, the liberals

The function of parliament is to legislate to protect and promote the rights of the people. But sometimes very interesting legislation is enacted. One such law was recently passed by the Standing Committee on Human Rights of the Senate of Pakistan in the form of a bill banning marriage under the age of 18. The bill was earlier enacted by the Sindh Assembly. By the way, the Sindh Assembly is second to none in making and passing such bills and laws. Earlier, an interesting bill was introduced on conversion, according to which anyone who wants to convert to Islam under the age of 18 will not be allowed to do so. According to the constitution of Pakistan, the Qur'an and There can be no legislation that contradicts the teachings, rules and instructions stated in the Sunnah. But in both of these laws, I think the meaning of the teachings of the Qur'an and Sunnah has been ignored. Nowhere in the Qur'an and Sunnah is there an age for marriage, but it is obvious that leave is given at puberty. As far as marriage (engagement) is concerned, parents can

also decide on the engagement of the children. However, according to the hadiths, the leave under the option of puberty will depend on the children being young (adults) and consenting.

The first problem is to get girls married to an early age, this is a problem that is facing most of the countries of the world including Pakistan and that is why many countries have legislated on it. Not until the causes that cause this problem are eliminated.

According to UNICEF, the highest rates of child marriage are in the Arab world, and in Saudi Arabia alone, girls under the age of five thousands girls who are under16, are married off annually to men over the age of 30, although Saudi law fixed the minimum age for marriage is 16 years old. Even in Arab countries, the rate is higher in rural areas than in cities. In cities, attention is paid to the education and employment of girls.

The rate varies from country to country, with the youngest Age marriages taking place in Yemen, which has risen dramatically in the past two years, from 32 percent to 66 percent, a ten-year low. Najud Ali, the oldest divorced man, is also from Yemen. In Sudan the rate is 52%, in India 47%, in Mauritania 35%, in Palestine 21%, in Egypt 17%, in Lebanon 6%, while in Tunisia and Algeria the rate is relatively low and there are 2% underage marriages.

According to UNICEF, 15 million women in developing countries are married off before they reach the age of 18, of which 50% are under the age of 15. The 1989 Child Rights Act According to the law, a person under the age of 18 will be considered a child, so according to international law, marrying before that will be considered a crime. Because it has many negative effects on daughters, their education remains incomplete and Their frail shoulders carry responsibilities that they cannot bear, including household chores. Becoming a mother at an early age also has a negative impact on their own health and that of such mothers and their newborns during motherhood and Deaths occur, as well as domestic and physical violence, as well as mental illness.

Although legislation has been passed in most countries and some countries have set a minimum age of 18, some 17 and some 16 years, the issue is still not under control, according to the Arab Spring. Later its rate has increased and a new type of marriage has been introduced which is called Nikah Sütråh (سترہ) . "Sütråh" means shield, refuge and protection, and applies to marriages in the name of providing protection and shelter to refugee women and girls in war-torn areas such as Syria, Yemen and Libya. And the insecurity has made these refugees wonder and wonder that the priests of lust are taking advantage of their plight and arranging marriages with their mothers, sisters and daughters. Instead of being ashamed and

ashamed of what he has done, he is calling this process as shelter and relief for the refugees. The father, who is suffering from hunger and hardship and is suffering from sexual predators, has treated his daughter's reputation in various ways. Instead of sacrificing the lust of beasts, he considers it safe to hand over the marriage to a priest of the same lust in the name of marriage. According to the statistics so far, in Saudi Arabia, Lebanon, Turkey and Jordan a majority of matric and FA teenagers have found.

The reasons for early marriage are also different in different societies, sometimes due to religion, girls are given in marriage to the minor Age, sometimes for economic reasons, in Yemen, the reason is tribal and family traditions, Yemeni society In Sudan, it is considered desirable to marry at the age of ten or twelve, due to poverty, poverty and ignorance of the law, while in Egypt, parents marry teenage girls as soon as possible to relieve them of their responsibilities. Three times since 2003, the Iraqi parliament has proposed a minimum age of nine years for a girl's marriage, according to an Arab magazine, which was demanded by followers of Jaffaria jurisprudence. According to him, a girl becomes obligated at the age of 9 and this includes the responsibilities of marriage. In many societies, it is believed that early marriage protects girls from illicit relations and sexual abuse. The dignity of the girl and the family is protected.

Legislation to prevent underage marriage in Pakistan is also being debated, and the Islamic Ideological Council may soon raise the issue again, but it must be remembered that the only solution to any problem is to Legislation does not happen, but sometimes legislation creates more problems, a clear example of which is the above-mentioned Jordanian law. Therefore, in Pakistan, instead of emphasizing legislation on child marriage, work on education and public awareness Need.

The point of view of the second class, the majority of scholars

The majority of scholars consider it permissible to marry a young girl before puberty. Many scholars have also quoted this consensus, and only Ibn Shabrama and Uthman al-Bati, may God have mercy on them, oppose this consensus The evidence for the Almighty's interpretation. is:

وَاللَّائِي يَئِسْنَ مِنَ الْمَحِيضِ مِنْ نِسَائِكُمْ إِن ارْتَبْتُمْ فَعِدَّتُهُنَّ ثَلَاثَةُ أَشْهُرٍ وَاللَّائِي لَمْ يَحِضْنَ1.

And those of your women who have no hope of menstruation, if you doubt (as to what will be their prescribed period), then their prescribed period is three months. And for those women who

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1 Al-Tlaq, 65:4

have not yet menstruated (their prescribed period is also the same). As for the pregnant women, their term is till the birth of the child. And whoever fears Allah, He makes his matter easy for him.

This verse proves that Allaah mentions the 'iddah of a girl who gets divorced before her period, and this means that she is not an adult, and there is no divorce or annulment of marriage until then. Unless the marriage contract is valid.

The majority of scholars are of the opinion that if the wife becomes an adult, she will not be given any choice [to live with her husband or not]. The Prophet (peace and blessings of Allaah be upon him) said to 'Aa'ishah when she was 6 or 7 years old. She got married but the Prophet (peace and blessings of Allaah be upon him) did not give her any authority when she became an adult.

Here are some things to keep in mind:

1. Only the father has the right to marry a little girl as a child, no one else has this right, this is the position of the majority of scholars, and this is correct, so the position of those who give this option to the grandfather is not correct, the same Similarly, their position is not correct which allows other saints besides the father to get married in childhood but they are also convinced of the authority of the girl when she becomes an adult.

Imam Shafi'i (may Allaah have mercy on him) said:

No one but the father can marry a girl at the age of fifty-five, whether the girl is a virgin or a girl who becomes a widow in infancy, whether or not her permission is included in it, as well as both [virgins or It is also wrong to marry one of the widows and then give the option in case of adulthood, so if a girl is married to someone other than the father, the marriage will be annulled, due to such a marriage. Spouses will not inherit from each other, nor will divorce take place, but the ruling on this marriage will be invalid in all matters, so divorce and inheritance will not apply to it.1

And if the orphan girl is 9 years old, then it is permissible to marry her with her permission, but when she becomes an adult, she will not be allowed to do so, and it is not permissible to marry her before the age of 9, according to Imam Ahmad. According to this, it is famous and it has been declared valid by Shaykh-ul-Islam Ibn Taymiyyah (may Allah have mercy on him).

2. This marriage should be performed keeping in view the interest of the child and not the interest of the father of the child or anyone else.

Imam Shoukani (may Allaah have mercy on him) said:

In the case of marriage without a credible interest, the marriage will not take place from scratch, so it is not only permissible for the ruler, but it is also obligatory for him to separate the young girl and her husband, unless his consent is proved after reaching adulthood. A minor girl has the right to flee whenever she wants, whether she is an adult or not.2

Marriage with a young girl does not mean that she should be given leave with her husband, so the leave will be only when she is able to have intercourse.

4. Sexual intercourse has nothing to do with puberty. Whenever a girl is able to have sexual intercourse, her husband can marry her.

Therefore, if a minor girl marries someone other than the girl's father, such as an uncle, grandfather, or brother, then the marriage will not be valid, and if the marriage is for the benefit of someone other than the father or the girl herself. Even if she is gone, the marriage will not be valid. Similarly, the girl will not be divorced from her husband before she is able to have intercourse. Also, it is not a condition for her to be an adult, but it is enough for her to be able to have intercourse.

Every Muslim should bear in mind that all the commandments of the divine law are full of wisdom, the Shari'ah is for the betterment of individuals and society, just as a father hastens to the marriage of his daughter. The girl has no one else to benefit from it.

Sheikh Abdullah bin Abdul Aziz Al Jabreen says:

"It is clear that it is difficult for us to have a close relationship, and it is possible that sometimes marrying a little girl may take time, for example, in a place or time when there is a lot of temptation, or the girl's father at all. If she is poor, unable to earn, or unable to support her family for any reason, then the little girl needs a protector who will protect her as well as protect her. He should also bear the expenses, so in such a situation the little girl should be handed over to a person who takes full care of her and he can be the father, so the father should marry his little girl to such a person. With which the bright future of the girl is connected, so the father should not waste the opportunity to have a proper relationship because a

1 Al-Shafie, Muhammad bin Idrees, Kitabul Umm, Darul Kutub Al-Ilmiyah, Beirut, 1400 AH p, 18/5

2   Muhammad Ali Al-Shaukani, Wablul Ghammam Ala Shifa ul Auwam, Maktabah Ibne Taimiyah Cairo, P, 33/2

good relationship is not always found, and usually getting married in childhood, including the girl's present and future in religion and the world. Proves useful ".1

After mentioning these interests, Sheikh Mohtarma also said:

Therefore, the father should fear Allah Almighty, and fulfill the responsibility imposed by Allah Almighty in a good manner, keeping the interests of the girl child in mind while marrying him, so that he may get more benefits from it.

After the benefits, the scholars have also mentioned some of the conditions for ensuring the rights of the girl child by the father in marriage, some of which are as follows:

1. There should be no enmity between the daughter and the father.

2. There should be no animosity between the girl and the future husband.

3. The father should not marry the girl to a person whose cause of harm to the girl is obvious, for example: very old or self-defeating person, etc.

4. Give in marriage to a suitable person who does not hesitate to pay the dowry. 2

Small girl's wedding:

The general scholars are of the opinion that the Shari'ah does not specify the age of the child for marriage, so that the child should not be married before that age.

The proof of this is in the Book of Allaah and the Sunnah of the Prophet (peace and blessings of Allaah be upon him) and the consensus of the scholars.

1 - Allaah says (interpretation of the meaning):

And those of your women who have despaired of menstruation, if you are in doubt, their 'iddah is three months, and also those who have not yet begun to menstruate.3

This verse clearly indicates the issue we are discussing, and it describes the 'iddah of a divorced woman who has just given birth and has not yet begun to menstruate.

Imam Baghawi (may Allaah have mercy on him) said:

And women who have not yet menstruated.

That is, those young people who have not yet menstruated, then their 'iddah is also three months.4

And Ibn Qayyim (may Allaah have mercy on him) said:

The 'iddah of a woman who is not menstruating is of two types:

One is a young woman who has not yet menstruated, and the other is an older woman who has lost hope of menstruation.

Allaah, may He be glorified and exalted, explained the 'iddah of these two types of women:

And those of your women who have despaired of menstruation, if you are in doubt, their 'iddah is three months, and also those who have not yet begun to menstruate.5

That is, their 'iddah is the same. "6

Arguments of Sunnah:

Aisha (may Allaah be pleased with her) said:

The Prophet (peace and blessings of Allaah be upon him) married her when she was only six years old, and when she left, she was nine years old, and she stayed with the Prophet (peace and blessings of Allaah be upon him) for nine years.7

According to the correct view of the scholars, the father of this young girl will marry her.

Shaykh al-Islam Ibn Taymiyyah (may Allaah have mercy on him) said:

No one can marry a woman without her permission, as the Prophet (peace and blessings of Allaah be upon him) commanded, and if he dislikes her, he cannot force her to marry him, but he can marry a young virgin. Her father will marry her, and she has no right to permission. "8

Consensus

Ibn 'Abd al-Barr (may Allaah have mercy on him) said:

4 Imam Baghvi, Abdullah bin Ahmad bin Ali Al-Zaid, Tafseer ul Baghvi, Darul Kutub Al-Ilmiyah, Beirut, p, 52/8

5 Al-Tlaq, 65:4

6 Muhammad bin Abi Bakar bin Ayub ibne Qayyam Al-Jauziyah, Zadul Maad fi Hadye Khairul Abbad, Muassisah Al-Risalah, 1998, p, 595/5

7 Imam Abu Abdullah, Muhammad bin Ismail Al-Bukhari, Sahih Bukhari, Darul Kutub Al-Ilmiyah, Beirut, 1412AH , Hadith no, 4840

8 Imam Ibne Taimiyah, Ahmad bin Abdul Haleem, Haleem, Majmu ul Ftawa, Wizaratul Shoun Al-Islamiyah Wal-Dawah Wal-Irshad, Saudia Arabia, 2004, P, 39/32

1Wilayatul Tazweej Al-Sagheerah, Publisher: Mujalah Al-Bahooth Al-Islamiyah, P 256/33

2Mujalah Al-Bahooth Al-Islamiyah, P 257/33

3 Al-Tlaq, 65:4

There is a consensus among the scholars that a father can marry his young daughter and he does not need to consult her, because the Prophet (peace and blessings of Allaah be upon him) married 'Aa'ishah bint Abu Bakr (may Allaah be pleased with her). He was only six or seven years old when his father married the Prophet (peace and blessings of Allaah be upon him).1

And Ibn Hajar (may Allaah have mercy on him) said:

The father of the little girl will marry her.2 her.2

Leaving the little girl and entering her:

It is not obligatory to enter into a marriage contract, because it is well known that sometimes an older woman gets married, but it does not require her to enter into it, and it can be explained in this way. That:

Sometimes a divorce takes place after the marriage contract has taken place, and before the intercourse takes place, that is, before the leave, then there are some rulings on that; If so, he will have to pay half the mahr, and he will not have any 'iddah.

Allaah says (interpretation of the meaning):

And if you divorce them before you have touched them, and you have given them a dowry, then give them half of the dowry they have been given. The knot of marriage is that he forgives.3

And Allaah says (interpretation of the meaning):

O you who believe, when you marry believing women and then divorce them before you have touched them, you have no right to 'iddah on them which you count, so give them some of them and send them away in a good manner.4

Therefore, if a young girl gets married, she will not be handed over to her husband until she is able to leave and be intimate with him, and that does not require her to be an adult. Rather, one should have the strength to tolerate intimacy, and if there is a divorce after taking leave, then his' iddah will be three months, as mentioned above.

In this regard, the scholars are of the opinion that those who think that they can have

intercourse with a little girl or have intercourse with her are rejected.

Imam al-Nawawi (may Allaah have mercy on him) said:

The time for a young girl to leave and enter is:

If the husband and the guardian agree on something that does not harm the little girl, it will be done, and if they disagree, Imam Ahmad and Abu Ubaid say:

A nine-year-old girl will be forced to do so, but not a younger girl.

And al-Shaafa'i and al-Malik and Abu Haneefah (may Allaah have mercy on them) said:

It is permissible to tolerate sexual intercourse, and it differs from woman to woman, and it is not permissible to impose an age limit on it, and this is also valid, and there is no limit to the age in the hadeeth of 'Aa'ishah (may Allaah be pleased with her). Nor does it say that if she can afford it before that age, she will not be allowed to leave.

Nor is it permissible for a person who is unable to have sexual intercourse even when he is nine years old.

Dawoodi (may Allaah have mercy on him) said:

Ayesha (may Allah be pleased with her) was a very young woman.5

The viewpoint of the third class

Marriage of Hazrat Ayesha:

Our jurists are mistaken in this matter because of a narration. This narration has been narrated with the most authentic chain of transmission in all the authentic books of hadith, and this is the narration on the basis of which our jurists have issued a fatwa justifying minor Age marriages. Have to give This narration is attributed to Ayesha in which she says:

The Prophet (peace and blessings of Allaah be upon him) married me when I was six years old. After that we came to Madinah ... Then (during the leave) I was not disturbed by anything except that the Messenger of Allaah (peace and blessings of Allaah be upon him) came and (the Ansari women) visited me. In those days it was a year. In another narration it is said that Urwah Ibn Zubayr said that Hazrat Khadijah passed away three years before the migration of Hazrat Akram to Madinah. He did not get married for almost two years. Then he married Ayesha when she was six years old. And Ayesha left when she was nine

1 Yusuf bin Abdullah Al-Nimri Al-Undulsi, Al-Istizkar Al-Jamae Li-Mzahib Fuqha Al-Amsar wa Ulema Al-Aqtar, Darul Kutub Al-Ilmiyah, Beirut, 2010, p, 49-50/16

2 Ahmad bin Ali bin Hajar Al-Asqlani, Fathul Barii, Darul Marifah, Beiurut. 1379AH, p, 239/9

3 Al-Baqarah, 2: 237

4 Al-Ahzab, 33: 49

5 Allama Ghulam Rasool Saeedi, Sharah Sahih Muslim , Maktabah Mujadidyah Karachi, p, 206/6

years old. In another narration he said the same thing in other words. And in a fourth narration it is said that (Hazrat Ayesha said) the Holy Prophet (PBUH) married me when I was seven years old.1 This is a narration which proves that Hazrat Akram had married Hazrat Ayesha Siddique at the age of six years and when she left, she was nine years old at that time. This hadith has proved to be very difficult for the scholars. As far as getting married at the age of a few is concerned, on the basis of this he issued a fatwa that marriages of minor Ages may be permissible. Because if minor Age marriages were not permissible, he would not have married Hazrat Ayesha at the age of six. But as far as taking leave at the age of nine is concerned, which is not generally considered the age of puberty, this hadith is still considered difficult. In general, our jurists and scholars of the ummah have tried to escape by putting forward some unusual and exceptional examples of Africa, etc., proving that girls in some special cases, especially in hot countries, become adults even at the age of nine. Happens. But the answer is obvious. Because it is not a matter of Africa and it is not a question of special cases. Makkah is still on the earth's map. It is still as hot a country as it used to be in the time of the Holy Prophet. Girls are still born there and usually do not reach adulthood by the age of nine. The family of Siddiq Akbar was the source of nobility and sanctity. That is not a needless statement. There we can't even imagine these special circumstances and specific data. Elsewhere, girls reach the age of nine. Therefore, this hadith is still difficult.

This hadith has also been narrated in Sahih Bukhari, Sahih Muslim, Sunan Abu Dawood, Sunan Nisa'i and all other authentic books of hadith. There is no doubt that this hadith cannot be objected to. On the basis of this same hadith, Jim Ghafir of jurists and scholars has been convinced of the legitimacy of minor Age marriages and those who are convinced of the legality of minor Age marriages are also convinced of the legitimacy of either minor girls. They are being forced to attribute this incident to the characteristics of the Holy Prophet.

But on this occasion, the question may arise as to why the above-mentioned hadith, no

Qur'an. Even if a hadeeth is a strong hadeeth, its denial does not imply that it is saheeh. The scholars of principle have made it clear that even if the news is authentic but it is against the clear text of the

Qur'an, it cannot be accepted. In the previous pages, we have seen that the clear text of the Holy Qur'an tells the age of marriage to puberty. Therefore, in the case of minor Age marriages, the Holy Qur'an, in response to this, when the scholars have taken the position that "if the hadith is saheeh, then it is obligatory to accept it. And if any clear text of the Holy Qur'an If it goes against the text of the Holy Qur'an, then it is necessary to leave it, because no one could understand the texts of the Holy Qur'an better than the Holy Prophet. When any word or deed of the Holy Prophet is against the text of the Holy Qur'an, it means This Qur'anic text does not mean what we understand, but it means something else. " So the intellect is amazed. I am very sorry that no sensible person can accept this position. Even the narrators themselves did not take this position.

The meaning of the clear text is that the verse of the Holy Qur'an has its own meaning and purpose. It is so clear that it cannot have any other meaning. If a news item contradicts the clear text of the Holy Qur'an, then why does it not mean that that news item alone should be misinterpreted? What is the competition between suspicion and certainty? The Holy Qur'an is definite and the news is the only suspicion. So why not consider Khabar Wahid as wrong?

Criticism of Ayesha's Hadith

He later said that when we review this narration of Hazrat Ayesha, this narration is not acceptable in any way. The result of this narration is that the marriage of Hazrat Akram to Hazrat Ayesha Siddique took place in Ba'ath. Because according to the popular saying, after the revelation, he stayed in Makkah for thirteen years and Hazrat Khadijah died three years before the migration, that is, in prophethood and he did not get married for two years. Therefore, one year before the migration in Prophethood, when Ayesha got married, Ayesha was six years old at that time, that is, Ayesha was born in Prophethood. But this is wrong.

1) First of all, let us see that this is refuted by a narration of Bukhari himself in which Hazrat Ayesha herself says that when this Ayah revealed upon the Prophet ﷺ, I was a child in thos days and plays with my age fellows.

بَلِ السَّاعَةُ مَوْعِدُهُمْ وَالسَّاعَةُ أَدْهَى وَأَمَرُّ-".(2)

Surah Al-Qamar was revealed in about 5 prophecies. If Ayesha was a child and used to play in 5 prophecies, then how can she be born in 5

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1 Sahih Bukhari, Hadith no, 4849

2 Sahih Bukhari, Hadith no, 4854

prophecies? This narration proves that Ayesha must have been at least five or six years old in the 5th Prophethood. Because at a young age, it is unthinkable for me to play and understand that these are the verses of the Holy Qur'an and later this incident will be remembered by them. It should be noted that this narration is also of Sahih Bukhari and according to the chain of transmission it is of the same level. The degree of Bukhari etc. is the tradition that is presented in connection with their marriage.

Hazrat Ayesha and Hazrat Fatima:

2) Hazrat Ayesha was five years younger than Hazrat Fatima, so Asad al-Ghaba per Ma'rifat al-Sahaba says:

Hazrat Fatima was about five years older than Hazrat Ayesha.1

Therefore, in order to find out the year of birth of Hazrat Ayesha, we have to look at the year in which Hazrat Fatima was born. Asad al-Ghaba fi Ma'rifatah al-Sahaba says that Hazrat Fatima was born in the year when the Ka'bah was being built and the Holy Prophet was 35 years old.2

There is another place in the same book that:

Hazrat Abbas went to Hazrat Ali and Hazrat Fatima was telling Hazrat Ali that I am older than you. Hazrat Abbas replied that Fatima was born at a time when the Quraysh were building the Ka'bah and Ali Were born a few years ago.3

In tabqaat Ibn Sa'd are as follows:

Hazrat Fatima is the daughter of Rasoolullah. His mother is Hazrat Khadija bint Khulmad bin Asad Ibn Abdul Aziz Ibn Qusay. Hazrat Fatima was born from the womb of Hazrat Khadija in the days when the Quraysh were building the Baitullah and this incident took place five years before the Prophethood.4

There is another place in the same book that:

Hazrat Abbas once went to Hazrat Ali's house and Hazrat Fatima was saying to Hazrat Ali that I am older than you. Hazrat Abbas said: Look, Fatima! You were born in the days when the Quraysh were building the Ka'bah and the Holy Prophet was thirty-five years old and look Ali! You were born a few years before that.5

Hazrat Fatima and Hazrat Ali

In all these statements, according to Hazrat Abbas, Hazrat Fatima was born 5 years before the Prophethood while the Quraysh were building the Kaaba and Hazrat Mubarak was 35 years old. But the fact cannot be ignored that in these statements Hazrat Fatima herself claims that she was older than Hazrat Ali.

The companions of Sero history agree that the burden of raising Hazrat Ali was borne by Hazrat Akram and Hazrat Ali was brought up in the footsteps of Hazrat Ali (because Abu Talib's financial condition was not much better. Abdul Muttalib's death). Since it was Abu Talib who brought up the Holy Prophet (saw), he may have accepted the responsibility of raising Hazrat Ali (as) in order to repay this favor. The age of Hazrat Ali (as) was ten years at the time of his resurrection. He was born 10 years before the Prophethood. It is noteworthy that in the house where Hazrat Fatima was growing up, in the same family, Hazrat Ali was also being brought up. It is very unlikely that Hazrat Fatima (may Allah be pleased with her) was mistaken for the fact that she is older than Hazrat Ali (may Allah be pleased with her). The child is five years younger, he considers himself to be a child who is five years older than him. Neither should be less than five years old. Rather, this small increase should be very modest, ie a few months. So that some of Hazrat Fatima's mistake can be justified.

This is also supported by the narration of Kalbi which has been narrated by Sahib Istiyat regarding the age of Hazrat Fatima. Sahib Istiyat writes that:

He said: O Abu Muhammad! What was the total age of Fatima bint Rasoolullah?

How old was Hazrat Fatima at the time of her death? There is a difference. Zubair Ibn Bakr has narrated from Abdullah Ibn Al-Hasan that he used to visit the court of Hisham Ibn Abdul Malik and Kalbi was also present there. Hisham Abdullah Abdullah Ibn Al-Hasan said that thirty years. Hisham then asked Kalbi what was the total age of Hazrat Fatima? Kalbi said that for thirty-five years, Hisham said to Abdullah Ibn al-Hasan: O Abu Muhammad! Listen to what Kalbi is saying and Hisham gave more importance to Kalbi's statement. Abdullah Ibn Al-Hasan replied: O Commander of the Faithful! Ask me about my mother and ask Kalby about her mother.6

According to a popular saying, Hazrat Fatima passed away in 11 AH, six months after the death of Hazrat Akram. If, according to Kalbi,

1 Ibnul Atheer, Abul Hassan, Ali bin Abi Al-Karam, Asadul Ghabah fi Marifahtul Shabah, Darul Fikr, Beiurut, p, 377/ 4
2 Asadul Ghabah fi Marifahtul Shabah, p, 377/ 4
3 Asadul Ghabah fi Marifahtul Shabah, p, 28/ 2
4 Asadul Ghabah fi Marifahtul Shabah, p, 11/8
5 Asadul Ghabah fi Marifahtul Shabah, p, 18/ 8

6Abu Amar, Yosuf bin Abdullah bin Muhammad bin Abdul Barr, Al-Estiaab Fi Maarifatul Al-Ashab, p, 482/2

Fatima's death is acknowledged at the age of thirty-five, she must have been born 12 years before Prophethood. While the birth of Hazrat Ali has been acknowledged in the prophecy 10 years ago. This narration of Kalbi confirms the statement of Hazrat Fatima.

It should be noted that there is no weight in the saying of Hazrat Abdullah bin Al-Hassan: "O Amir al-mu'minin! Ask me about my mother and ask Kalbi about her mother." Because the statement of Hazrat Fatima herself and her claim is also supporting the statement of Kalbi. Therefore, there is no reason for us to ask Abdullah Ibn Al-Hassan about the age of Hazrat Fatima and not to ask Hazrat Fatima herself. No matter how weak the Kalbi traditions are according to the narrators in terms of rules, but in history it is not weak. Clubby is the most important part of our history. In this issue with the characteristic, it cannot be ignored that even in the opinion of Caliph Hisham Ibn Abdul Malik, the opinion of Kalbi himself was preferable to that of Abdullah Ibn Al-Hasan. As for the statement of Hazrat Abbas, we do not need to confuse his statement.

The reason for the difference in dates:

In order to apply these two statements, we must keep in mind one thing in principle, and that is that the Arabs did not have a calendar before Islam. So they were usually accustomed to remembering different events more than other important and famous events. For example, the Holy Prophet was born this year while Mecca was attacked by the Companions of the Elephant. Hazrat Fatima was born in the year when the Quraysh were building the Kaaba. It is not uncommon for events to be remembered in this way for a gap of one or two years, and sometimes several years. In addition, if both the year of birth and the year of death are included in the statement of ages, then two years are added and if these two years are not counted, then two years are reduced. Because it is clear that not everyone who is born is born in the month of Muharram and not everyone who dies dies in the month of Dhi Al-Hijjah so that the year of birth and the year of death can be considered necessary. Therefore, it is quite possible that Kalbi added the year of birth and the year of death and said that Fatima was thirty-five years old at the time of her death. Similarly, counting the twenty-three years of Prophethood and ten years before it, the year of Fatima's birth becomes 10 years before Prophethood. In the same way, the companions who have mentioned the age of Hazrat Ali at the time of Prophethood as ten years. He may have omitted the year of birth and stated his age. Otherwise, in fact, Hazrat Ali was born 11 years before Prophethood.

We believe that Hazrat Ali was born 11 years before Prophethood and Hazrat Fatima was born 10 years ago. And the difference between the two may be increasing by a year or a few months. For this reason, Hazrat Fatima may have been mistaken that she is older than Hazrat Ali, but this was not the case. Hazrat Abbas had told Hazrat Fatima to remove this mistake that Hazrat Ali was older than her. That is, there was a gap of a year or a few months between the two.

If the birth of Hazrat Fatima is acknowledged in 10 BC, then the birth of Hazrat Ayesha should be in 5 BC. And at the time of marriage, that is, in the 12 prophecies, their age should be seventeen years, and if the year of birth or the year of marriage is omitted, then their age becomes sixteen years.

Hazrat Ayesha and Hazrat Asma:

3) This is also supported by another statement which Imam Ibn Katheer has mentioned in his famous book "Al-Badaita wa Al-Nahaita".

And in terms of death, Hazrat Asma is the last of all the Muhajireen and his emigrants is his sister Ayesha. His father is Abu Bakr Siddiq. His grandfather is Abu Atiq. His son is Abdullah. And his The husband is Hazrat Zubair and all of them are companions. Hazrat Asma was involved in the battle of Yarmouk with her son and husband. She was ten years older than her sister Ayesha. This year (in 73 AH) I had to witness the murder of my son Abdullah five days after this incident and there is a saying that ten days later there is a third saying that it is twenty days later and there is a fourth saying that something above is twenty days later and there is a fifth saying that a hundred days later and This is a well-known saying. At the time of his death, Hazrat Asma was a hundred years old.1

This is also supported by the statement of Sahib Mushkoot Al-Masabih Imam Wali-ud-Din Abu Abdullah Muhammad Ibn Abdullah Al-Khatib. He has recorded it in his book Akmal Fi Asma Al-Rijal. He writes:

"Asma bint Abi Bakr, this is Asma bint Abi Bakr Siddiq. They are called Zaat al-Nataqeen. The other piece is that she wrapped the other piece around her waist as a narrator. She is the mother of Abdullah Ibn Al-Zubayr. She became a Muslim in Makkah very early. Only seventeen men had converted to Islam before her. She was ten years older than her sister Ayesha. She died ten or twenty days after the martyrdom of her son. But he was hanged. He was 100 years old at the time of his death.2

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1 Imadul Deen Ismail bin Umar bin Kathir, Al-Bidayah Wal-Nihayah, Darul Fikr Beiurut, P, 346/ 8
2 Al-Khateeb Tebrizi, Muhammad bin Abdullah Mishkatul Msabih , Maktbah Ahle Hadith Lahore, Zamimah, 587

Asad al-Ghaba says:

Hazrat Asma was older than Hazrat Ayesha. Hazrat Ayesha was his sister on behalf of her father. Abdullah Ibn Abi Bakr was his real brother. Abu Naeem says that he was born 27 years before the date (ie migration) and when he was born, his father was a little over twenty years old. Hazrat Asma had converted to Islam after seventeen men.1

It is clear from these descriptions that Hazrat Asma was born 14 years before Prophethood. Because he died in 73 AH, he was one hundred years old. Therefore, they should have been born 27 years before the Hijrah and 14 years before the Prophethood. She was ten years older than Ayesha. Therefore, Ayesha should have been born 4 years before Prophethood and 14 years of Prophethood when she got married. She should have been 16 years old.

All these evidences prove that Ayesha was not less than sixteen or seventeen years of age at the time of marriage. The tradition mentioned above regarding the marriage of Hazrat Ayesha. In it, of course, the word ten has either been omitted from a narrator by mistake or has been omitted intentionally. And so it has become six of sixteen and nine of nineteen.

4) Regardless of the above-mentioned narration, all the traveling companions agree that Hazrat Ayesha was married to the Holy Prophet in 10 Prophets. And the correct view about the leave is that it took place in Shawwal 2 AH, that is, 15 Prophets Because the stay of the Holy Prophet in Makkah has been for at least thirteen years. This is a well-known saying and it has been preferred by all the companions and narrators. Otherwise, the second view is also of fifteen years. Therefore, it is stated in Ibn Sa'd:

A man came to Ibn Abbas and said that revelation was revealed to the Messenger of Allah for ten years in Makkah and ten years in Madinah. Ibn 'Abbas said, "Who says that?" Revelation was revealed to you in Makkah for fifteen years or more.2

Hazrat Ayesha's leave:

But another narration has been narrated from Ibn Abbas himself that he stayed in Makkah for thirteen years. He then migrated, so it is generally accepted that he lived in Mecca for thirteen years. Therefore, more than three years had passed since the 10th Prophethood. Then we should see when Hazrat Ayesha left after the migration. Two views are quoted in this regard. The first opinion is of Shawwal 1 AH and the second

opinion is of Shawwal 2 AH. But the correct view is of Shawwal 2 AH. Because the migration took place in Rabi-ul-Awal 1 AH. The family of the Holy Prophet and the family of Hazrat Siddiq Akbar were not present during the migration. After reaching Madinah and getting all kinds of satisfaction, they were called after arranging a house etc.3

Upon reaching Madinah, Hazrat Ayesha fell ill and lost all her hair. Your marriage then took place when the hair grew back and up to the shoulders. (See Ayesha's own narration of Bukhari, p. 204, vol. 2) Obviously, all these things could not have happened in just six or seven months. That is why Alamiyah Aini had to say in Sharh Sahih Bukhari regarding the departure of Hazrat Ayesha:

"It is very strange that he left seven months after the migration. This statement is very weak. He left in Shawwal 2 AH after returning from the battle of Badr."4

This has also been supported by Sahib Isti'ab. So he says:

The Prophet (peace and blessings of Allaah be upon him) married 'Aa'ishah three years before the migration in Shawwal 10, and brought her to Madinah in Shawwaal (2 AH) eighteen months after the migration.5

Marriage of Hazrat Fatima:

Asad al-Ghaba says:

Hazrat Fatima was married four months after the marriage of Hazrat Ayesha.6

Therefore, we should also look at when Hazrat Fatima was married. In this regard, Al-Asaba says:

Hazrat Ali had married Hazrat Fatima in Muharram 2 AH, ie four months after the marriage of Hazrat Ayesha.7

But this statement is wrong because in Sahih Bukhari the statement of Hazrat Ali himself is against it. Sahih Bukhari says:

Hazrat Ali (AS) said: I had a she-camel which I got as booty in the battle of Badr and another she-camel was given to me by the Messenger of Allah (SAW) out of the portion which Allah Almighty gave you as a fee. I intended to bring Hazrat Fatima bint Rasoolullah on leave and I talked to a goldsmith of Banu Qainqa 'to go

1 Asadul Ghabah fi Marifahtul Shabah, p, 292/ 5
2 Tabqaaat Ibne Saad, p, 333-334/1

3 Tabqaaat Ibne Saad, p, 43/8
4 Allama Badrul Deen Mehmood bin Muhammad Al-Aini, Umdatul Qari, Maktabah Jebrail, p, 96/8
5Abu Amar, Yosuf bin Abdullah bin Muhammad bin Abdul Barr, Al-Estiaab Fi Maarifatul Al-Ashab, p, 744/2
6 Al-Estiaab Fi Maarifatul Al-Ashab, p, 377/4
7 Al-Estiaab Fi Maarifatul Al-Ashab, p, 365/4

with me and we brought Azhar grass from the forest. I intended to bring Azhar grass. I will marry her with the money I will get by selling her to the hands of goldsmiths. (Then it is narrated how Hazrat Hamza tore the hips of these camels as this story does not belong to our subject.) Must not be considered for duplication).1

This shows that Ali was not married until after the Battle of Badr. The battle of Badr took place in Ramadan 2 AH. Therefore, your marriage can take place as soon as possible in Muharram 3 AH.

Sahib Isti'ab and Sahib Asad al-Ghaba have clarified this further. Asad al-Ghaba says:

He married Hazrat Fatima to Hazrat Ali after the battle of Uhud. The second statement is that Hazrat Ali married Hazrat Fatima to Hazrat Ayesha four and a half months after her departure, Was married seven and a half months after the marriage. "2

Sahib Isti'ab writes:

And the Prophet (peace and blessings of Allaah be upon him) married Fatima to Hazrat Ali (as) after the battle of Uhud. There was a gap of nine and a half months in between.3

The battle of Uhud took place on Saturday, 15 Shawwal 3 AH. If Hazrat Fatima's leave took place in Shawwal 3 AH after the battle of Uhud, then her marriage should have taken place in Muharram 3 AH (according to Sahib Isti'ab) or Rabi-ul-Awal 3 AH (according to Sahib Asad Al-Ghaba). Therefore, the statement of Muharram 2 AH in Asaba is not correct. From this point of view too, Hazrat Ayesha's departure from Hazrat Fatima can take place only four or four and a half months before Shawwal 2 AH. 2 AH means 15 prophecies. If Hazrat Ayesha was married in 10 Prophets and took leave in 15 Prophets as is well known and generally accepted, then the famous narration of Hazrat Ayesha that at the time of marriage Hazrat Ayesha was six years old and took leave She was nine years old at the time. It is wrong if at the time of marriage their age is increased to six years in 10 prophecies, then at the time of leave they should be eleven years in 15 prophecies (2 AH) and not nine years.

Hazrat Ayesha's first engagement:

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1 Sahih Bukhari, p, 8/3
2 Ibnul Athir, Abul Hassan Ali bin Abi Al-Karam, Asadul Ghabah fi Maarifatul Shabah, Darul Fikr, Beirut, P, 540/ 5
3 Abu Amar, Yosuf bin Abdullah bin Muhammad bin Abdul Barr, Al-Estiaab Fi Maarifatul Al-Ashab, Darul Kutub Al-ilmiyah , Darul Fikr, Beirut, p, 540/5

All the companions of Sir agree that before the message from the Prophet (peace be upon him) Ayesha's relationship was discussed with the son of Jabir Ibn Mutam. And when the message of Hazrat Muhammad (PBUH) reached, Hazrat Abu Bakr Siddiq (PBUH) was most concerned about the fact that he had promised Jubair Ibn Mutam for Hazrat Ayesha How can they break this promise? This incident has been narrated by Maulana Syed Sulaiman Nadvi in Sira-ul-Nabawi as follows:

10 In the Prophethood, Hazrat Ayesha was married to him. She was six years old at the time. Before him, Jubayr was related to Ibn Mutam's son. After the death of Hazrat Khadija, Khula bint Hakeem proposed marriage to Hazrat Khadija. He agreed. Khula said to Umm Radman, she mentioned it to Hazrat Abu Bakr Siddiq, she said that I have made a promise to Jubair Ibn Mutam and I have never broken my promise. But Jubair himself refused on the grounds that if Hazrat Ayesha came to his house, Isla would step into the house. In any case, Hazrat Abu Bakr got married to him through Khula. Four hundred dirhams was declared a seal.4

There are two things to consider here. The first is that Ayesha's marriage to the Prophet (peace be upon him) at the age of six is mentioned, and before that she is related to Jubayr Ibn Mutam's son. Hazrat Ayesha was engaged to Ibn Mutam's son at the age of three or four years and was there any custom among the Arabs to get engaged to such small children? History does not show any such tradition. Secondly, it is clear from this statement that the move to break the engagement was not made by Hazrat Abu Bakr Siddiq but by Jubair himself, the reason given is that if Hazrat Ayesha If you come home, the step of Islam will come in the house. And only after the refusal did it become possible for Hazrat Siddiq Akbar to break the contract of Hazrat Ayesha with him. Here the question arises that if Ayesha was only six years old at the time of her marriage to him, then Jubair would have inevitably denied it before then. A six-year-old girl who does not even have the manners to speak and understand can be considered worthy of Jubair's fear that if Hazrat Ayesha came to his house, he would follow Islam in the house. Will come What can be the reality of Islam and disbelief of a six year old girl. This in itself proves that Hazrat Ayesha was not six years old at that time as stated but was such an age that her Islam could be a threat to her in-laws and because of this danger Jubair refused. I thought it necessary to do.

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4 Allama Shibli Numani, Seerat ul Nabi, Darul Musanifeen Shibli Academy India p, 406/2

Hazrat Ayesha's scholarly superiority:

Some of the statements we find in the books of Hadith and Seer about the scholarly life of Hazrat Ayesha Siddiqah are given in the Sira of the Prophet (peace and blessings of Allaah be upon him) as a testimony to her greatness and knowledge.

The scholarly life of Hazrat Ayesha is also significant. Hazrat Abu Bakr used to give fatwas in the time of Hazrat Umar and Hazrat Uthman. 2210 hadiths have been narrated in which Shakhin has agreed on 174 hadiths. Bukhari has narrated 54 hadiths from them individually. Imam Muslim is unique in 68 hadiths. That whenever a difficult question was posed to the Companions, it was Hazrat Ayesha who would solve it. Her disciples say that we have not seen a happier speech than her. Tafsir, Hadith, Israr Shariat, Khatbat and Adab and Ansab I had perfected them. The great poems of the poets were memorized orally by Hakim in Mustadrak and Ibn Sa'd in Tabaqat. 1

Hazrat Urwah Ibn Al-Zubayr states:

I have never seen a woman better than Ayesha in medicine, jurisprudence and poetry.2

Imam Zehri says:

If the knowledge of all the women of this ummah is collected, including the wives of the Prophet (peace and blessings of Allaah be upon him), then the knowledge of Aa'ishah will be greater than all of them.3

so far as Shariah sciences like Tafsir, Hadith, Fiqh, Israr Shariah etc. are concerned. Undoubtedly, all this knowledge was acquired by you through the grace and companionship of the Holy Prophet (sws) and this is by no means surprising or surprising. But along with these sciences and arts, oral recitation, medicine, genealogy, Arabic language, literature and memorization of the poems and long poems of the poets of Jahiliyyah are among the things which the time to learn cannot inevitably be what you spent in the company of the Prophet. There was no discussion of poetry in the house of the Holy Prophet. The poets of ignorance did not recite poems and there was no place for such things. There was no talk of genealogy in your house that Islam did not give any importance to relative distinction and superiority but the tendency of Islam was against it. Similarly, there was no opportunity for education and training in medicine and oratory. Inevitably, you will have acquired all

these sciences and arts in your own Mecca, because that was the opportunity for it. It is well known about Hazrat Abu Bakr Siddiq that:

Ibn Ishaq states that Abu Bakr Siddiq was the most genealogist of Arabia. Ajli said that he was the most knowledgeable about the Quraysh genealogy. Ibn Ishaq writes in Al-Sirat al-Kubra that Abu Bakr was a very beloved, and gentle man among his people. And the Quraysh were the most genealogical. And they were most aware of the merits and demerits of the genealogy. He was a very creative businessman. People loved him because of his knowledge, experience and good company.4

Therefore, not all these sciences and arts could have been and would have been obtained from his father, but according to the above-mentioned tradition, when he was only nine years old, he left Mecca and went to the Holy Shrine of the Holy Prophet (PBUH). Had been The human intellect cannot in any way believe that a nine-year-old girl can possess such skills in all these sciences and arts in her Mecca that her knowledge surpasses that of the women of the entire Ummah. And attain the status of perfection. If a boy or a girl is not able to learn anything before the age of seven, can a period of two years be considered sufficient for the completion of these sciences and arts? There is no woman more learned in jurisprudence than him. Inevitably, it has to be admitted that the tradition that Ayesha was nine years old at the time of her leave is either incorrect or has been disproved. Our view is that the word decade has been omitted from this narration by any narrator. Or intentionally omitted. As has been proved in Nos. (1), (2), (3). At the time of marriage, the age of Hazrat Ayesha is not less than sixteen or seventeen years and at the time of leave, it is not less than nineteen or twenty years. After so many evidences and proofs, this hadith cannot be accepted as authentic in any way.

In any case, this was a hadith whose authenticity cannot be objected to, but from the point of view of Da'wah, it is absolutely wrong.

Another tradition:

Some jurists have argued from another narration on the legitimacy of minor Age marriages, although this is probably not the Sahih narration. Because I could not find this narration in search of Sahih, but there is a narration anyway: The narration is:

Muhammad ibn Ishaq narrates that I was told by Abdullah ibn Abi Bakr ibn Hazm and

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1 Seerat ul Nabi, p, 407-408/2

2　Al-Maghrabi, Muhammad bin Suleman, Jamul Fwaid , Maktabah Ibne Kathir Dare ibne Hazam, p, 234/2

3 Jamul Fwaid, P, 232/3

4 Al-Asqlani, Shahab ul Deen Ahmad bin Ali bin Hajar, Al-Isabah fi Maarifa Al-Shabah, Darul Kutub Al-Ilmiyah, Beirut, p, 334/2

Abdullah ibn al-Harith and a man whom I do not consider guilty that Abdullah ibn Shaddad narrated that the man who married her to Umm Salma He was their son Salma, so the Prophet (peace and blessings of Allaah be upon him) had arranged his marriage to the daughter of Hazrat Hamza and they were both young children in those days, but they could not be reunited due to their death. Have I taken revenge on Salma for marrying me to her mother?1

This tradition is not hidden from the scholars as it is in terms of authenticity. But even if this tradition is accepted as credible, it is not correct to argue that since the Prophet (peace and blessings of Allaah be upon him) had married these two young children. So even today it is permissible for everyone to do so. Regarding the Holy Prophet, the Holy Qur'an states:

The Prophet (pbuh) has more rights over Muslims than their souls.2

And no believing man or woman has the right to be free in any matter when Allah and His Messenger have decreed a matter.3

Therefore, the Holy Prophet could have married Salma and bint Hamza even after puberty against their will. It doesn't matter if you are getting married as a minor or as an adult. But this feature was enjoyed only by the Holy Prophet. No one else in the ummah can claim it. Therefore, ordinary Muslims cannot be given the right to do so by speculating on his disposition.

One explanation for this tradition is that the word "spouse" is used figuratively in this tradition. In fact, you did not get married, but announced your engagement, but your announcement of engagement was also metaphorically interpreted as "marriage" because you had a certain kind of determination inside you.

Argument from Quranic verse:

The Holy Qur'an has declared puberty to be the age of marriage with a clear text, but it is ironic that in spite of this clear text, some of our scholars have tried to argue from the verses of the Holy Qur'an for minor Age marriages. He said. The ridiculousness of these arguments is a worthy lesson. At this time, I have before me the comment of the fourteen leading scholars of the country which has been published against the family laws and which has been given great publicity. These gentlemen write on this issue:

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1 Al-Hanfi, Aljassas, Abu- Bakar Ahmad bin Ali, Ahkam ul Quran, Suhauil Academy Lahore, 1400 AH, p, 62/2
2 Al-Ahzab, 33: 6
3 Al-Ahzab, 33: 36

The Holy Qur'an explicitly states that it is permissible to marry a girl who has not yet menstruated. Verse No. 4 of Surah Talaaq states that in the case of women whose menstruation has stopped or women who have not yet started menstruating, the 'iddah of divorce is three months. Now it is clear that the question of 'iddah divorce arises only when the previous marriage has taken place. Similarly, the Qur'an explicitly declares marriage to be permissible for a girl who has not started menstruating.

The correct meaning of the verse

In this verse, in fact, the ruling on 'iddah for women who have reached the age of puberty has been stated. They have had intercourse with their husbands but they are not recovering due to any illness or excuse. Examples of this type are common in women. Which can be confirmed today from every women's clinic. The evidence for this is also found in the same verse that the women who should have days are mentioned here but they are not getting days due to some excuse or illness. Every person who misses even the slightest bit of Arabic knows that in Arabic they come for simple and unusual and simple negation. And "lim" and "lama" come for the extraordinary, definite, that is, the negation of Hajj.

"Mahizan" or "Hazan" means "the days have not come to them" and "lam yahazan" and "lama yahazan" mean "they have never had days" or "they have not had any days yet". That is, the clause of emphasis can be used only when a claim is being made against it by the other party, at least as far as the requirements of the situation are concerned. Otherwise, using the clause of emphasis would be simply irrelevant and against the rules. If this is what our scholars want us to believe, then the word "mahzan" would be used here, because in the case of underage and minor girls, there is no claim by anyone that the days have come and the situation is not necessary. It is imperative that the days come. However, if the divorced woman is an adult. Her husband has also had an affair with her. In fact, she has already given birth to one and a half children, so the minimum requirement here is that the days have come or are coming for such a woman, but this is not happening due to some excuse or illness. Therefore, the use of emphasis on such an occasion is both appropriate and in accordance with the rules.

SUMMARY

However, if we look at the situation, more than 30 million girls in Pakistan are getting old due to lack of proper relationships and more than 300,000 young women have reached the age of marriage. Anyway, women are 52% and men are 48%. In this modern age, waiting for the right relationship, girls themselves or their leaders are forced to find their relationship through the internet

and social media. Therefore, in this way, most of them find their spouses, but due to not having a complete acquaintance with them, they also face many problems later. Most of the criminals lure the girls mentally by trapping them in the traps of heaven and earth and then use them in legitimate and illegitimate activities which have very dire consequences. Taking advantage of this compulsion, the relationship makers have also adopted different methods, the majority of which are in the cycle of earning a living only.

The growing number of unmarried girls and the lack of proper relationships has become a major problem in our society. Getting married is a natural thing that makes two families, but we have added to the difficulties for ourselves. Even after ten, fifteen, twenty years of puberty, we still give priority to the unjust customs and traditions of our status and society over marriage, preferring to get married after building a job, good business, house, car and other property. Yes, but by then the youth has begun to fade and finding such relationships that have been imprinted on the minds and hearts by the ideals, media, films and dramas is tantamount to gambling. Usually, our elders delay the marriages of young boys and prefer the marriages of daughters and sisters who are younger than their brothers. It is an inappropriate program not to bring one's daughter home as a daughter-in-law at the moment, but to take the initiative to make one's daughter's hands pale as soon as possible, which also leads to a decrease in relationships. When the opportunity arises to cultivate a marital relationship with Allah, the snake with unwarranted demands from both sides comes out of the pot and prepares to bite, which affects the poor and middle class families for the rest of their lives. Engages in debt repayment. Promoting ignorant notions like community and caste also leads to a lack of relationships that we can't even think of having relationships with anyone other than our family, community or profession.

Marriage of young people at the right age cuts off the root of most of the misdeeds we have mentioned above in terms of results. It creates a chaotic society where psychologically strong personalities thrive. Marriage at the right age is the answer to the call of nature. Therefore, in particular, it eliminates the artificial demand for beauty that has cut young girls from all directions and brought them in front of the mirror. Hormones are fully activated in a young man between the ages of 15 and 22, so that any girl who comes into his

life as a wife will be acceptable to him, regardless of his normal appearance. Why not girl Conversely, if there is no marriage at this age, the feelings created by the hormones that work inside the body will create in his mind a romantic outline of the opposite sex, which will be much more attractive than reality (including color). Our media is doing a lot of service to provide content for the sake of humiliation (for the sake of Allah). Who would be right to expect such a young man to be willing to marry a girl of modest stature at the age of thirty?

There are many objections to early marriage of young people. But all these objections are null and void. In this case, God expresses His will in the language of nature. When he first shows signs of puberty in a young man and a few years later mentally develops a strong desire for the opposite sex. Along with nature, he expresses the same will in his book. Take a look at the verse of Surah Noor which we have quoted above. It not only raises the issue of marriage but also responds to the only reasonable objection that arises against it. That is, the economic problem that arises after marriage. In his commentary on this verse, Maulana Amin Ahsan Islahi, the great commentator of the Qur'an, writes:

"As long as a man is deprived of his wife, he remains a bit of a gypsy. And many of his abilities are constricted and suppressed. In the same way, as long as a woman is deprived of her husband, her status is like that of an ox which is deprived of spreading and flourishing due to lack of support. But when a woman gets a husband and a man gets the companionship of a wife, both their abilities emerge and in the field of life when they both struggle together, Allah Almighty blesses their struggle and Their situation changes completely.

Those who object to this even after God's proclamation are wrong. In our opinion, no other opinion can ever be correct in a matter in which God makes His decision. If ever a problem arises as a result of this, the responsibility lies only on the wrong human attitudes, for example, marriage is a burden and the responsibilities that come after it are not made difficult by a god. This punishment is our own choice.

Keep in mind that it is not our intention to set a specific age for marriage. In social matters, it is not possible to say such a definitive thing. Every individual and family situation is different. So people take such a step just by looking at their situation. Our only emphasis is that young people should get married when they are really young.

APPLICATION OF TESTING AT THE PRESENT STAGE OF ENGLISH LANGUAGE TEACHING

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ABSTRACT

The article discusses the relevance, features and applications of testing at the present stage of English language teaching. The advantages of tests over traditional methods of control are described. The characteristics of the correctly composed test and the most common forms of test tasks are given in the article.
KEYWORDS: *test, testing, test technologies, knowledge control, self-control, quantitative assessment, qualitative assessment, unified educational standard, computer control, open form, closed form.*

DISCUSSION

Testing as one of the methods of knowledge control at the present stage of training is increasingly used and distributed. The test, i.e. the standardized measurement procedure, is the main instrument of such control.

It consists of the structural elements of any test-job. Testing can be defined as a targeted, the same for all subjects and conducted under strictly controlled conditions, the survey, allowing objectively measure the studied characteristics of the pedagogical process. However, it should be noted that the test can be used not only for control, but also as an effective means of training, forecasting and self-control.

The relevance of the introduction of test technologies in the educational process is due to the fact that testing is a tool for quantifying the level of knowledge, skills and competencies of students.

However, for an objective assessment of the level of competence, qualitative methods are also needed. A qualitative evaluation can be obtained if to apply, for example, the portfolio of individual achievement, which helps pupils to review their own learning activities and to set new goals. In the higher education system, the emergence of this method is due to the introduction of new Federal educational standards that focus on the competence approach.

It should be noted that the use of tests in education has a long history. In the USA since 1900 for testing used exam to define academic abilities qualifying exam for school leavers entering the universities, which assesses mathematical and verbal ability. And to confirm the level of English language proficiency, a test confirming knowledge of English as a foreign language (Test of English has a Foreign Language, IELTS, TOFEL) is passed, which is now carried out only with the use of computer technology.

In addition to testing, the Bologna Declaration also provides non-traditional ways of assessing students, such as rating and credit system. It is the students and not only teaching staff and administrative staff are full partners in higher education governance [of the Bologna process. 2007, p. 57]. To support mobility and integration into a single educational space, each student must have a certain set of key competencies, among which the foreign language occupies an important place. By competence we mean the ability to apply knowledge and skills for successful professional activity.

The development of tests to check the level of mastery of a foreign language (as, indeed, any other subject) is a time — consuming process, because it is very difficult to answer questions about how and what to measure, and the object of measurement — the level of knowledge of the subject — itself is very variable (compared with the exact Sciences, for example). Therefore, supporters of the traditional method of knowledge testing criticize tests, putting forward various arguments against their application, including the following: the inability to replace the teacher in assessing the knowledge of the student; the fundamental impossibility of measurement in pedagogy; the lack of units; students do not receive logical thinking skills; the ability to memorize answers and other [Kabanova, Novikov, 2010, p. 47]. But for each such argument

"against" it is quite natural to give the argument "for". It is obvious that today's learning process cannot be imagined without tests. They have undeniable advantages over traditional methods of control and contribute to the reduction of subjective evaluation, since there is no direct contact between the teacher and the test. Tests, which can contain a fairly large number of questions (about 50), allow you to check the content of a particular discipline most fully compared to the traditional examination ticket, which usually includes three questions. In addition, in a fairly short period of time, mass testing and verification of its results in the application of computer programs is carried out (the time of checking the results by the teacher is much longer than the time of the test). Tests clearly show the structure of the acquired knowledge and help to assess the quality of education.

In pedagogical practice methods of oral, written, machine, practical control, and self-control are used. Control can be individual, group, front and can have different goals: organization of the current test of assimilation of the material or intermediate or final. Based on the content of education and goals, we can distinguish control tests, diagnostic, training and tests for self-control. The control test is designed to evaluate the most important results achieved by students during the study of a particular area. The test includes certain didactic units of the discipline (section, module, topic, and so on). The diagnostic test determines the level of preparation of the student to the learning process (criterion-oriented test) at a certain stage or helps to form a training group of one level of training (normative-oriented test). Training tests and tests for self-control allow you to get the correct answer with detailed explanations; can contain links to the necessary sources, which is especially important for distance learning and independent work, when there is no contact with the teacher. In general, a correctly compiled test should have some characteristics: reliability, validity, homogeneity, optimal length and criterion score (if criteria-based testing is carried out). The reliability of the test should be ensured by the accuracy of measurements, to exclude the possibility of guessing the answer and incorrect formulation of tasks. A valid test is one that measures what it was intended for. First of all, it is necessary to talk about the content of the test, that is, the compliance of the test content with the planned control of the achievement of learning goals. Homogeneity, that is, the test of knowledge in the subject area for which the test is planned. The optimal length of the test (the actual number of tasks in the test) is closely related to the reliability characteristic, since short tests increase measurement errors, and too long reduce its effectiveness. Criteria score allows you to determine the probability with which the minimum prepared student will perform each test task.

Any test includes a variety of test items that must match the content of the training material. The choice of the form of test tasks depends on the specifics of the content of the subject area and the purpose of the test. Tasks of one form often have a single instruction for execution, if the tasks are different, the instruction is given before each task. Despite the apparent diversity of test tasks, the most common forms are open and closed [...Pedagogy 2009, p. 313].

A characteristic feature of the closed form of test tasks is that the task given options ready answers, one of which (sometimes several) correct. Of course, there is a possibility of guessing, which causes a negative attitude to such tasks. In addition, this task does not stimulate an independent search for an answer, and requires the subject only a choice of the proposed options. Such tasks are widely used in English language tests for obtaining a certificate confirming knowledge of English at an advanced level (Certificate in Advanced English, CAE), and a certificate confirming knowledge of business English (Business English Certificate, BEC). Experience shows (and it should be noted) that very often when performing such tasks, students are ready to offer their own answer, which is not provided in the list of possible options (usually four), in the exercises to fill in the blanks. This type includes tasks to establish the correspondence of elements of one set to elements of another set and tasks to establish the correct sequence of judgments, actions, processes, calculations. Tasks of this type are also found in the English language course of the specialty "Risk Management and Insurance", for example.

The open form does not contain ready-made answers; it allows you to formulate them freely and provides some variation. This form makes it possible to show the logic of thinking, the ability to formulate and argue the answer. There are tasks for addition with restrictions on the answer (for example, when you need to fill in the gaps in the related text, which requires taking into account the content of the text, its grammatical and lexical features, which is why the number of possible answers is limited). Usually in SAE tests it is possible to fill in omissions with several variants of prepositions or conjunctions of close importance. And the second version of the task is an exercise with a free constructed response example of which can be executing a small written work on a specific topic. Turning to the SAE tests, it should be noted this type of work in the "Letter" section, when the applicant for a certificate in a limited period of time and taking into account certain instructions, it is necessary to write one mandatory work (report, letter, and so on) and one to choose from (usually from four proposed), performing clearly described tasks.

In order to prevent possible conflicts and to avoid ambiguity, all test tasks should contain clear

instructions, it is necessary to specify the time to perform each task, and students should be familiar with the scoring system and the rules of evaluation. It should be noted that at the present stage of teaching English widely used international textbooks, which are authentic materials in different forms, including the test. The choice of benefits is so large that it is not difficult to find material of the appropriate level and subject for any group of students. Tutorials, including preparation for international exams (the so-called historical material), can only contain test tasks, accompanied by only the correct answers, and contain detailed comments, as manuals for self-study with answers ((self-study books). However, this does not always solve the problem of selection of materials for work in a particular group: the development of control and measuring materials remains a difficult and serious problem for each teacher. Only tests cannot do this type of work, as the translation from the native language to a foreign language within the studied topics, it is necessary to use at different stages of training, including at the stage of control. Preparation and development of tasks of this kind is constantly present in the methodical work of the teacher. An important area of application of the tests is to control the independent work of students, which is given great attention in higher education. The volume of tasks for independent work is very large, and didactic tests allow in the shortest time to monitor the results of these tasks and improve the efficiency of independent work. The teacher often has to listen to fair reproaches from the students that they have been doing the task for so long, which was so quickly checked. After all, any work of students should be evaluated, otherwise the irregularity or lack of educational and methodological impact (testing, control, consultation) inevitably leads to a decrease in academic performance. This is especially true in junior courses, when in the period of adaptation to the rules of work in high school, after high school, once in a new team and a new educational situation, the student is experiencing the greatest difficulties with the implementation of various tasks.

The most attractive method of testing, which is particularly interesting, especially for students, is computer control. All modern education, including test technologies, is computerized very quickly. It seems that everything connected with the computer is primarily connected with the English language. Computer tests allow you to work in groups of any size, they are focused on a wide range of users who do not have special training in programming, and provide feedback to students. This type of control ensures the unity of requirements for each student, allows to implement the principle of transparency and visibility of the evaluation results, creates the possibility of taking into account all types of work during the module or semester, develops the skill of independent work and stimulates quality study of the material. Computer testing contributes to the implementation of a systematic approach to the study of the discipline and helps to overcome the subjectivity in the assessment of students' knowledge by the teacher.

In conclusion, it would better to note once again that the most difficult stage in testing is the development of the test itself, which meets all the above requirements. Now more and more English textbooks contain computerized test tasks, but even this fact does not remove the teacher from the task of developing various tests taking into account the specifics of the educational environment and goals.

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THE RELATIONSHIP BETWEEN MACROPLASTIC AND LARGE-MICROPLASTIC ABUNDANCE IN THE NORTHERN COASTAL REGION OF WEST PENINSULAR MALAYSIA

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ABSTRACT

Several locations representing recreational area, tourist spots and fish landing grounds were selected in the northern coastal region of Peninsular Malaysia for L-Microplastic (L-MP) data collection. Marine litter samples were collected during HWS and LWN tidal regime. Quadrats of 50 cm x 50 cm were used to collect sediment from surface to 5 cm depth for microplastic analyses. A comparison between macroplastic and L-MP showed a significant relationship with R^2 =0.9579 where linear regression computed resulted in $y = 26.388x + 0.051$, where y: microplastic (kg/m^3) while x: macroplastic (kg/m^3) for Perlis sampling region. The linear regression obtained for Penang island is $y = 0.1248x + 0.0854$ with $R^2=0.9036$. Both results showed a significant difference where computed P-values were both <0.05. Findings from Penang island region demonstrated possibility of macroplastic and L-MP abundance relating to tidal condition, where during neap tides more plastics are settled on the beach zone as opposed to during spring tides mainly because of the difference in water volume and movement dynamics. Largest marine litter composition was plastic, followed by fabric and rubber. Although recent plastics used are of biodegradable grades meaning it breaks down into smaller sizes through exposure to sun, hydrolysis and microorganism reactions over time, these L-MP might further degrade to nanoplastic in size. The smallest microparticle reportedly detected in the oceans at the present is 1.6 µm in diameter. Further breakdown of microplastics is imminent and will be difficult to detect as these nano-sized plastics enter the food chain resulting in health risks. Based on this, the UN-SDGs directly affected will be SDGs 3, 6, 12, 14 and 15.

KEYWORDS: *microplastic, plastic, marine litter, marine debris, health risk, biodegradable*

1. INTRODUCTION

Addressing land-based pollution is now a significant and critical issue especially as global population is escalating. Since there is an unceasing growth in the amount of solid waste ending up in the environment and the lackadaisical rate of degradation of most products once in the ocean, this contributes to a steady increase in marine litter found at the coastal and marine environment. It has become an economic, environmental, human health, and aesthetic problem raising a dynamic and multi-dimensional challenge. Hence, marine plastic litter has become a priority issue. According to Lindeque (2017), the effect of larger plastic debris on aquatic life is well documented. However, microplastic litter has become more noticeable in recent years that may pose equal threat to marine life and human health is not well document either due to lack of research (Jahnke et al., 2017) or lack of awareness to the potential problem itself.

Laura Parker reported in National Geographic (2019) that increasing disposable plastic production has overwhelmed the world's ability to deal with them, and that plastic trash is now regarded as ubiquitous. Microplastics have been found everywhere around the world – from the highest point in Mount Everest to the lowest in the Mariana Trench. This tells us that microplastics on land are light enough to travel via the atmosphere and easily distributed within the water column since it is difficult to trace with the naked eye in the ocean. This scenario had prompted efforts for a global treaty on plastics negotiated by the United Nations.

Approximately 8.3 billion tons of plastics have been produced worldwide since the 1950s. A typical plastic waste dump is shown in Fig. 1 and not all plastic from this dump is recyclable. The continuously increasing annual plastic production since the 1950s to 2015 and its accumulative statistics is shown in Fig. 2(a) and (b). Although in some parts of the world using plastic is illegal, the current lifestyles do not totally free us from using these materials which include computer keyboards, mouse, credit cards, air conditioning housing, parts of cameras, and even clothing items. As much as 80% of land-based waste go to the sea and 73% of beach litter is plastic. It is only between 1985 – 1990 that plastic is recycled. In Geyer et al. (2017), global plastic waste by disposal in 2015 showed that only 20% of plastic waste is recycled, 25% is incinerated while the remaining 55% is simply discarded (Fig. 3). It is this portion that 10,000s to 100,000s tonnes of plastic will eventually play a major role in entering the ocean to pollute it (Fig. 4).

Fig. 1. Plastic waste dump. (Source: https://cdn.givingcompass.org/wp-content/uploads/2018/10/04155651/10-Facts-About-Plastic-Pollution-You-Absolutely-Need-to-Know.jpg)
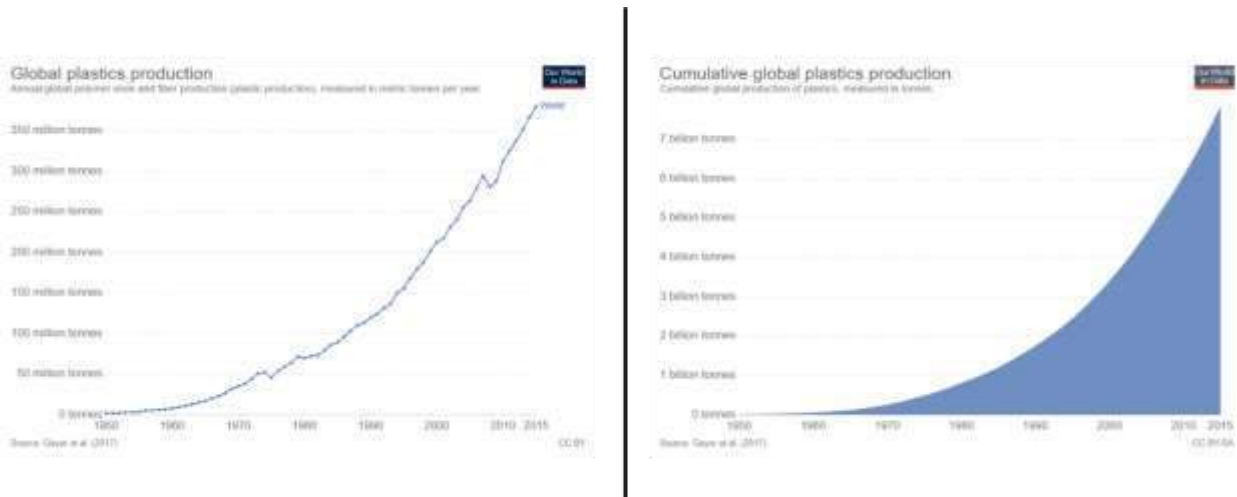
Fig 2. (a) Annual Global Plastic Production, and (b)Cumulative Global Plastic Production, between 1950 – 2015 (Source: Geyer et al., 2017)
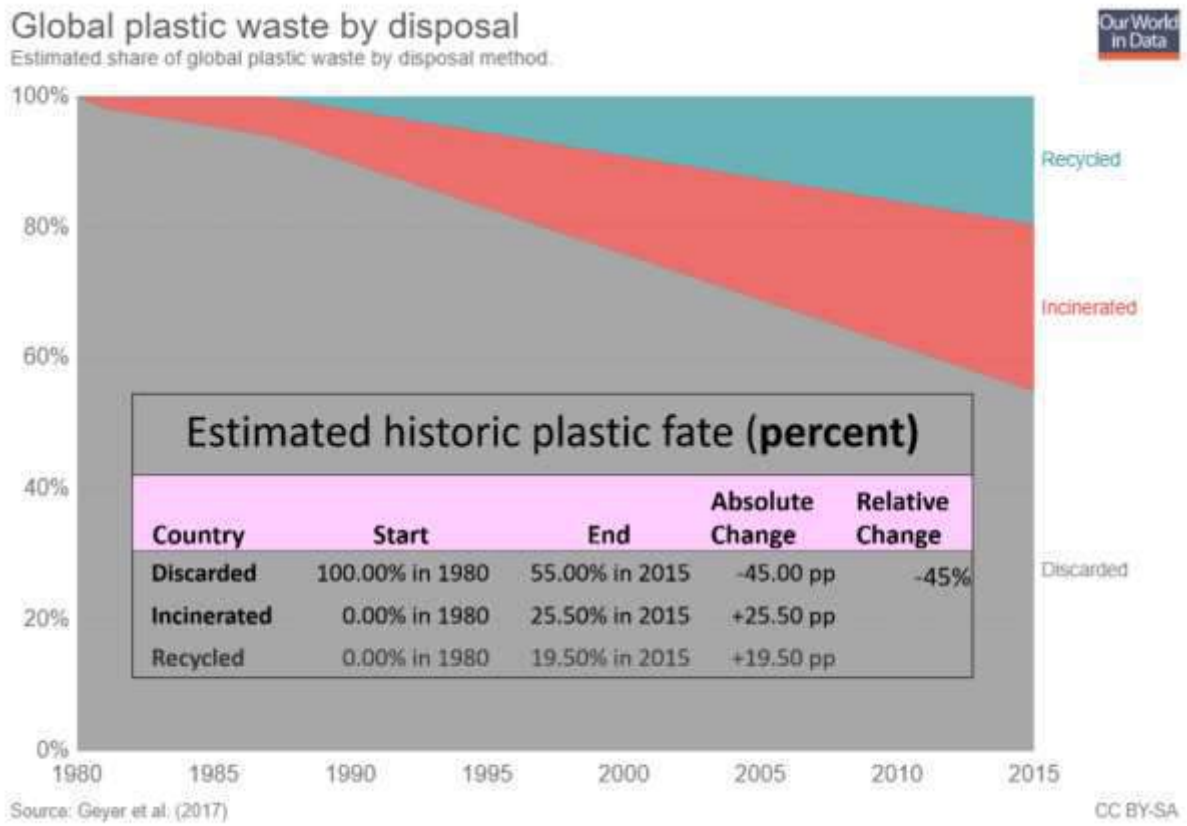

Fig. 3. Disposal of global plastic waste.
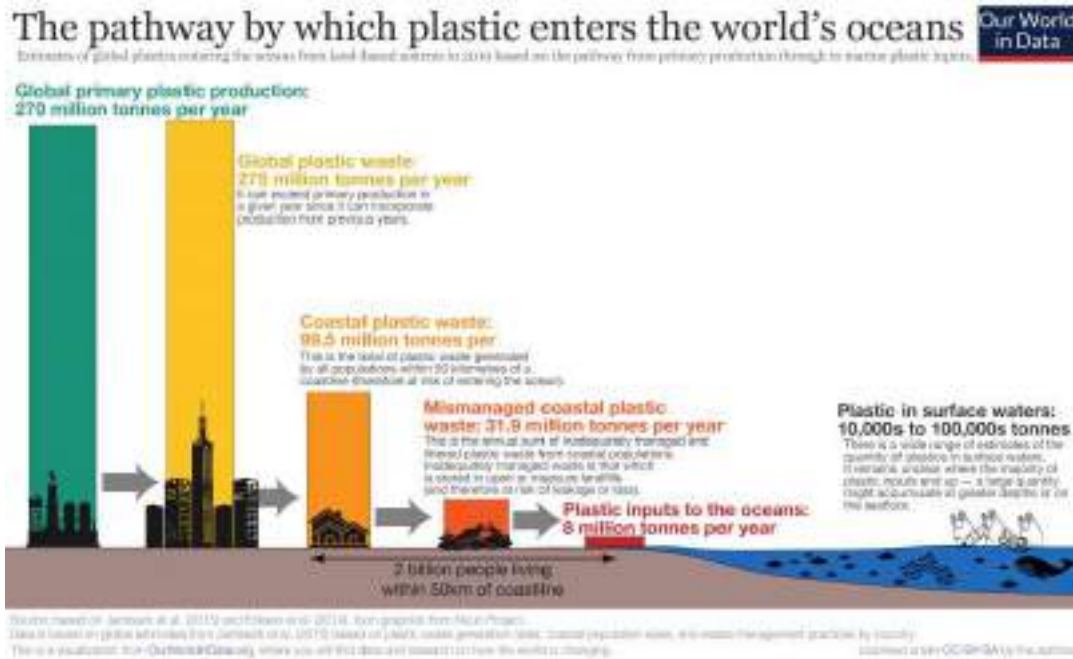*(Source: Geyer et al., 2017 in https://ourworldindata.org/plastic-pollution)*

Fig. 4. Pathway of plastic entry to the world's oceans.
(Source: https://ourworldindata.org/plastic-pollution#impacts-on-wildlife)

Plastic particles are typically grouped into categories depending on their size (as measured by their diameter) (Table 1). The most essential part of plastic pollution is plastic cannot degrade naturally but breaks into tinier sizes (hence, microplastics) over time which then resulted in multiplications of their abundance and finally interfered with the food chains in coastal ecosystems, bioaccumulated in organisms consuming these microplastics and lead to health issues in human. In addition, plastic litter pollution also impedes and degrades the aesthetic value and sustainability of an area

Table 1. Plastic size categories and diameter range.

Particle category	Diameter range (mm = millimetres)
Nanoplastics	< 0.0001 mm (0.1µm)
Small microplastics	0.00001 – 1 mm
Large microplastics	1 – 4.75 mm
Mesoplastics	4.76 – 200 mm
Macroplastics	>200 mm

(Source: Eriksen et al., 2014)

Research on marine litter issues is not widely conducted in Malaysia although it appears to be a major problem in the country. Some of related studies are found to be inadequate to illustrate the level of marine pollution within the Malaysian coast. This study aimed at investigating the occurrence of macroplastic and large microplastic (L-MP) within selected locations on the northern coast of west Peninsular Malaysia. The relationship between macro- and L-MP will also be determined. This study was conducted with the hypothesis that areas with higher socio-economic activity and/or larger population will have higher macroplastic abundance. It is also expected to have higher L-MP abundance.

2. MATERIALS AND METHODS
Study Area

Two study sites were selected for this study, Perlis in the northern most of west coast Peninsular Malaysia and Penang island on further south (Fig. 5). Seven (7) sampling locations were identified where 4 were in Perlis and 3 in Penang island.

(1) PERLIS: Stations A, B and C are located at the vicinity of Kuala Perlis jetty where a fishing village is located. It is also an entryway for local and tourists enroute to Pulau Langkawi, a major tourism location. The fourth is Station D located further south at Kurung Tegar, a non-touristic area.

(2) PENANG: Three (3) sampling locations referred to as Stations 1, 2 and 3 were identified. Station 1 is Pantai Miami

representing one of the many famous tourist areas, Station 2 is Pantai Teluk Bahang – a traditional fish landing point, and Station 3 is Pantai Pasir Panjang which is known for its natural surrounding. Both Stations 1 and 2 are located on northern coast of Penang island, while Station 3 is at the southwest.
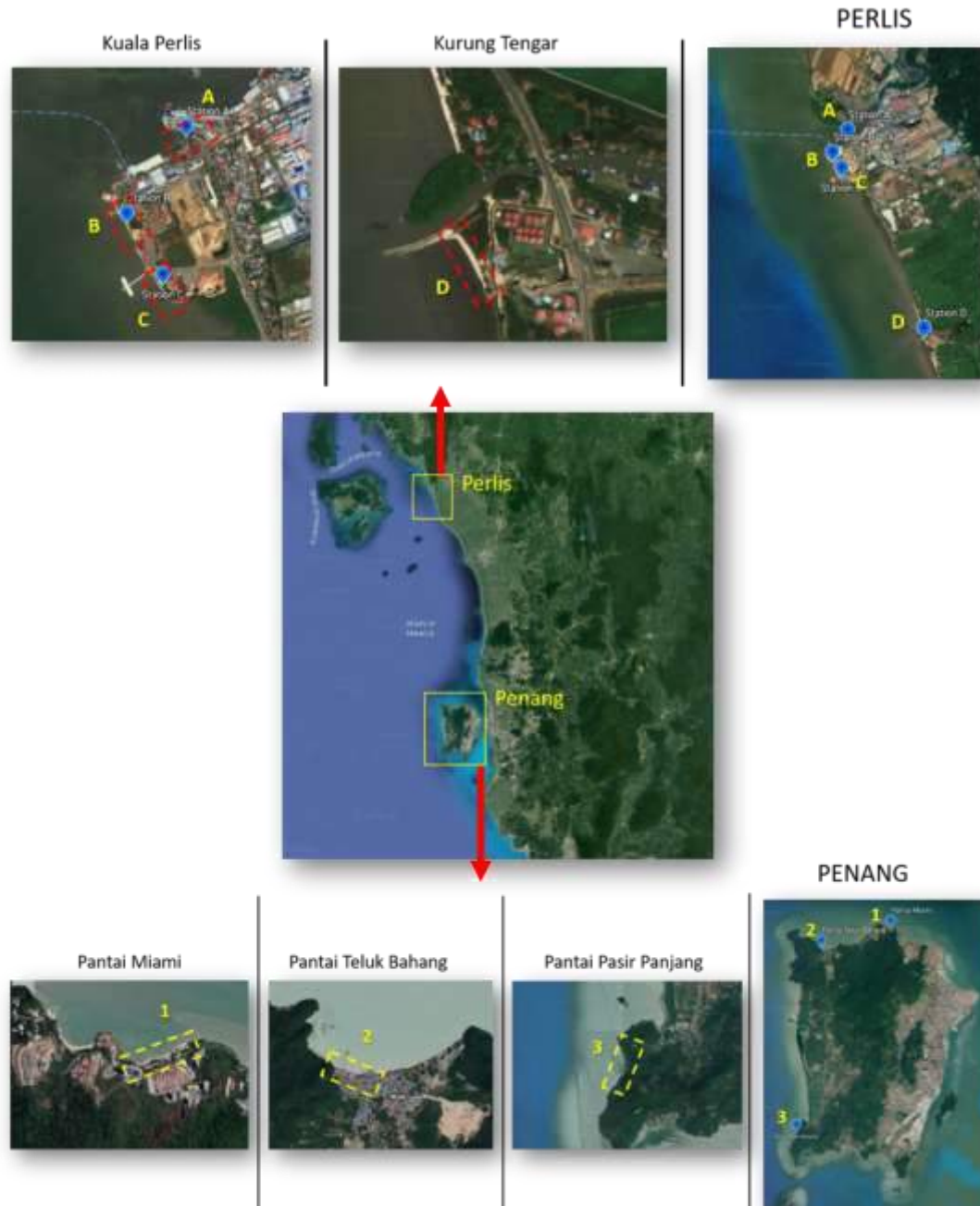
Fig. 5. Locations of sampling points in Perlis and Penang island.
(Source: base map from Google Earth)

Sampling Procedure

Sampling procedure conducted in this study was established and modified based on the field guide published by National Oceanic and Atmospheric Administration (Lippiatt et al., 2013; Opfer et al., 2012). Each sampling transect is 100m and samples were taken at 10m intervals along the transect using a quadrat of 50cm x 50cm. Sediment samples collected at 5 cm depth and sieved through 1 mm Endecott sieve to collect L-MP (meso- and microplastics). Microplastic particles smaller than 1 mm is not considered in this study. A graphic representation of L-MP sample collection is shown on Fig. 6.

Fig. 6. Graphic representation of L-MP sample collection for this study. (Source: adapted from Tham, 2019)

Isolated L-MP particles were then categorized respectively according to their morphology which are fibre, film, pellet, foam, and fra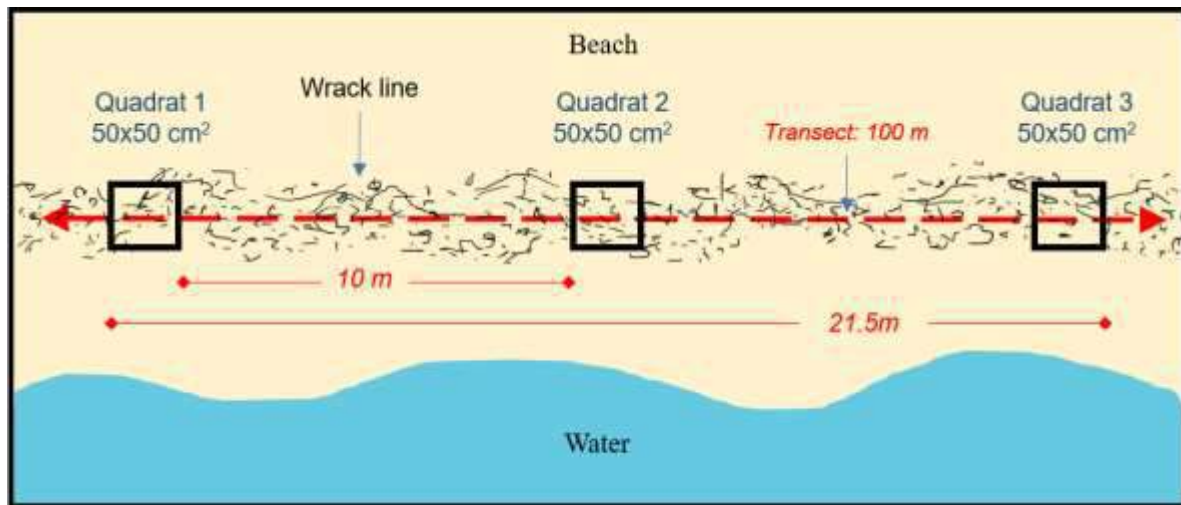gment (GESAMP, 2019). To do this, samples collected were visually examined and sorted with the aid of an optical microscope. Hot needle test is applied (De Witte et al., 2014). The abundance of the L-MP was calculated in items/m^3 based on the formula provided by IOC-WESTPAC (2017) as below.

For macroplastics:
Sampling area (m^2) = *length of transect line × width of sampling area*
Abundance of macroplastic per unit area (items/m^2 or weight/m^2) = *number or weight of macroplastic ÷ sampling area*

For L-MP (meso- and microplastics):
Sampling volume (m^3) = *sampling area × sampling depth × number of quadrats*
Abundance of microplastic per unit volume (items/m^3 or or weight/m^3) = *number or weight of microplastic ÷ sampling volume*

Statistical analysis is carried out to determine the possibility of significant correlation between macroplastic abundance and microplastic amount in the sediment layer using Linear Regression in the SPSS software.

3. RESULTS AND DISCUSSION
Relationship between Macroplastic and L-Microplastic in Perlis

Results of marine litter collected from Perlis sampling region showed that most litter are from macroplastic, followed by fabric, glass, and rubber. Macroplastic from packaging dominated this category. No metal or wood were found. Results of marine litter from all 4 stations in the Perlis region is given in Fig. 7. Most macroplastic are found in Station C where the eateries are located. Station C is also nearby Stations A which is the jetty, and Station B which is a place of worship. The jetty area (Station A) ranked second in terms of macroplastic abundance, while Station D, representing residential area located further away, ranked third. The lowest macroplastic abundance amongst these four stations would be at the vicinity of worship. The L-MP results is shown in Fig. 8. Similarly, Station C has the highest L-MP abundance, followed by Station A. The residential area (Station D), however, has a lower L-MP abundance compared to Station B. Results obtained in general reflected the assumption that areas having higher socio-economic activity and/or larger population tend to have higher macroplastic abundance.
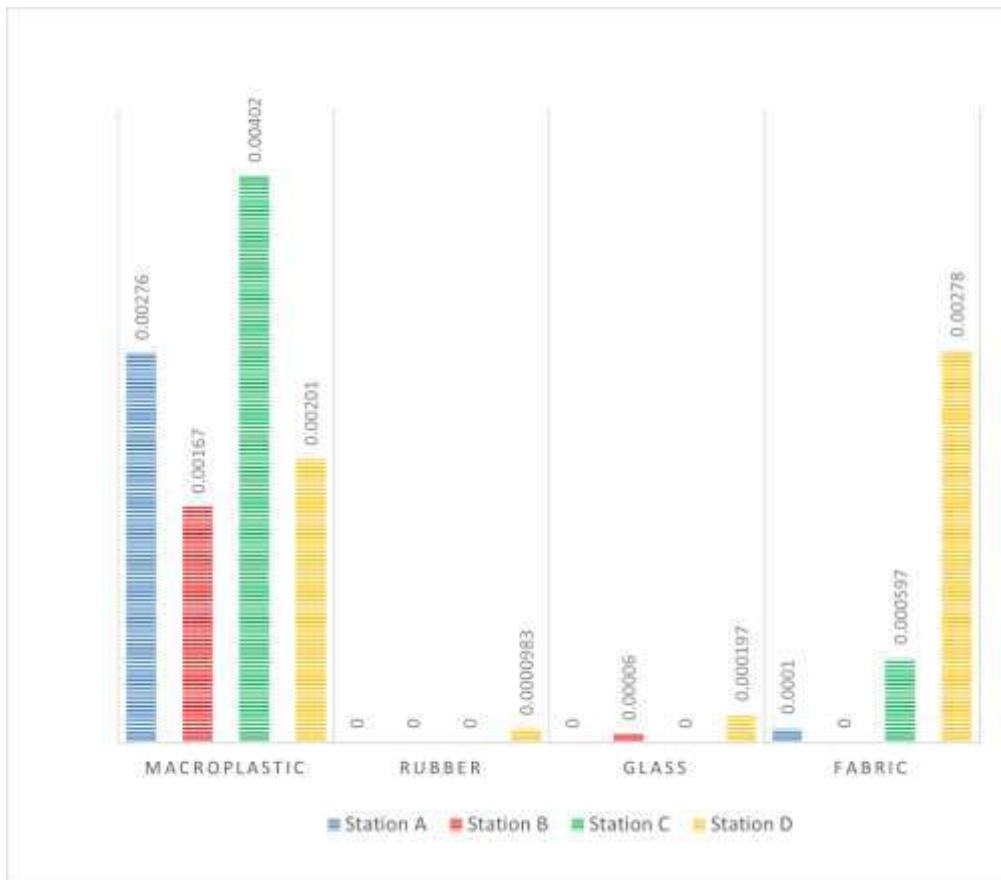
Fig. 7. Categories of marine litter collected from samples in Perlis sampling region.
(Source: adapted from Zaity et al., 2020)
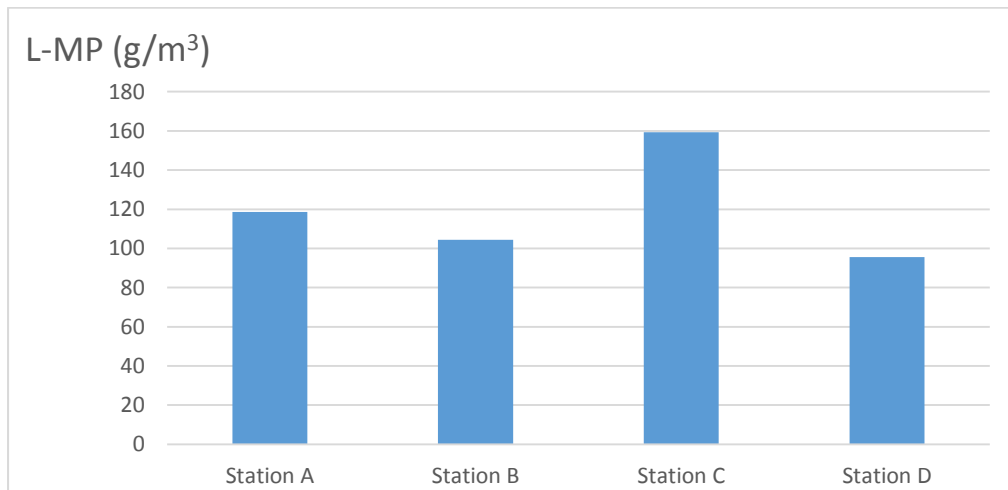
Fig. 8. Abundance of L-microplastic (g/m³) collected from Perlis sampling region.
(Source: Zaity et al., 2020)

Based on statistical analysis, results showed a strong correlation between the amount of macroplastic litter on the beach and the abundance of microplastic in the sediment in this study (Zaity et al., 2020). Computed value of R^2 is 0.9328 and this means high amount of macroplastic litter on the beach will lead to the high amount of microplastic in the sediment layer. This significant relationship is shown in Fig. 9. Regression analysis equation showed the relationship between macroplastic and microplastic as:

$$y = 26.388x + 0.051$$
where, y = microplastic (g/m³), and
x = macroplastic (kg/m²)
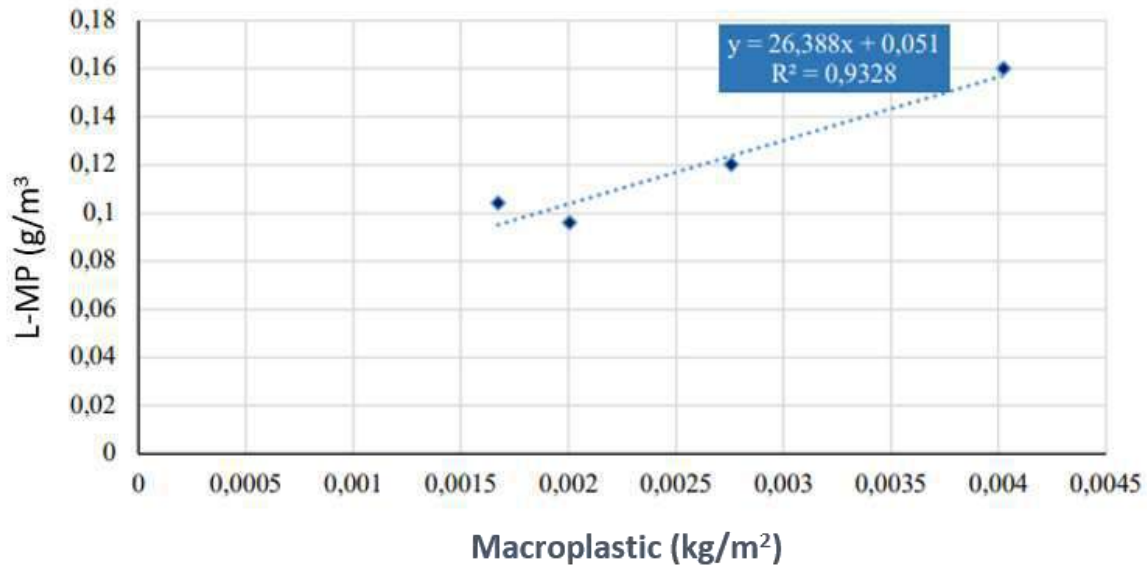
Fig. 9. The Regression relationship between macroplastic and L-Microplastic in Perlis.
(Source: Zaity et al., 2020)

Summary of regression analysis between macroplastic and L-MP for Perlis is given in Table 2. Regression analysis shows adjusted R squared is -2 while for ANOVA result shows the total of *df* is 6 and *SS* is 0.002432. The probability output of L-MP is 0.12 g/m^3 in percentile 50. The *P-value* is 0.003 (p<0.05), therefore this test is significantly different.

Table 2. Results of Perlis macroplastic and L-Microplastic statistical analysis for regression (a) Regression Statistic, (b) ANOVA, (c) Macroplastic Intercept, (d) Residual Output and (e) Probability Output

(a)

Regression Statistic	
Multiple R	0.9658293
R Square	0.93282624
Adjusted R Square	-2
Standard Error	0.00903788
Observations	1

(b)

ANOVA					
	df	SS	MS	F	Significance F
Regression	4	0.00226863	0.000567158	27.7735303	#NUM!
Residual	2	0.00016337	8.16833E-05		
Total	6	0.002432			

(c)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept Macroplastic (kg/m²)						-4.4042E-306	4.4043E-306
						-1.3404E-306	1.3404E-306	
0.00275833							0	0
0.00167333	0.05100731	0.01384943	3.682990386	0.06644574	0.00858197	0.1105966	0.00858197	0.1105966
0.00402167	26.3876405	5.0070856	5.270059796	0.0341707	4.843889991	47.93139103	4.843889991	47.93139103
0.002005								

(d)

Residual Output		
Observation	Predicted Microplastic (kg/m³)	Residuals
1	729969.053	-729968.933

(e)

Probability Output	
50	0.12
Percentile	Microplastic (kg/m³)

(Source: Zaity et al., 2020)

Relationship between macroplastic and L-Microplastic in Penang island

For Penang island, dominant macroplastic category was also from packaging. All sampling locations contained mostly disposable water bottles. Results of macroplastic collected from Penang island is given in Fig. 10. Data collected during spring tidal condition samplings showed a much lower abundance of macroplastic compared to during neap tidal condition. One probable explanation to this is due to the difference in the dynamics of water volume movement – during spring higher volume movement is involved while the opposite is observed during neap. Thus, during neap, more macroplastic will settle on the beach front. Higher abundance of macroplastic is also observed at locations with higher socio-economic activity which are Pantai Teluk Bahang (fish landing point) and Pantai Miami (a tourist recreational point). Pantai Pasir Panjang had showed much lower macroplastic abundance probably because this location is rather secluded, more pristine, not crowded and is surrounded by forest.
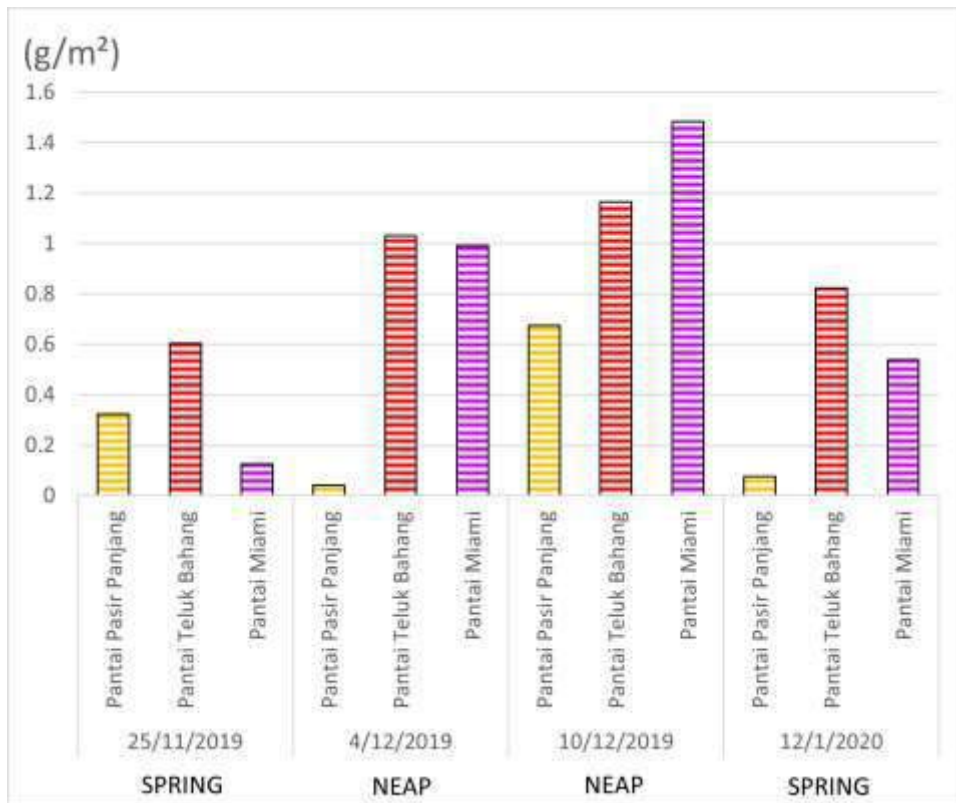
Fig. 10. Macroplastic abundance in Penang island region.

Fig. 11 shows L-MP collected from sediment samples in Penang island sampling region. From the chart, it is obvious more L-MP were also found in all sampling stations during neap tidal condition. Unlike macroplastic abundance profile shown in Fig. 10, L-MP was not detected in Pantai Pasir Panjang during spring tidal sampling on 25 November 2019 and 12 January 2020. None was found too in the samples taken from Pantai Miami on 25 November 2019.Perhaps another intensive sampling is necessary to ascertain the reason for this. However, Pantai Teluk Bahang has consistently showed high abundance of macroplastic and L-MP in this study.
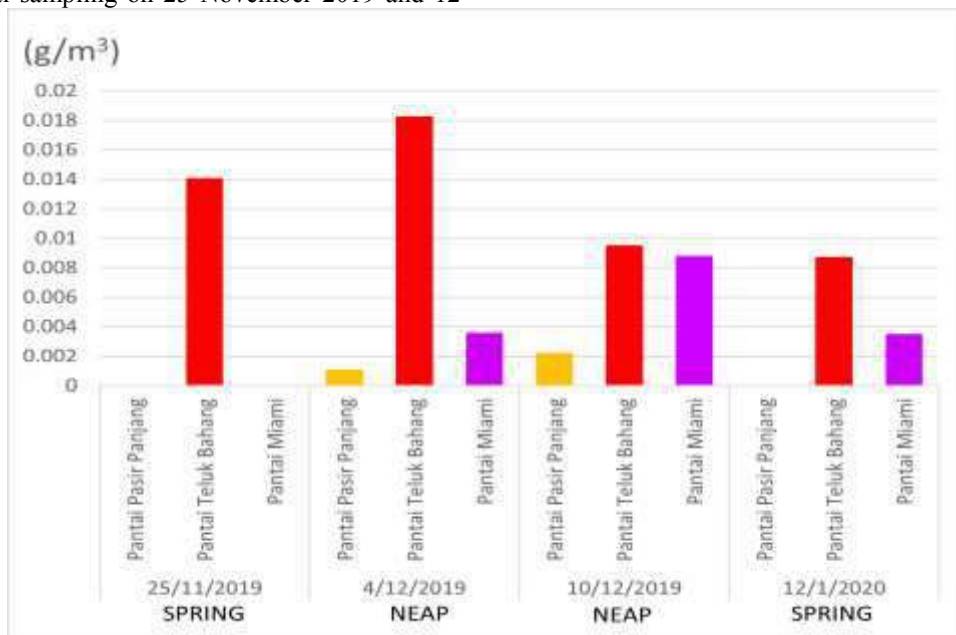
Fig. 11. L-Microplastic abundance in Penang region.

Similarly to analysis of Perlis data, regression analysis from Penang island data also showed a strong correlation between the amount of macroplastic litter on the beach and the abundance of L-MP in the sediment during this study period. The R^2 value computed was 0.9036 indicating high abundance of macroplastic litter on the beach will lead to high abundance of L-MP in the sediment layer (Fig. 12). Linear Regression analysis equation between macroplastic and microplastic for Penang island region was computed as:

$$y = 0.1248x + 0.0854$$

where, y = microplastic (g/m³), and
x = macroplastic (kg/m²)

Macroplastic vs Microplastic (Penang)

$$y = 0.1248x + 0.0854$$
$$R^2 = 0.9036$$
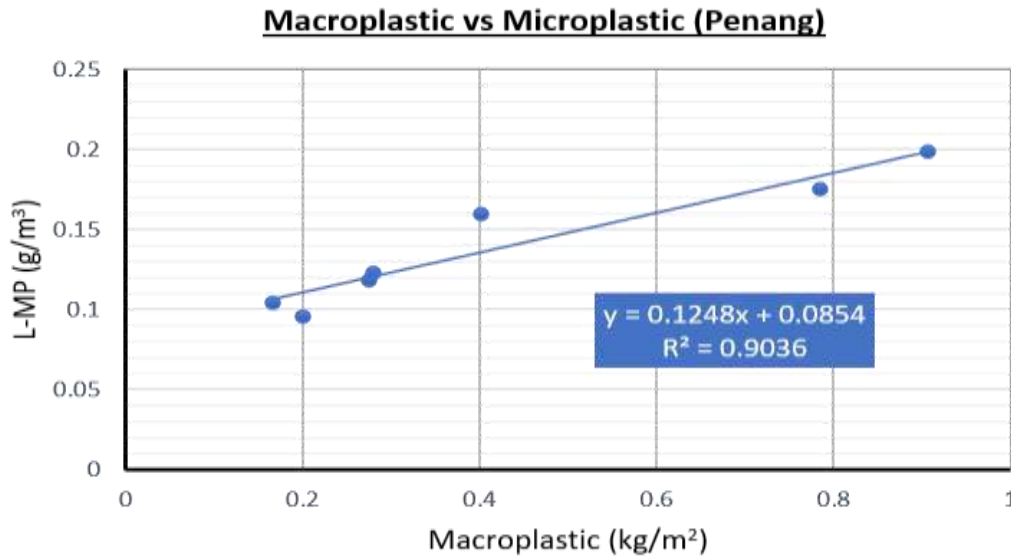
Fig. 12. The Regression relationship between macroplastic and L-Microplastic in Penang island.

Summary of regression analysis between macroplastic and L-MP for Penang island sampling region is given in Table 3. Regression analysis shows adjusted R squared is 0.8843 while for ANOVA result shows the total of *df* is 6 and *SS* is 0.008987. The probability output of L-MP is 0.1233 g/m³ in percentile 50. This value is very similar to the results obtained for Perlis region (0.12 g/m3 in percentile 50). The *P-value* is 0.001 (p<0.05), therefore this test is significantly different.

Table 3. Results of Penang island macroplastic and L-Microplastic statistical analysis for regression (a) Regression Statistic, (b) ANOVA, (c) Macroplastic Intercept, (d) Residual Output and (e) Probability Output

(a)

Regression Statistic	
Multiple R	0.950555231
R Square	0.903555247
Adjusted R Square	0.884266296
Standard Error	0.013165957
Observations	7

(b)

ANNOVA					
	df	SS	MS	F	Significance F
Regression	1	0.00812	0.008119905	46.84315209	0.001016607
Residual	5	0.000867	0.000173342		
Total	6	0.008987			

(c)

	Coefficient s	Standard error	T Stat	P-value	Lower 95%	Upper 95%	Lower 95%	Upper 95%
Intercept Macroplastic (kg/m^2)	0.08544699	0.009303	9.18499613	0.00025661	0.06153315	0.10936083	0.06153316	0.10936083
X Variable 1	0.124816387	0.018237	6.844205731	0.001016607	0.077937209	0.171695564	0.077937209	0.171695564

(d)

Residual Output		
Observation	Predicted L.-Microplastic (g/m^3)	Residuals
1	0.119896317	-0.0013
2	0.106291331	-0.00189
3	0.135623182	0.023677
4	0.110535088	-0.01494
5	0.183427858	-0.00833
6	0.198530641	-0.00013
7	0.120395583	0.002904

(e)

Probability Output	
50	0.1233
Percentile	L-Microplastic (g/m^3)

Generally, data collected during this study demonstrated that the major macroplastic problem is from packaging category. This is further supported by data from Geyer et al. (2015) (Fig. 13) that the largest plastic production in the industrial sector is from packaging amounting to 1.46 million tonnes in 2015 alone. This is the production to support the 7 billion global population then, and this figure had increased since that date.
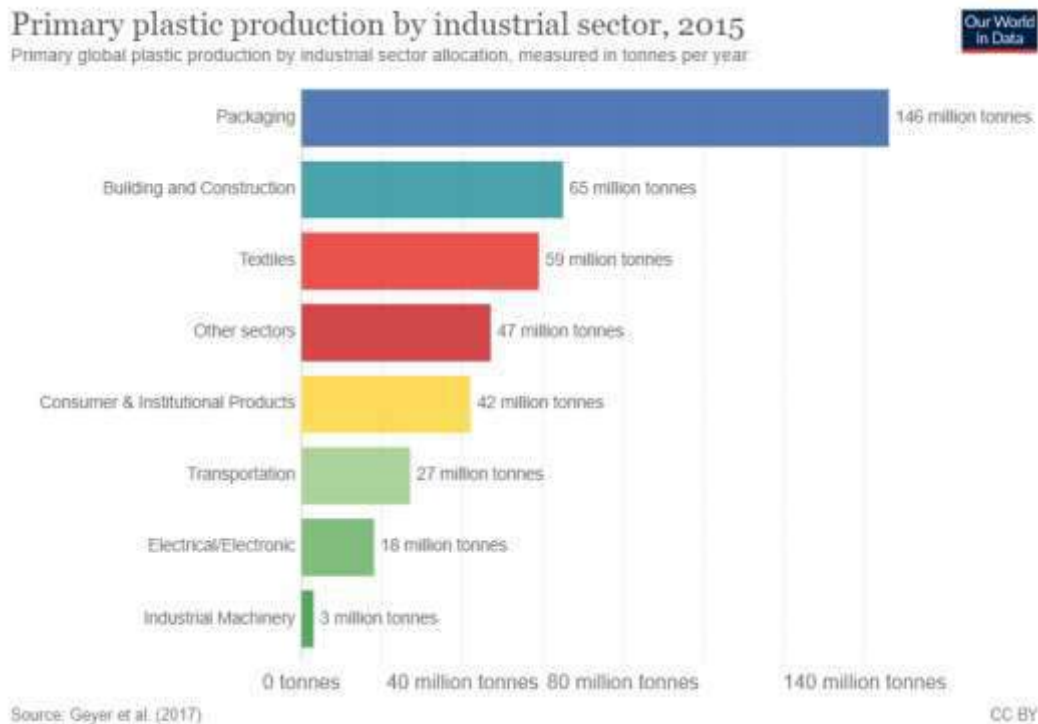
Fig. 13. Primary plastic production by industrial section, 2015.
(Source: Geyer et al., 2017 in https://ourworldindata.org/plastic-pollution)

It is imperative to study further the potential effect of microplastics in the environment. The information will be indispensable as it allows us to connect the potential consequences of these microparticles within our physical environment which will affect our wellbeing. To relate these with our desired sustainable environment and to achieve the much hard-pressed 17 goals by the United Nations (UN-SDGs), we need to observe the big picture and realize the potentials and consequences we have obsessively fed into our environment.

How most UN-SDGs are connected in macro- and microplastic pathways is graphically demonstrated in Fig. 14. Microplastics are in the environment without being noticed and are often eaten by organisms which may potentially cause harm. Microplastic particles can enter the food chain and can be found as a vector for the movement of the organism's community and chemical pollutants. Most of the deaths to animals are caused by entanglement or starvation due to macroplastics. Abandoned fishing gears, discarded six-pack rings, clear plastic bags are amongst the macroplastics causing entanglement to seals, turtles, and other marine animals. More than 100 aquatic species have been found to contain microplastics, and these species (shrimp, fish, mussels) are amongst those ending up in our food chain, our meal consumptions. Tiny microplastic particles pass through our digestive systems can either be expelled without any consequence, or it may block digestive tracts causing death. Undigested materials may stay within the stomach causing further problems. It is known that land-based animals consumed plastics which eventually caused death to some (National Geographic, 2017). There were confirmed reports of liver and cell damages, and reproductive system disruptions prompting a reduced fecundity in shell fishes. Research also show that larval fish are consuming nanofibers in the early days of their lifecycles, and this has raised very concern questions amongst researchers on the possible effects of plastics on fish populations. Bioaccumulation will result in contamination of fish. This will eventually end up in the topmost consumer in the trophic hierarchy. As mentioned, this chain of reactions will affect our efforts in achieving sustainability, particularly the UN-SDGs.

The direct effect is on SDG 3, 14 and 15 as shown in Fig. 14. The indirect effect of plastic pollution, may it be macro- or microplastic will be wide and transcends almost all UN-SDGs. The relationship is intricate and complex. To solve the microplastic pollution requires a holistic approach involving inter-, multi-, and transdisciplinary perspectives where all fields involved are treated equally to address this plastic tide.
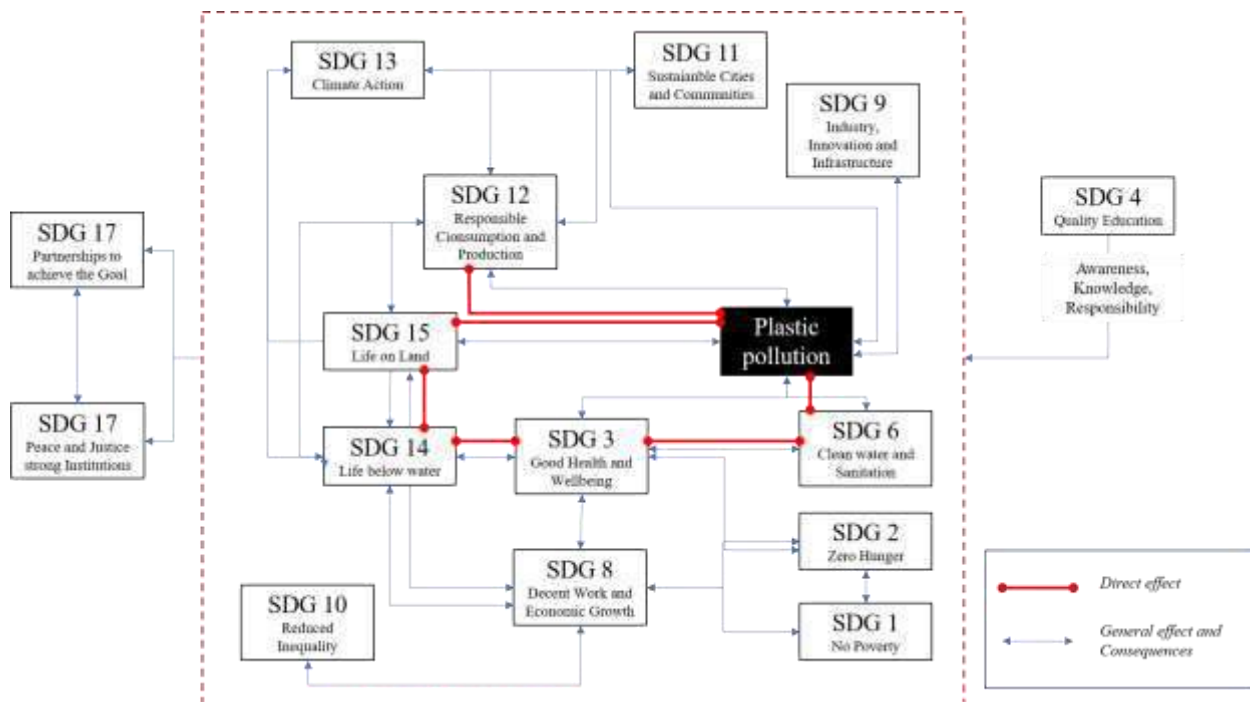
Fig. 14. Direct and direct relationships (consequences) of plastic pollution in the environment and UN-Sustainable development Goals.

4. CONCLUSION

The main aim of this study in investigating the occurrence of macroplastic and large microplastic (L-MP) within selected locations on the northern coast of west Peninsular Malaysia was achieved where these materials were found in abundance and that there were significant relationships between the two materials. For Perlis sampling region, the relationship between macroplastic and L-MP was computed as $y = 26.388x + 0.051$, where y: microplastic (kg/m^3) while x: macroplastic (kg/m^3) with an $R^2=0.9579$, while for Penang island sampling region, computed relationship was $y = 0.1248x + 0.0854$ with an $R^2=0.9036$. In this study, the hypothesis or assumption that areas with higher socio-economic activity and/or larger population will have higher macroplastic and L-MP abundance was accepted and proven. Results from both sampling regions showed significant difference where computed *P-values* were less than p-0.05 (p<0.05). Findings from Penang island region demonstrated possibility of macroplastic and L-MP abundance relating to tidal condition, where during neap tides more plastics are settled on the beach zone as opposed to during spring tides mainly because of the difference in water volume and movement dynamics. This observation will need further research to reach affirmation. The largest marine litter composition was found to be plastic, followed by fabric and rubber. No metal or wood marine litter was found in both sampling regions. Although recent plastics used are of biodegradable grades which will break down into smaller sizes through exposure to sun, hydrolysis and microorganism reactions over time, these L-MP might further degrade to nanoplastic in size. The smallest microparticle reportedly detected in the oceans at the present is 1.6 µm in diameter. Further breakdown of microplastics is imminent and will be difficult to detect as these nano-sized plastics enter the food chain resulting in health risks. How these microplastics pose health risks are based on the effects and relationships that connect the UN-SDGs. The most directly affected will be SDGs 3, 6, 12, 14 and 15. The other SDGs are also affected but indirectly since plastic pollution is now seen as one of the wicked problems to be solved. This requires a holistic approach involving multiple levels of disciplinary with equal roles.

Conflict of interest
Authors declare no conflict of interest.

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A CONCEPTUAL PRACTICE AND EFFECTS IN RESILIENCE RISKS AMONG ADOLESCENCE

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ABSTRACT

The aim of this study is to discuss the models of resilience protective, challenge and describe how resilience differs from related concepts. The key terms are discussed about methodological issues, and explore implications for the profession by focusing on adolescents to overcome the negative effects of risk exposure. However, to bridge the gaps in current understanding, involves facilitation of skill acquisition via strengthening processes. An overview of this resilience research related to adolescent substance use, violent behaviour, and social risk behaviour. Consider the findings specifically emphasis on the developmental period of adolescence and forms the basis of a framework that allows an individual variance in resilience, the identification of both neurobiological and psychosocial targets for prevention therapeutic interventions. This study enhances intervention protective factors in adolescent to offset these vulnerabilities and thus promote the health of adolescents. The objective of coping reactions is fundamental to the enduring effects of violence exposure on their psychosocial development and functioning. Finally, this study illustrates the manner in which coping efforts can support resilience among adolescent stage exposed to violence and suggest new directions for research and preventive intervention aimed at optimizing outcomes for adolescent at risk of exposure.

KEYWORDS : *Resilience Risk, Protective Factors, Social Practice, Attitude, Behaviour*

INTRODUCTION

This research explains about the resilience process of overcoming the negative effects of risk exposure, coping successfully with traumatic experiences, and avoiding the negative trajectories associated with risks. Basically, the resilience presence of both risks and promotive factors that either help bring about a positive outcome or reduce or avoid a negative outcome. In fact, people will experience twists and turns as of everyday challenges traumatic events with more lasting impact such as loss of a loved one, a life-altering accident, or a serious illness. Each adjustment affects people differently, bringing a unique flood of thoughts, strong emotions, uncertainty and the ability to learn from ordinary not extraordinary. The lifespan maturity affected by maltreatment and other serious forms of adversity such as trauma, tragedy, threats, or significant sources of stress, family and relationship problems, health problems, or workplace and financial stressors. It also involves "*bouncing back*" from these difficult experiences which involve profound personal growth due to a move away from '*deficit*' models of illness and psychopathology. However, resilience theory, concerned with risk exposure among adolescents, it emphasizes on understanding healthy development in spite of risk exposure on the strengths rather than weaknesses. The complexities of resilience defining what appears to be the relatively simple concept that are widely recognized, especially within the behavioural sciences perhaps, there are many aspects of life that can control, modify, and grow with. Almost more resilient not only helps get through difficult circumstances, it also empowers people to grow and

even improve life along the way. That's the role of resilience.

The dynamics of resilience framework approach to address a health risk behaviour that is amenable to early health-promoting interventions also across the lifespan, its role in a healthy managing practice and changes in cognitive functioning. Adolescent's experiences with violence been linked with a range of behavioural and mental health difficulties, including posttraumatic stress disorder and aggressive behaviour. Resilience has been conceptualized as a process involving an interaction between both risk and protective processes, internal and external to the individual, that act to modify the effects of an adverse life event (Rutter, 1985, 1999). Resilience in the adolescent reflects a deeper problem within the field of resilience, that is, the lack of a unified theory capable of guiding more structured and empirical methodologies for developing the construct (Luthar, Cicchetti, & Becker, 2000). The progress of an understanding, a way of thinking, resilience can be elements of the construct, and suggesting different approaches to measurement. It can be defined as an outcome characterized by particular patterns of functional behaviour despite risk. Another assumption, resilience defined as a dynamic process of adaptation to a risk setting that involves interaction between a range of risk and protective factors for the individual to the social.

a) Method of Designing Planning Strategic

This study illustrates the strategic planning provides a structured approach for determining what goals individuals should pursue to accomplish his/her mission over the medium-term and long-term, and how it can most effectively achieve their goals. Especially, what enabled and hindered in adopting and embedding the new approach in their life. Hence, the roadmap to resilience is considered to involve emotional distress that connection with major trauma or adversity in their lives commonly experience with emotional stress. While on the opposing, resilience involves behaviours, thoughts, and actions that anyone can learn and develop. Ultimately, in early stage, adolescence is a time rapid development and change an important consequence which include the adoption of risky behaviour. The link between resilience and development seems to reflect the fact that the processes are interactive and endure over time. Because of their apparent sense of invulnerability risk and danger, many adolescents participate in risky behaviour Rutter (1993). Alternative meaning like building a muscle, increasing resilience takes time and intentionality. Gradually, the basic elements correlate their healthy thinking, and meaning that will empower people with resilience to withstand, learn from difficult pathway and traumatic experiences. To increase capacity for

resilience to weather and grow from the difficulties, the below strategies explain an importance stages for improvement.

- **Prioritize relationships**

Bonding with empathy and understanding people can remind that impacted person, not alone in the midst of difficulties. Concentrating on a retrieving of trustworthy and compassionate individuals who validate feelings will support skill of resilience. The upsets, distress and traumatic outcome may lead some people to isolate themselves, therefore it's important to accept help and support from those who care about, try to prioritize genuinely connecting with people who concern about.

- **Factors that contribute**

Individuality traits that help them remain unflappable in the face of challenge, however, these behaviours are not just inborn traits found in a select few individuals. Psychologically a strong person tends to have the support of family and friends who help bolster them up in times of trouble. Other factors associated with resilience include:

i. Holding positive views of themselves and their abilities
ii. Possessing the capacity to make realistic plans and stick to them
iii. Having an internal locus of control
iv. Being a good communicator
v. Viewing themselves as fighters rather than victims
vi. Having high emotional intelligence and managing emotions effectively

- **Reframe thoughts**

Realistically resilient people are able to look at negative situations, but in a way that does not blame or brooding over what cannot be changed. As a replacement viewing adversity as insurmountable, focus on looking for small ways that can tackle the problem and make changes that will help. Aiming on the positive, manageable mindset so that get out of a negative way of thinking, also approach to learning how to better cope with challenges. Inspire to think about challenges in more positive, instead of getting stuck in a loop of negative emotions, learn to see an opportunity to challenge themselves and develop new skills

- **Focus on What Can Control**

It can be easy to get overwhelmed when faced with crisis or problems that fell far beyond their control. Instead of challenging some ways to overcome the situation thus, try focusing on situations that control to take realistic steps to help improve. No doubt how small the steps, in fact, there is a way of improving the sense of control and resilience. Resilience is an important ability to practice with resilience-building skills in daily life challenges. Establishing a positive outlook with strong support system, and taking active steps to make things better.

- **Seeking help**

Getting help when need building resilience is crucial and the kinds of strategies at that time, probably they might get stuck or have difficulty making progress on the road to resilience. In fact, this situation can get psychologist assist people in developing an appropriate strategy for moving forward. It is important to get professional help if feels the situation are unable to function as well as would like or perform basic activities of daily living traumatic or other stressful life experience.

b) Design of Hypothesis Method

The challenge for the field is to develop significant theories of resilience that can ultimately inform best practice interventions promoting positive developmental outcomes in adolescence in listed hypothesis.

  i. Positive temperament
  ii. Robust neurobiology
  iii. Responsiveness to others
  iv. Pro-social attitudes
  v. Attachment to others
  vi. Academic achievement
  vii. Planning and decision making
  viii. Tolerance for negative affect
  ix. Self-efficacy / Self-esteem
  x. Foundational sense of self
  xi. Internal locus of control
  xii. Sense of humour
  xiii. Hopefulness
  xiv. Strategies to deal with stress
  xv. Enduring set of values
  xvi. Balanced perspective on experience
  xvii. Malleable and flexible
  xviii. Fortitude, conviction, tenacity, and resolve
  xix. Parental warmth, encouragement, assistance
  xx. Cohesion and care within the family
  xxi. Close relationship with a caring adult
  xxii. Belief in the child
  xxiii. Non-blaming
  xxiv. Talent or hobby valued by others

Overwhelmingly, the findings point in this study is an importance of promoting positive behaviour, identifying risks, and including factors such as family, culture and community resources in intervention or developmental (2002) and Printz et al (1999).

c) Analyse and interpret data information

Considering resilience as a dynamic process, one approach to measurement is to develop a capable assessing range of psychosocial resources, skills, capabilities and talents available to an individual to negotiate adversity. Their broader social environment, resources may be assessed within the individuals, their family and peer networks. The contained of the assumption in this approach is greater the range of resources an individual has, the more likely the individual will be capable of mounting an adaptive response to any life crisis (Constantine et al., 1999). Specifically, be more useful to accept specific definitions of resilience, such as social resilience, academic resilience or emotional resilience as these may yield more detailed insights into the development (Luthar et al. (1993). Consuming a positive self-concept, individuals well set up to maintain competence demonstrate a resilient outcome under a range of seemingly different kinds of adversities. In the same way, the self-concept may be well developed in one area, but not in another, making for a resilient outcome in the former but not the latter. Effective intervention would result in the cultivation of a few key attitudes and life approaches. The measurement provides the potential to better explore the nature of resilience and the range of interventions designed to develop resilience.

d) Implication to Positive Reframing Development

The art of learning resilience explain that people can train their brain to be more resilient by harnessing their stressors and using them to their advantage. Basically, people who endured enormous amounts of stress from war, assault, and disasters as well as other less traumatic events and ultimately thrived. Here is some improvement step "prescription" to re-train brain into becoming more resilient.

  i. **Keep a positive attitude.** Even though, looks too straightforward, keeping a positive attitude is key to deflect stressors. It takes time for some difficult people, a large part of how optimistic are determined by genetics and the chemistry of brain's reward circuits. In a way to restructure brain's response to stress is to stop pessimistic thoughts in their tracks and similar to recognize situation in control of whether the glass is half-empty or half-full.

  ii. **Reframe stressful thoughts.** If the root of stress can be linked to a particular event, try reframing the event and realizing

that failure is essential for growth. Optimism the reframing, assimilating, accepting and recovering from by learning to "*alter the perceived value and meaningfulness*".

iii. **Develop moral compass.** Selflessness is strongly related to resilience, and strengthening set of core beliefs can help. However, recognize a strong correlation between faith and religious or spiritual beliefs and resilience.

iv. **Find a resilient role model.** The synthetic model is a powerful mode of learning. The characteristics models are so important that their values can influence own values through psychological imprinting and find role models that can look up to in times of stress.

v. **Face fears.** Fear is normal, so in that case, don't be ashamed of being afraid. Fear can be a powerful tool that can increase individual self-esteem by helping learn and practice skills necessary to overcome stress.

vi. **Develop active coping skills.** Regardless how painful it may be, try actively coping with stressors instead of withdrawing and surrendering to them. Utmost resilient people use active rather than passive coping skills like minimizing appraisal of the stressor, creating positive statements about themselves, and actively seeking support from others.

vii. **Establish and nurture a supportive social network.** Building a safety net of close relationships with friends or organizations can boost personal emotional strength during times of stress. Thus, feel the validation of helping others deal with their own stressors.

viii. **Prioritize physical well-being.** Consistent exercise is one of the keys to cleansing the mind of stress, and with good reason. Remaining routine physical activity has been linked to improvements in mood, cognition, regulation of emotion, immunity, and overall self-esteem. Physical workout may trivial when you're faced with mounting stress and anxiety, so try to think of it as a welcome reprieve rather than as yet another task to be completed. Again, it's all about framing the mindset.

ix. **Train your brain.** Changing the way thoughts works may seem like a daunting task, but with a little self-discipline it can be accomplished through regular and rigorous training. Take a challenge to the practice of working to build emotional intelligence, moral integrity, and physical endurance can help deflect stressors to all aspects of brain training.

x. **Play to strengths.** Recognize, utilize, and grow a signature character strength to actively prepare for difficult and stressful situations. Encourage to think about challenges in a more positive, hopeful ways to strength an opportunity to challenge and develop new skills.

xi. **Support build a strong social network.** Resilience among adolescent built a strong foundation supportive and loving relationships with others. Make sure they are surrounded by people who they feel comfortable to approach and who they know will support them. Inclusive friends, family, teachers, mentors, sport's coaches, psychologists. Perhaps, these people don't make the issue go away, they provide support, understanding and may be able to give suggestions on ways to move forward.

xii. **Self-Involvement.** Developing a sense of belonging is important for a teenagers' self-esteem and sense of identity. This encouragement will advantage them to form positive and supportive connections, and will give them opportunities to develop skills such as teamwork, conflict resolution and cooperation, and will give them a sense of belonging. Inspiring people to have dreams and "bucket lists" will also help them having a sense of purpose and some things to focus on in the future if faced with challenges in the short term.

e) **Goal and Target of Intervention**

Resilience in positive psychology refers to the ability to cope with whatever life throws to individual, some people are knocked down by challenges, but they return as a stronger person more steadfast than before. Their mechanisms through challenges by using personal resources, strengths, and other positive capacities of psychological capital like hope, optimism, and self-efficacy. Overcoming a crisis via resiliency is often described as "**bouncing back**" to a normal state of functioning perhaps being resilient is also positively associated with happiness. This category of person in the relationship, play big roles in the development of resilience. During positive relationships occur, well-adjusted and rule-abiding behaviours are valued influence a strong positive effect on resilience levels. However, the characteristics of resilience include cognitive skills, personality differences, problem-solving ability, **self-regulation**, and adaptability to stress. During their adult relationships and supportive environments, they can develop tools that subconsciously improve their psychological

resilience and aforementioned skills with key protective individual factors:

i. Positive self-image.
ii. Problem-solving skills.
iii. Self-regulation.
iv. Adaptability.
v. Faith/understanding the meaning and one's purpose.
vi. Positive outlook.
vii. Skills and talents that are valued by self and community.
viii. General acceptance by others.

As a simulation, people who are resilient might exhibit a positive attitude that guides them through the obstacle and change their negative failure identity to something helpful instead, as well feedback and motivation, they able cope to get better and "*fail forward.*" Getting in touch with other people, helping them, and establishing positivity are important steps in learning resilience.

f) Developing a Mindset That Fosters Success

Personal experienced development success and lifestyle exposing glory the goal achievement as such, it is a key point that develops learning to foster a sense of resilience within their inner self to ensure overcome these setbacks to rise a greatness. Below practice are series of tools designed to help cultivate resilience and prepare for the roadmap ahead.

▪ **Practice Your ABC's**

This research illustrates the ABCDE model that allows people to deconstruct a specific "problem" and understand how their "beliefs about what happened" caused them to feel a certain way, not the event itself. This creates a greater level of awareness about own reactions, so it works to have the skill sets needed for a healthier response to adversity. These steps help build resilience by recognizing unfavourable thought patterns, finding the true reason behind the emotions, recognizing the negative impact of these emotions, and learning to challenge them. The model is composed of 5 steps:

o Adversity;
o Beliefs;
o Consequences;
o Disputation;
o Energization.

- **Identify and Leverage the Strengths**

Mostly people don't know the level of their strengths and characteristic strengths is a good way to experience their competence. Ultimately, it moves smoothly whereby people often take it for granted and don't recognize it as a major strength. There were multiple dimension strengths are associated with happiness, which in turn helpful state of mind to become more resilient. A significant consciously embracing in daily life and mindfulness leads to increase happiness to produce authentic pleasure and abundant gratification. Moreover, the moment times are tough, it's easy to lose hope and optimism, indirectly they need to know their strengths, especially when life gets tough. Whereby, individual strengths help with greater vitality and motivation to a clearer sense of direction, higher self-confidence, productivity and a higher probability of goal attainment (Clifton & Anderson, 2001-2; Hodges & Clifton, 2004; Peterson & Seligman, 2004). Strengths serve well in times of darkness, as well times light, so this is the moment to start knowing own valuing.

- **Remain Positive**

Ignoring the problem doesn't mean being a positive thinker, instead it means understanding that setbacks are transient and that possess the skills and abilities to combat the challenges that are being faced. Encourage to use positive self-talk such as "I've got this" or "I can manage this situation", I know I can" and encourage them to remain hopeful and positive that things will improve.

- **Esteem Building a Positive Self-Efficacy**

Having a good self-efficacy plays an important role in coping with stress and recovering from difficult events. Remind of their strengths and abilities, and focus on how they can use these skills to solve their problems. Ensure surrounded by people who promote their self-esteem and have positive beliefs in their abilities. Almost adults are often uncertain about themselves, so having people encouraging them and pointing out their strengths goes a long way in giving them a boost.

- **Explore all Options**

Before giving suggestions when they are faced with a challenge, encourage them to problem solving by own self. It is an important skill to learn how to solve problems and will assist in all aspects of everyone's life.

o Ask: what is the problem?
o Ask: what are the options / possible solutions?
o What are the pros / cons and consequences of each option?
o Make a decision
o Do and review
o Nurture own-self

- **Create Goals**

Encourage adolescent to create and preserve their goals to overcome problems. Whereby some approaches, such as brainstorming and problem-solving skills may assist their ability in coping skills. It is also important to maintain longer term life goals as well. In case they have a future strategy that they want to achieve, subsequently it may help them stay focused on what is important and to move past difficult experience situations they faced immediately.

- **Easy Going**

Approach them to be a flexible and adaptable person, as this will assist them to manage unexpected situations if they arise. If they faced with changes and challenges, encourage them to step back and think about how they need to adjust their expectations and plans to go in a new direction. This new direction may be a positive things and resilient people can adapt and thrive with new opportunities. Basically, resilience is important in order to overcome and thrive following challenging life events. It is habitually that require long-term consistent commitment to develop this skill, but has the potential to assist an individual to live a happy and fulfilled life despite its challenges.

g) Improvement Through Therapy

This research illustrates the counselling process for resilience coaching have the same focus building someone's personal assets, therefore to build skills in resilience, praise in the process of growth must be abundant (Kamins & Dweck, 1999). Knowing that resilience as the mental processes and behaviours that people use to protect themselves from the harmful effects of stressors, hence some people are naturally resilient. Almost we notice resilience like planning for an oncoming storm that helps to diffuse the power of the storm itself. The methodology in facilitating the client or patient focus on what has worked well for them in the past, and a baseline for their resilience skills can be established.

Therapeutic setting, the **benefits of counselling** include building resilience that will likely draw from discussing past experiences in terms of perseverance. By assisting their focus on the process that they previously used to overcome adversity, it may facilitate them better understand the skills that already exist within them. However, this manner emphasis builds their confidence and readiness for the inevitable adversities that they will likely face in their lifetime. Whereby therapeutic setting may have higher risk factors like anxiety, depression, negative affect, perceived stress, and PTSD (Lee, J.H., et al., 2013). Bottleneck a closer understanding of individual, family, and social factors and their integration with protective factors in resilience is vital to healing. Hence, counsellors have to be very aware of their process for keeping their patients safe from re-experiencing a trauma.

i. Tools for Fostering Resilience

Finding subjective growth in connection to these protective factors is highly recommended, therefore protective factors necessary for building resilience (Masten et al. 1990). For each one of the following factors listed tools are recognizing can be used to foster resilience clients. Development strategy allows the person for more continue growth, especially lead to self-awareness takes intentional work and practice through mindful and deliberate

practices. The factors necessary for building resilience a foundation in cognitive practices that allow for an important aspect of mindfulness and self-acceptance to flourish.

- life satisfaction
- optimism
- positive affect
- self-efficacy
- self-esteem
- social support

ii. Life Satisfaction

This study also elaborated the gratitude invading every area of life with heartfelt authenticity will help move toward a more satisfying view of life, including a **gratitude practice** in life can improve wellbeing (Nelson, 2009). It must be with the lightest touch that one embraces gratitude with any positive emotion. Deciding to practice less routine, but be more aware of its presence in life and cultivate that attitude of gratitude. Other optional way is to increase **life satisfaction** by finding meaning and purpose. This way will continually offer a compassionate quality of life and learning where to increase growth life satisfaction.

iii. Optimism

A realistic development in an **optimistic explanatory style** is a skill that anyone can grow to foster increased resilient person that consuming a flexibility in how explain outcomes is a skill that can be built with intention. A person's ability and more personal effort tend to move people in the direction of action rather than self-defeating and depressive explanations. Identity tool that help improve the presence of a realistic, optimistic explanatory style is **reframing**. By coping better with stress and avoiding unhealthy behaviours, they are able to improve their health, well-being and practice self-compassion regularly. Most people can quickly identify what they don't want. Reframing into a realistic, optimistic explanatory would be into phrases like, "*I am cultivating healthy habits,*" or "*I am taking action toward building a healthy lifestyle.*" Self-kindness, an understanding of shared humanity, and improvement in mindfulness can counter the effects of compassion fatigue (Neff, 2020).

iv. Self-efficacy

In this research how one attributes success is an important area to explore when attempting to eliminate **self-efficacy**. When person attributes growth to personal effort instead of globally attributing to a character, efficacy is allowed to flourish. Results show that positive and negative affect influences a person's expectations, estimates of successes, self-evaluation, and goal setting (Wright, & Mischel, 1982). A technique to establish attribution focus is a mastery memory exercise. Gradually allow self-attribute success to the consistent effort required for mastery, and celebrate

how effective the person in building those successes. Stacking a successful habit is another tool that one can use to build self-efficacy. Start with a goal, then think backward from that goal to the simplest habit a person could adopt that would move toward that goal. Make that simple habit consistent over a period of time till simple change is well established, stack a new habit on top of the first. Consciously track the consistent change over time.

v.   Self-esteem

Basically, significant core values and stepping into daily values give a foundation for their "sociometer" (Leary, M.R., & Baumeister, R.F., 2000). To appraise one's value requires a clear personal lens and getting crystal clear on a personal set of values is a first step in building self-esteem (Leary, M.R. & Baumeister R.F., 2000). Basically, interact and intertwine the value with other human beings, value need not be disrupted by those interactions. To know what value about self, then makes interacting with others easier. It allows to lead in any interaction already holding in high esteem of value. Ultimately, a great way to build self-esteem is to find a new area of growth and master a new skill. Performing mindful speaking, for instance, is a great skill to develop to build self-esteem. Anxiety tends to interfere with social interaction, disrupting ability to hear the other person in any conversation. By increasing ability to listen to others actively, then improve mindful speech. Practicing with every person meet gives us ample opportunities to grow the skill, making conversations more fun.

vi.   Social Support

Boosting friendships are one way to increase resilience thus, don't be concerned about being the most popular person on the block. Enrich and nurture close friendships to improve social support and more positive relationships. Either wat it is through volunteerism, schools, or places of worship, getting involved in supporting others helps everyone. People who are involved in altruistic endeavours live longer and have better health (Schwartz et al., 2008). However, an impactful technique for helping a client improve their social wellbeing is by teaching ways to practice compassion. The roadmap be active it, have a patient focused on a relationship where they feel compassion easily, like with a pet or a child. Recognize them, then try to shift into having that same outlook for others that may challenge them.

vii.   Person focused approach

This study illustrates to identify comparative individuals from within similarity high levels of adversity, who show patterns of good or poor adaptation, simultaneously assessed by multiple criteria, so as to identify the aspects that might lead to risk or be assets. This methodology is often used to classify the proportion who may be determined resilience. For example, in examining the characteristics of youths living in poverty, (Buckner

et al.60) resilience as the presence of competences, adaptive functioning and lack of significant mental health problems. Psychologists focused on identifying the personality traits responsible for the positive outcomes that subset of adolescents. Whereby an assumption that resilience was created by some static internal quality of an individual. Over time, psychologist realized that resilience is more than just personality traits. Generally, the capacity in resilience is a dynamic process adapting successfully to disturbances that threaten an adolescent's function and development.

In a dynamic process resilience is more protective factors come from outside of an individual, rather than resiliency or resilient child because the latter implies it is only a quality of the individual. Perhaps, resiliency is a simple concept bouncing back after adversity. But defining resilience, as well as analysing and understanding it, is a complex subject in psychology. However, there are many resilience models have been developed and the ongoing neuroscience studies have contributed to the understanding. Despite the research complexity, one thing is obvious and simple for parents to build resilience, we have to do our part to connect with them and provide good parenting. In this theory the strengths able to adapt the difficult situations in life, this approach be taken as the protective factors against stressful situations and help them in coping with these difficulties. Adaptive and elaborative in their own thoughts with ultimately leads to an individual being more resilient and therefore it has a positive relationship. Refer to Luthar there are three types of protective factors and those are:

Key elements of theory:

i.   Protect-stabilizing (despite the increasing risk, attribute gives stability to competence)

ii.   Protective-enhancing (engaging stress and increasing confidence within self)

iii.   Protective but reactive (general advantages but not with high-stress levels)

CONCLUSION

Although the term resilience has gained great popularity, this study has emphasized how resilience has been investigated both as an outcome of adaptation and as a process of adaptation. Investigations of resilient outcomes have focussed on the protective risk of functionality (e.g. behavioural, relationship, health risk, and social competence) despite the risk to the contrary. Whereby the process of adaptation has necessitated assessment of a range of risk and protective mechanisms that act in concert and over time to mediate the effects of a risk setting. The subsequent common sub-structure involving assessment of the risk setting, the interaction of risk and protective process, and resultant adaptive outcomes. Gradually the key identity dimensions of the concept of resilience, concurring developed the

measurement that focus on assessment of the range of protective processes to the outcome of adaptation. This resilience research is closely linked with intervention in that protective process can inform the development of targeted intervention. While both risk reduction and resilience development approaches share the common goal of prevention, the emphasis of each approach is somewhat different. Hence, resilience-based approach emphasizes the building of skills and capacities that facilitate successful negotiation of high-risk environments. However, risk of reduction approach, on the other hand has emphasized removing or avoiding factors or processes implicated in the development of problematic outcomes (e.g. behavioural experimentation).

Basically, in this research relates to intervention, the context in which people live could be altered, the services and treatment received can be improved and individual assets possible be enhanced so as to enable a better chance for health and well-being, even when they faced with substantial risk and adversity. Significantly, the complex interplay between these layers should be recognized and the underlying processes explored. Thus, the person experiencing persisting, chronic adversities, psychopathology can be averted providing that the individual is able to draw on a range of resources within themselves and their immediate environment, and that the wider environment is also supportive to enhance the opportunity for positive adaptation.

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NATURAL TOXIN SUBSTANCES IN EVERYDAY FOOD

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ABSTRACT

Natural toxins are present in a wide variety of plants. Some of these plants are commonly consumed as food. These toxic substances when ingested in significant amount or when they are not processed appropriately can be potentially harmful to human health causing food poisoning. This study conducted by the Centre for Food Safety of the Food and Environmental Hygiene Department aimed to review natural toxins in food plants commonly consumed in Hong Kong and the measures that can be employed to prevent poisoning from consumption of these food plants. Laboratory study of two natural toxins, glycoalkaloids and cyanogenic glycosides, was carried out to determine the levels of these toxins in food plants commonly consumed in Hong Kong. The effects of preparation and cooking on the reduction of the toxin levels were also studied. Results showed that glycoalkaloid contents varied among the different types of the fresh potatoes tested which ranged from 26-88 mg/kg (average 56 mg/kg). This was within the normal range of glycoalkaloid contents in potatoes of 20 - 100 mg/kg, which JECFA considered that consumptions on a daily basis were not of concern. The highest concentrations of glycoalkaloids were found in potato sprouts. Cyanide was detected in bitter apricot seed, bamboo shoot, cassava, and flaxseed samples in their raw state at levels of 9.3 mg/kg to 330 mg/kg. Cyanide contents were found to be higher in bitter cassava than sweet cassava. Cyanide concentration was found to be highest at the tip portion of bamboo shoot, followed by the middle portion, then the base portion. Cutting cyanogenic food plants into small pieces and cooking them in boiling water reduced cyanide contents of the food commodities by over 90%. Dry heat could not reduce cyanide contents effectively and only reduced around 10% of the cyanide contents in flaxseeds following oven-heating for 15 minutes. Consumers should avoid buying or eating potatoes that show signs of sprouting, greening, physical damage or rotting since glycoalkaloids are not decomposed by cooking. Cutting the cyanogenic plants into smaller pieces and cooking thoroughly in boiling water help release toxic hydrogen cyanide before consumption. When the cooking method chosen is heating under dry-heat or at low moisture contents, limit the intake of the cyanogenic plants to only small amounts.

KEY WORDS: *glycoalkaloids, cyanogenic*

INTRODUCTION

Natural plant toxins may be present inherently in plants such as fruits and vegetables which are common food sources. They are usually metabolites produced by plants to defend themselves against various threats such as bacteria, fungi, insects and predators.[1] Natural toxins may also be present in food plants as a result of natural selection and new breeding methods that enhance these protective mechanisms. Poisonings induced by plant toxins have long been known through consumption of foods such as beans that are not fully cooked, some cultivars of potatoes, and ingestion of plants picked from the wild not intended for human consumption such as poisonous berries and mushrooms. Acute poisoning cases caused by plant toxins are sometimes underestimated due to the fact that the toxicity symptoms can be rather non-specific. In the past, acute poisoning from a high intake of glycoalkaloid, such as solanine, from potatoes has been mis-diagnosed as microbial food poisoning.[1]

Laboratory Analysis

Laboratory analysis was carried out according to the AOAC Official Method 997.13.22 Ten potato tubers were peeled. The peel and flesh were ground and homogenised in liquid nitrogen. The homogeneous sample was extracted with dilute acetic acid, followed by purification by solid phase extraction 21 (SPE). Finally, α-solanine and α-chaconine were quantified by HPLC with ultraviolet detection at 202 nm. The limit of detection (LOD) was 10 mg/kg for both α-solanine and α-chaconine.

DISCUSSION
GLYCOALKALOIDS IN POTATOES

The levels of glycoalkaloids present in potatoes are determined by the particular variety or cultivar and are affected by the growing conditions.Glycoalkaloid contents (sum of α-solanine and α-chaconine) for the five lots of potatoes tested in this study ranged between 26 - 88 mg/kg. These values were within the normal glycoalkaloid levels of 20-100 mg/kg found in properly grown and handled potato tubers. JECFA considered that consumptions of potatoes within this range of glycoalkaloid contents on a daily basis were not of

ADVICE TO PUBLIC

Purchase

1. Avoid buying potatoes that show signs of sprouting, greening, physical damage or rotting. Storage
2. Remove potatoes from plastic bags and place them in a cool, dry, and dark place at home.

concern. The potatoes sampled from the market in this study were therefore safe for regular consumption.

CONCLUSION & RECOMMENDATIONS

Natural toxins are found widely in edible plants which are otherwise nutritious and beneficial to health. These food plants can be safely consumed if suitable measures are taken, such as careful selection, adequate processing and cooking, and limitation of intake. Natural toxins were detected in food plant samples obtained from the Hong Kong market for this study, namely glycoalkaloids in potatoes and cyanogenic glycosides in bitter apricot seeds, bamboo shoots, cassava and flaxseeds. Glycoalkaloid contents of the five different varieties of potatoes obtained from the Hong Kong market were within the level of 100 mg/kg at which JECFA considered not of concern for daily consumption. Glycoalkaloids were concentrated in the peels of the potatoes. The highest level was found in the potato sprouts. Higher cyanide contents were found in bitter cassava than sweet cassava. Cyanide concentration was found to be highest at the tip portion of bamboo shoot, followed by the middle portion, then the base portion. Cutting them into small pieces and cooking in boiling water reduced cyanide contents of food commodities by more than 90%. Dry heat could not reduce cyanide content effectively in flaxseeds , hence intake should be limited to small amounts. The amount of ingestion of food plants containing natural toxins that will cause food poisoning depends on many factors such as individual susceptibility, the cooking methods and the levels of toxin in the plant which may vary according to the species and geographical environment. The public is advised to take precautions in limiting the amount of intake and observing safety measures for toxin reduction prior to consumption especially for children and the elderly. For individuals with illness or with poor health conditions, they may wish to consult their doctors for further advice. The public is reminded to follow the health advice of maintaining a balanced and varied diet, including a wide variety of fresh fruits and vegetables, as they are nutritious and safe to eat after observing the above advice

3. Store only small amounts of potatoes at home.
4. Discard potatoes that show signs of sprouting, greening, physical damage or rotting.

Preparation and consumption Potatoes

1. Avoid eating potatoes that show signs of sprouting, greening, physical damage or rotting. Cyanogenic plants
2. Cutting the cyanogenic plants into smaller pieces and cook thoroughly in boiling water to

release toxic hydrogen cyanide before consumption helps reduce the level of the toxin. Since hydrogen cyanide is volatile, it is easily removed by open-lid cooking.

3. When the cooking method chosen is heating under dry-heat or at low moisture contents, limit the intake of the cyanogenic plants to only small amounts.

CONFLICT OF INTEREST- NIL
SOURCE OF FUNDING- Self
ETHICAL CLEARANCE- Not applicable

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MUSICAL QUALITY, PERCEIVED VALUE, EQUITY IN SATISFACTION AND BEHAVIORAL INTENTION IN A JAZZ FESTIVAL

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ABSTRACT

This article proposes to revisit the theory of satisfaction by integrating musical quality, functional and emotional value, as well as equity and consumer behavioral intention in the same model. The study was conducted in the context of a jazz festival with 140 individuals. Initially, the results indicate the influence of musical quality, fairness, emotional value and utility value on satisfaction. In a second step, musical quality and fairness influence emotional value and functional value. Finally, it turns out that emotional value, utility value, and satisfaction influence consumers' behavioral intentions.

KEYWORDS: *Musical quality, equity, emotional value, utility value, satisfaction, behavioral intention.*

1. INTRODUCTION

From an economic perspective, festivals have significant impacts on the local economy because of the jobs they generate. Apart from this economic aspect, the socio-cultural impacts of festivals are just as significant. Indeed, they contribute to community cohesion and cultural preservation.

In the literature on consumer behavior, satisfaction has always been considered a central concept and has been the subject of numerous investigations. In addition to satisfaction models based on the disconfirmation of expectations or perceived quality, the theory of satisfaction according to the theory of equity has its place in the literature (Rakotovao and Cliquet, 2018).

In recent years, perceived value has been presented as a better explanation of consumer behavior (Heskett, Sasser and Schlesinger, 1997). Interest in the subject is recognized in the business as well as in the academic world. In the business area, perceived value is strongly linked to consumers' purchasing intentions. It constitutes a source of competitive advantage and is linked to marketing variables such as segmentation or differentiation (Heskett, Sasser and Schlesinger, 1997). In the academic area, the abundance of research attests to the importance of the subject.

Although perceived value, perceived quality and equity are recognized as important in explaining satisfaction, it is rare to see all three concepts simultaneously in the same model. Moreover, no

investigation in this sense has been developed in the context of festivals. The objective of this research is to combine perceived value, perceived quality and equity in a single model in order to explain consumer satisfaction and behavioral intent in the context of festivals. On the theoretical level, the aim is to compensate for the relative shortcomings revealed in the current literature. A finding that there is too little research adopting this perspective leads to a greater interest in the subject. On the methodological level, more investigations in fields such as festivals are necessary to establish the validity of the research.

This article is organized in five parts. After a review of the literature on musical quality, equity, value, satisfaction and intent, we will present the conceptual research model and the hypotheses that emerge from it. We then present the methodology and results. Finally, we discuss the results of this research.

2. LITERATURE REVIEW
After an overview of musical quality and equity, this section discusses the concept of perceived value and satisfaction. The concept of behavioral intention is discussed at the end of the section.

2.1 Musical quality
Perceived quality has always been at the center of marketing research. Although it has been the subject of research for many years, it is difficult to find a universal definition of perceived quality. Some authors define it as a consumer's judgment of the excellence or superiority of a product or service. Other authors suggest that there is a difference between customers' expectations and perceptions of service (Zeithaml, Leonard Berry and Parasuraman, 1996). Nevertheless, an analysis of all of these definitions brings out the idea of a confrontation between a prior expectation of the consumer and his or her impressions of a service. The result is that if the quality delivered exceeds expectations, the perceived quality is high, on the other hand, if it is below expectations, the perceived quality is low.

Investigations of perceived quality in the context of music festivals are rare (Thrane, 2002). During a jazz festival, music is the main factor of satisfaction (Thrane, 2002). Therefore, measuring quality from a purely musical perspective justifies a focus on performance at a festival (Thrane, 2002).

2.2 Equity
According to the traditional conceptualization of equity, a transaction is described as fair when a person engaged in an exchange feels that his or her compensation/contribution ratio is equal to the compensation/contribution ratio of the other party. In reality, however, the parties in an exchange involve multiple and heterogeneous contributions and outcomes. Following this idea, in addition to the traditional conception focused on its distributive component alone, equity is presented as a multidimensional concept that also integrates procedural and interactional equity (Rakotovao and Cliquet, 2018).

Procedural fairness refers to the fairness of the process leading to the outcome. From this perspective, the evaluation of the process influences the perception of reward. If the procedures are perceived as fair, the retribution would also be perceived as fair, even if the retribution was unfavorable. Otherwise, when the individual does not trust the process, he or she also loses confidence in the decisions.

The final dimension of fairness concerns interactional fairness. It refers to how people are treated during a process. Considered the most recent of the dimensions of equity, there is some divergence in the elements that make it up. While some authors put forward ideas such as ethics and honesty displayed by the provider, others put forward components such as: courtesy, politeness or the level of language used (Rakotovao and Cliquet, 2018).

In this research, we adopt a broad understanding of equity. It refers to the extent to which clients felt they were treated fairly and equitably (Hutchinson, Lai & Wang, 2009).

2.3 Satisfaction
Satisfaction is a central concept in marketing and has therefore been the subject of numerous investigations over the years. The research around the subject is mainly influenced by the paradigm of the disconfirmation of expectations. According to this model, satisfaction is the result of a comparison between expectations and perceived performance through positive or negative disconfirmation. However, despite the dominance of the paradigm of the disconfirmation of expectations, some authors admit that the notion is more complex and therefore cannot be explained by the idea of a cognitive evaluation process alone. This limitation of the disconfirmation paradigm has opened up other horizons for research on the subject. For example, some authors have redefined satisfaction theory according to the principle of equity. According to this work, satisfaction results from a comparison between contribution and reward in the context of a transaction. It follows that when the reward in question is equal to the contribution, satisfaction is manifested. Otherwise, dissatisfaction occurs.

2.4 Perceived value
Despite many investigations on the subject, there is no consensus definition of perceived value. On the one hand, it is defined as an overall assessment made by the consumer of the usefulness of a product between what is received and what is due. On the other hand, it refers to the difference in value perceived by customers between the quality or benefits of the product/service and the sacrifice made in paying for it. As a result, perceived value refers to a functional perspective where cognitive and

economic evaluations are mobilized to judge a cognitive trade-off between benefits and costs (Lee, Lee & Choi, 2011).

Although perceived value appears to be a multidimensional concept (Sweeney and Soutar, 2001), there is some divergence in the number and nature of the dimensions that make it up. On the one hand, it is presented as a concept with five dimensions: functional, social, emotional, epistemic and conditional value. From other perspectives it is composed of four dimensions: two functional elements (quality/performance and price/value), an emotional element and a social element (Sweeney and Soutar, 2001). Other researchers propose three dimensions: functional value, emotional value and overall value. In the present research, perceived value is conceptualized from a two-dimensional perspective: functional value and emotional value (Lee, Lee & Choi, 2011).

2.5 Behavioral intention

In the literature, there is no universal definition of behavioral intention, however, the following few definitions provide an understanding of the concept. According to investigations, it refers to the degree to which a person has formulated conscious plans to carry out or not carry out a specified future behavior. Other research, in turn, puts forward ideas of behavioral intention such as an individual's beliefs about what he or she intends to do in a given situation (Ajzen & Fishbein, 1980).

Consumer present positive behavioral indicators when they say positive things about the provider (Zeithaml, Leonard Berry, & Parasuraman, 1996), recommend the provider to other consumers. As a result, they buy more, or are willing to pay a high price, and express loyalty to the provider (Zeithaml, Leonard Berry, and Parasuraman, 1996). Conversely, negative behavioural intentions can be understood in terms of different forms of complaints (to the seller, privately or to an external agency), the willingness to reduce the volume of transactions with the provider, or the willingness to switch to competition altogether (Zeithaml, Leonard Berry, and Parasuraman, 1996).

3. RESEARCH MODEL AND HYPOTHESES

Quality of service has a positive impact on the perceived value to customers (Hutchinson, Lai and Wang, 2009). The less money, time, and energy the customer spends on quality, the higher the perceived value of the service. That said, the higher the quality of service, the higher the perceived value. This research views value as a two-dimensional concept composed of functional value and emotional value. This concept is based on the following two assumptions:

H1: Musical quality positively influences emotional value.

H2: Musical quality positively influences the functional value.

The link between perceived quality and satisfaction has been the subject of numerous investigations and three fundamental ideas emerge from this work. Three conceptions stand out: first, perceived quality is presented as an antecedent to satisfaction; second, satisfaction is seen as an antecedent to perceived quality; and third, there is no link between the two: satisfaction and perceived quality (Tkaczynski and Robin, 2010). In a festival context, it seems that the idea of service quality as an antecedent to satisfaction is adopted by the majority of investigations (Tkaczynski and Robin, 2010). Moreover, during a jazz festival, the main product is jazz music (Thrane, 2002). These ideas provide the basis for the following hypothesis:

H3: Musical quality positively influences satisfaction.

Little research has investigated the relationship between equity and perceived value (Hutchinson, Lai and Wang, 2009). However, according to this limited research, there is a positive link between the two constructs (Hutchinson, Lai and Wang, 2009). The relationship between equity and perceived value is supported by arguments that cost reduction increases consumer utility associated with the purchase in question. From this perspective, a perception of fairness by customers is positively associated with a perception of perceived value for the service. These arguments support the following hypothesis:

H4: Fairness positively influences emotional value.

H5: Equity positively influences functional value.

Several studies highlight the existence of a link between equity and satisfaction (Rakotovao and Cliquet, 2018). Consumers evaluate what they consider fair by comparing the perception resulting from their experiences. This idea is based on the following hypothesis:

H6: Equity positively influences satisfaction.

Values are linked to other post-consumption constructs such as satisfaction and behavioral intentions. Supporting this idea, perceived value is considered a determinant of satisfaction and behavioral intention. The following hypotheses can be derived from this:

H7: Emotional value positively influences satisfaction.

H8: Functional value positively influences satisfaction.

As well as the link between satisfaction and behavioral intention, there also appears to be a link between perceived value and consumer behavioral intention (Hutchinson, Lai and Wang, 2009). This leads to the following two hypotheses:

H9: Emotional value positively influences the consumer's behavioral intention.

H10: Functional value positively influences the consumer's behavioral intention.

Satisfaction can reinforce the customer's decision to use a particular service brand on a given occasion. From this perspective, the more satisfied the consumer is, the higher the intention to buy back and recommend the service provider, hence the following hypothesis:

H11: Satisfaction positively influences the consumer's behavioral intention.

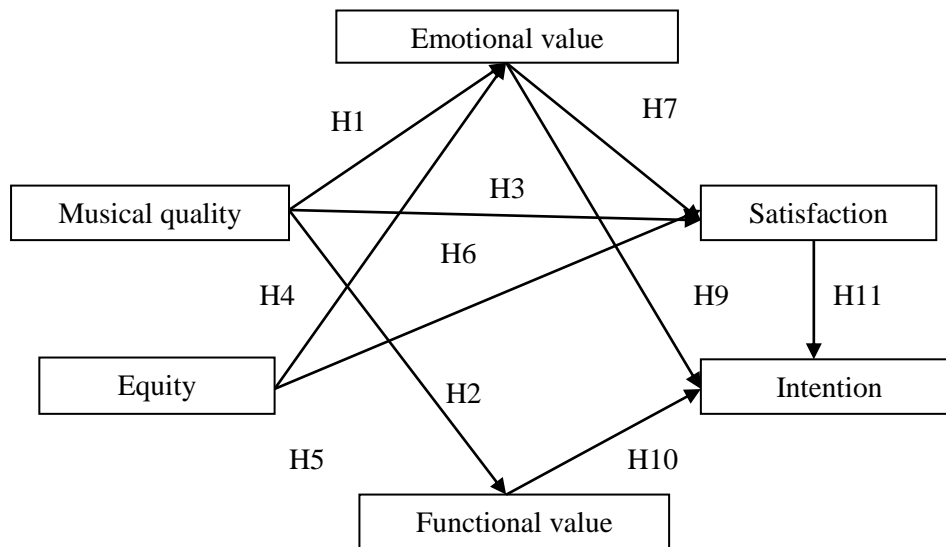The overall research model is as follows:

Figure 1: The overall research model

4. METHODOLOGY
4.1 Measures
This study adapted the measures used to operationalize the constructs included in the investigated model. Items for measuring equity were initiated by Hutchinson, Lai and Wang (2009). Quality is captured by the Thrane (2002) items. Measures of functional value and emotional value are inspired by the work of Lee, Lee and Choi (2011). Satisfaction is measured by the items developed by Wong, Wu and Cheng (2014). Finally, the measure of consumer behavioral intention is inspired by the Bajs scale (2015). All items were measured using a five point Likert-type scale (ranging from 1=strongly disagree to 5= strongly agree).

4.2 Subjects and procedure
The research was conducted during the Madajazcar Jazz Festival that took place between October 3 and 17, 2019 in Antananarivo. Information was collected through a questionnaire from 140 individuals. To ensure the reliability of a model of structural equations, according to Janssens et al (2008) the number of responses should be 5 to 10 times higher than the number of items. In this research, the scale that has the highest number of items is the sound quality scale. The minimum number required to validate the scale is at least 25 responses, i.e. 5 times the 5 items. Loehlin (2004), for his part, puts forward the idea of a sample size of 100 to 200 individuals and concludes that the model behaves correctly if the sample size meets this condition. Given these methodological recommendations, the difficulties related to both the survey and the availability of individuals to question, and the length of our questionnaire, we conducted a survey of 140 individuals.

4.3 Statistical Analysis
The data obtained is processed with the SmartPLS 3 software. First, the reliability and validity of the measurement model was examined, then, he structural model also was analyzed to test the associations hypothesized in the present research model.

5. RESULT
5.1 Measurement model
Prior to testing the structural model, the reliability, convergent and discriminant validity of the constructs must be established.

Table 1: Scales measurement

Construit/mesure	λ	Reliability	AVE
Equity			
Being treated fairly	0,925	0,923	0.857
Being treated right (justly and honestly)	0,926		
Emotional value			
Visiting the festival was pleasurable.	0,885		
Visiting the festival made me feel better.	0,812	0,879	0.707
The festival was a wonderful attraction that I enjoyed..	0,824		
Functional value			
Visiting the festival was affordable.	0,790		
The festival was economical.	0,786	0,890	0.668
The festival quality exceeded travel expense	0,856		
The festival offered better quality/more benefits.	0,836		
Musical qulity			
The concerts' sound quality	0,749		
The adaptation of the size of the concert halls	0,852		
This year's selection of artists	0,844	0,904	0.654
The concert program following announced time and venue	0,805		
The possibility of attending desired concerts/avoiding overlap.	0,787		
Satisfaction			
Overall, I am satisfied with this jazz festival	0,923		
As a whole, I am happy with this jazz festival.	0,934	0,948	0.860
I believe I did the right thing in attending this jazz festival	0,924		
Behavioural intention			
Likelihood of festival-goers returning to the jazz festival	0,876		
Likelihood to recommend the jazz festival	0,918	0,928	0.811
Probability that, in the same situation, the festival-goers would choose the same festival	0,907		

The reliability test gave results greater than 0.7 (between 0.786 and 0.934), an acceptable threshold according to Nunnally and Bernstein (1994), which confirms the reliability of the measurement scales used (Fornell and Larcker, 1981). Concerning the validity test, Bagozzi and Yi (1988) suggest that convergent validity is ensured by the λ above 0.7. Table 2 shows that all of the λ are above their recommendations. Furthermore, the average variance extracted (AVE) are greater than 0.5, which establish the convergent validity of the constructs (Fornell and Larcker, 1981). With regard to discriminant validity, it is established when the square root of the mean extracted variance (AVE) is greater than each of the correlations between constructs (Fornell and Larcker, 1981). The results in Table 3 show that the conditions for discriminant validity are met.

Table 2: Discriminant validity test

	1	2	3	5	5	6
Equity	0.925					
Behavioral intention	0.770	0.900				
Musical quality	0.783	0.747	0.808			
Satisfaction	0.826	0.778	0.826	0.927		
Emotional value	0.768	0.754	0.809	0.791	0.841	
Functional value	0.782	0.784	0.833	0.833	0.780	0.818

5.2 Structural model

To evaluate the structural model, the coefficient of determination (R2) of each dependent variable, the structural coefficients (β) and the level of significance (t-value) were examined. The values of R2 are above the recommended threshold of 0.10 (between 0.605 and 0.781) (Falk and Miller, 1992).

Table 3: Result of Structural Equation Model Estimates

Path from	Path to	Hypothesis	Structurel coef	t-value	p-value	Decision
Musical quality	Emotional value	H1	0.302	4.046	0.000	Accepted
Musical quality	Functional value	H2	0.354	4.537	0.000	Accepted
Musical quality	Satisfaction	H3	0.293	3.417	0.001	Accepted
Equity	Emotional value	H4	0.237	3.107	0.002	Accepted
Equity	Functional value	H5	0.212	2.374	0.018	Accepted
Equity	Satisfaction	H6	0.462	4.742	0.000	Accepted
Emotional value	Satisfaction	H7	0.518	6.267	0.000	Accepted
Functional value	Satisfaction	H8	0.565	7.669	0.000	Accepted
Emotional value	Intention	H9	0.352	3.871	0.000	Accepted
Functional value	Intention	H10	0.344	4.481	0.000	Accepted
Satisfaction	Intention	H11	0.778	20.230	0.000	Accepted

This study was initiated to examine the relationship between musical quality, equity, emotional value, utility value, satisfaction and intentions. Table 4 show that musical quality positively impacts emotional value, functional value and satisfaction ($\beta = 0.302$, $\rho < 0.005$. $\beta = 0.354$, $\rho < 0.005$. $\beta = 0.293$, $\rho < 0.005$). Therefore, H1, H2 and H3 are supported. Similarly, equity positively impacts emotional value, utility value and satisfaction ($\beta = 0.237$, $\rho < 0.005$. $\beta = 0.212$, $\rho < 0.05$. $\beta = 0.462$, $\rho < 0.000$). As a result, H4, H5 and H6 are supported. In addition, the emotional value positively impacts satisfaction and intention ($\beta = 0.518$, $\rho < 0.005$. $\beta = 0.352$, $\rho < 0.005$), which support H7 and H8. The same is true for the impact of utility value on satisfaction and intention ($\beta = 0.565$, $\rho < 0.005$. $\beta = 0.344$, $\rho < 0.005$). Therefore, H9 and H10 are confirmed. Finally, satisfaction positively impacts intention ($\beta = 0.778$, $\rho < 0.005$), which therefore support H11.

6. DISCUSSION AND CONCLUSION

This study contributes to the literature in several ways. Among other things, it makes it possible to test a model integrating equity, perceived quality, perceived value, as well as satisfaction and consumer behavioral intention. Indeed, no study has attempted to integrate these variables in the same model.

Firstly, equity has a positive impact on satisfaction. These results support the ideas of previous investigations (Rakotovao and Cliquet, 2018). From this perspective, the idea of equity as an antecedent to satisfaction is well established. Although the concept of equity is rarely investigated in the context of festivals, the results of our research confirm the importance of integrating this concept in such a context.

Second, the results of our research confirm the relationship between musical quality and satisfaction. The idea of satisfaction resulting from the confirmation of expectations supports the idea that perceived quality would be an antecedent of satisfaction. Indeed, satisfaction can be seen as an emotional response from a cognitive perspective following the quality of the service or product.

Although perceived value and satisfaction have been the subject of many investigations, the link between the two elements is not clear. Indeed, while investigations have confirmed the existence of a causal link between perceived value and satisfaction (Lee, Lee & Choi, 2011), others have suggested that it is satisfaction that impacts perceived value (Petrick & Backman, 2002a). In fact, if the client feels satisfied, there may be a halo effect on perceived value (Petrick and Backman, 2002a). The results of our research support the causal link between perceived value and satisfaction and corroborate other empirical findings that perceived value is an immediate antecedent to satisfaction. Furthermore, these results confirm the importance of using perceived value in predicting festival-goer satisfaction.

Third, just like satisfaction, perceived value also positively impacts consumers' behavioral intention. In the same way as the disconfirmation of expectations, perceived value is presented as a cognitive construct. According to this perspective, it would result from a cost-sacrifice comparison in the same way as disconfirmation, which is associated with expectations and perceived performance. However, beyond the traditional value-for-money paradigm, the concept of perceived value also has an emotional dimension. While functional value has a greater impact on satisfaction with emotional value, the reverse is true for the link between value and consumer behavioral intention.

Finally, the results of our investigation highlight the important role of satisfaction in the evaluation of the consumer's behavioral intention. A study on a relational point of view between the provider and the consumer requires the integration of the two constructs: satisfaction and perceived value. These two constructs are considered complementary. Indeed, satisfaction measures the level of what the provider currently offers on the market, as perceived by the customers. It refers to a tactical level that provides indications to improve current products and services. On the other hand, perceived value refers to the future directions of the company. It refers to a strategic level. From this perspective, it aims to assess how to create value for customers, how to better meet customer needs and how to attract potential customers. On this basis, the results of our research confirm the importance of satisfaction in any marketing decision.

In addition to theoretical impacts, our results also have implications for music festival organizers.

First, musical quality impacts on visitor satisfaction. Organizers should continue to invest in music quality. However, given that the perception of satisfaction has a greater impact on the future intention of the consumer than the quality of the music itself, strategies to improve visitor satisfaction should be pursued.

Second, consumers of cultural activities value the emotional dimension as much as the hedonic dimension of festivals. As a result, the cultural experience is unique, subjective and is linked to the moment and the emotion felt. As such, emotion is contagious because of an automatic, unintended, unrecognized tendency to imitate and synchronize facial expressions, body movements and vocalizations (Hatfield, Cacioppo & Rapson, 1994). When the same characteristics are synchronized with another individual, people may experience the same emotions. In addition, interpersonal connection plays an important role in the appreciation of a cultural festival. Music alone is not enough, it is also about socializing. The emotion that has the character of fostering social bonding will satisfy this need for socialization. Organizers must take into consideration both the important and contagious nature of emotion, which is an important lever to enhance the experience felt by festival-goers.

The use of sensory marketing in the context of festivals would be an interesting strategic axis for the organizers. For indoor concerts, it would be an idea to act on the olfactory atmosphere. In the context of distribution, a pleasant smell positively improves the perception of the products sold, therefore, the use of such techniques will certainly improve the perception of the musical performance. In addition, enjoyment of light influences the consumer's pleasure. In addition to sound, the lighting ambience at concerts must also be considered. It is worthwhile to use dynamic light animations that follow the rhythm and mood of the music, as in pop concerts.

The results confirm the multidimensional nature of the value. The understanding of the determinants of the perceived value must be approached from a functional and emotional perspective. This knowledge can be useful for organizers in designing and budgeting for their festivals. Attracting more visitor's means attracting renowned artists, but also investing in the atmosphere of the venues, lights, decorations, etc.

One of the limits of research is undoubtedly the measurement of emotional value. Indeed, the information was collected through paper questionnaires (and a pencil). Although many research studies use the same procedure to measure the concept, its relevance is puzzling. Moreover, emotion is a complex phenomenon to capture and can be camouflaged or simulated. Another limitation lies in our conception of satisfaction, which is purely cognitive. It would be just as interesting to investigate the emotional component of the construct.

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REGULATORY ASPECTS OF ECONOMIC THINKING AND INNOVATIVE RESEARCH

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ABSTRACT
This article focuses on the regulation of economic thinking and innovative research, the International Bill on Human Rights and the fundamental harmony between innovation, modernization and civil society, the search for innovation - creative cooperation, various creative or professional associations, associations, NGOs, socio-economic relations the idea of motivation is expressed.
KEYWORDS: *Economic thinking, innovative research, regulation, modernization, creative collaboration, new economic thinking, consumer market, development path, labor team.*

DISCUSSION

The regulation of economic thinking and innovative research stems from the International Bill of Human Rights and international instruments ratified by many other states. The Universal Declaration of Human Rights (Article 17) of the Bill of Rights states that everyone may own property, individually or jointly with others, and that no one may be arbitrarily deprived of his or her property. At the same time, Article 22 of this document stipulates that everyone has the right to economic rights, access to social security; Article 23 provides for equal choice of employment, free choice of employment, favorable working conditions, protection from unemployment, equal pay for all, and remuneration; Article 24 provides for rest and leisure, leave; Article 25 states that he has the right to restore his health.[1] Judging by the norms and requirements of market relations in these international documents, we understand that they, i.e. international bill and market relations, are not contradictory, but rather market relations are the most popular and influential opportunity to support human rights, its innovative research.

Based on the above international bill, the functional features and essence of economic thinking and innovative research can be revealed through the following directions.

1. Intellectual property, which is a product of thinking (individually or in combination with others), is owned by innovators.

2. Exercises economic rights in the implementation of innovations.

3. Freely chooses to work and type of work.

4. No one shall be arbitrarily deprived of his nationality nor denied the right to change his nationality.

5. Innovators have the right to unite in professional associations and through them to manage the country, enterprise, economic life.

6. The will of the people or the labor community, especially the activism and initiative of the innovators, is the basis of the activity of the authority or property owner.

7. Innovators have the right to social support (supply) for the exercise of creative and economic rights, the development of skills.

8. An innovator as a human being should be rewarded according to his work.

9. Innovators may form trade unions to protect their economic and cultural rights.

10. The fact that innovators have special privileges is not a violation of labor regulations, contracts.

Well-known economist F.A. Hayek emphasizes the need to constantly improve economic property rights so that private property does not lead to selfish aspirations.[2] In the context of market relations, while private property is natural, it is not always an absolutely positive reality. Each period, the state and society include in it their own ideas, requirements, and most importantly, private property should not contradict social development, serve to increase the humane and just qualities in individuals.

People's property rights are defined in special laws and codes as "private property rights". Market relations facilitate the exercise of this right. Private property rights arise on the basis of "income from the participation of persons in social production, running their own farms, income from shares in

credit institutions and other securities, inheritance and any other grounds not prohibited by law. The objects of private property rights are not limited in terms of composition, quantity and value. Private property can be created through the direct participation of the owner in the production process and the employment of other citizens."[3] Hence, private property is wealth created in the economic sphere through voluntary social activity. A person who has worked equally in the life of society, who has acquired property through his business, innovative discoveries, owns private property, has the right to protect, reproduce and use the property he has created as he wishes. In democracies, intellectual property is also private property, which is protected by the state. According to Article 42 of the Constitution of the Republic of Uzbekistan, everyone is guaranteed freedom of scientific and technical creativity, the use of cultural achievements. According to Article 54, the owner voluntarily owns, uses and disposes of the property. The use of property must not harm the environment, violate the rights and legally protected interests of citizens, legal entities and the state.[4] Hence, the fact that intellectual property is under state protection gives the innovator the right to conduct free research.

The economic rights of man, including the innovator, include: the right to private property; right of inheritance; business activities; participation in the activities of self-governing bodies; the right to work; freedom of career choice; freedom of labor; the right to protection from unemployment; the right to rest; the right to leave. They show that "economic rights and freedoms of people in a particular society are the sum of a person's legal opportunities in the economic sphere, constitutional rights and freedoms." [5] The system of support for innovative research is formed on the basis of extensive and effective use of these economic rights. Formal laws and permits are not enough, people need to show economic and innovative activism and accept the creation of social and material wealth as a vital goal, even a civic duty. Thus, socio-economic development is a product of the duty of individuals based on their economic and innovative activity and initiative. It is mainly the responsibility of the state to ensure that opportunity and law are in line with duties and responsibilities. The laws it develops and adopts, the models of development it creates, the strategic goals it sets out to ensure this harmony. The exercise of economic rights is primarily a subjective reality. People's perceptions, attitudes, awareness of new economic thinking, and propensity for innovative research come as a reflection of this subjective reality. People do not enter into economic relations on their own, without any imagination, without vision, without subjective preparation. They are required to be aware of new economic thinking, scientific and technical research, and economic law, especially when entering

into market relations, as economic culture is an important factor in participating in market relations.

Candidate of Philosophical Sciences, Associate Professor B. Valiev writes, "The emerging economic culture, the principles of market conditions, in particular, production, in general, develops in economic life on the basis of competition between different forms of ownership and enterprises. The moving equilibrium that arises between forms of property ownership and types of economic activity creates certain conditions in the market. Economic processes are driven by supply and demand in the market. Today, the economic culture of most citizens is being shaped in this way." [6] Demand and supply are the driving force of the innovator, motivating him to scientific and technical research. Innovation is the quintessence of this culture.

The right to work and free choice of the type of work is a reality that "regulates the labor relations of individuals working in enterprises, institutions, organizations of all forms of ownership, as well as at the disposal of individual citizens under employment contracts." [7] Labor relations are the object of labor law.

Labor and the liberalization of the type of labor correspond to the characteristics of market relations, so they are one of the main features of economic democracy and economic law. They participate in innovation processes, market relations through the following socio-legal methods:

a) subordination of employees to the administration of the enterprise, institution, organization, while ensuring the legal equality of the parties to the employment relationship;

b) contractual regulation of labor relations, if permitted by law;

c) enabling the participation of the labor community and trade unions in improving working conditions, labor protection, protection of the interests of employees, etc." [8]

In the conditions of market relations, no one can be forced to work, but socio-economic factors (nutrition, family support, well-being, etc.) motivate a person to participate in economic life, the process of renewal and improvement of labor management. Anyone who cares about his own destiny, the common interests of the labor community, cannot remain indifferent to the processes involved in labor activity. He may not make new scientific and technical discoveries or create a unique way of managing a work team, but he is not an indifferent observer of the labor processes associated with his life, his destiny. Active, conscious and proactive participation in the labor process, participation in the study of the consumer market with a new economic thinking is itself support for modernization. Modernization is perceived as an innovative change in the labor community, especially in a society that

has embarked on a path of development, abandoning old socio-economic relations.

There is a fundamental harmony between innovation, modernization and civil society. This harmony is in the way people live in search of innovation. The search for innovation leads to the formation of creative cooperation, various creative or professional associations, associations, non-governmental organizations. Such professional and creative associations allow innovators to demonstrate their potential in an organized way.

Although innovation is aimed at radical renewal of the industry, it motivates everyone, the activities of the subjects of socio-economic relations, encourages them to work in accordance with the requirements of new thinking, innovative research. They are based on market relations, the dynamics of social life and a hunger for innovation in human thinking.

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IDEOLOGICAL THOUGHTS ON SCIENCE AND ETHICS IN THE WORKS OF ABU HANIFA

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Nowadays, terroristic ideas such as neo-fascism, separatism, religious extremism, and democratic expansion are being promoted by some developed countries of the world. They devise various tricks and deceptions with their destructive ideas, to distract people's minds and thoughts, to turn them away from their noble goals, to hinder the development of their Motherland.

To prevent such destructive behavior from poisoning the minds of people, it is necessary to pay attention to the socio-political, spiritual, religious and educational significance of the works of medieval Eastern thinkers. Indeed, we must not allow bad people to use our sacred religion for their own vile purposes, because our ancestors have been studying and practicing our sacred religion for centuries. In this regard, our first President, Islam Karimov, in his book "High spirituality - an invincible force" described: "Another criterion that is closely linked with the rise of spirituality is our sacred religion. It is well known that religion has always been an integral part of human spirituality, a holistic system of ideas and views that embodies the highest ideals of mankind, their dreams of truth and justice, fairness and equality, strengthening them in the form of stable rules.

Today, the study of rare works of Islamic thinkers and scholars on moral issues, the application of progressive ideas expressed in them to social life is of particular importance in achieving the strategic goal of educating a spiritually mature and harmoniously developed generation. Abu Hanifa, one of the greatest figures in the religion and culture of Islam, expressed his moral views mainly in his works "al-Fiqh al-Akbar", "Wasiyat Abu Hanifa" and others, and in his correspondence with his contemporaries. Abu Hanifa described several moral qualities in his works. These include chastity, generosity, courage, justice, contentment, determination, loyalty, modesty, humility, and so on. The scholar also describes the evils that are the opposite of them - theft, lying, corruption, hatred, jealousy, enmity, slander, reluctance, arrogance, ignorance, based on the primary sources of Islam. Therefore, Abu Hanifa said, "I am surprised that people say that I will give a fatwa (decision) by opinion! Because I only give fatwas with a work (hadith)! " he emphasized [1].

In all periods of moral development, good and evil, justice and injustice, etc. have served as the main criteria. With the passage of time, the exchange of one system with another, the change in the moral relations between people, the nature of good and evil also changed, one denying the other, sometimes good became evil, and vice versa. For example, when Makki ibn Ibrahim (may Allaah have mercy on him) was teaching a hadith, one of the people said, "Do not tell us a hadith from Abu Haneefah, but tell us a hadith from Ibn Jurayj." Makki ibn Ibrahim (may Allaah have mercy on him) became very angry and said, "I do not teach hadith to fools. Bring out the hadiths you have written down from me and leave me." They sit in silence until that person leaves. When he left, he would recite the hadiths, he had heard from Imam A'zam Abu Hanifa, may Allah have mercy on him, to his disciples [2]. For this reason, one of our great ancestors, Moturidi, became famous in Mawarounnahr as a scholar who preserved the jurisprudential and doctrinal views of Abu Hanifa Nu'man ibn Thabit and later laid the foundation stone for his teaching, which was recognized as "Moturidiya." He was engaged in the science of kalam, aqoid (aqeedah) throughout his life.[3]

According to Abu Hanifa, the most important wealth is justice. Indeed, "He who honors Your friends has honored You. This was revealed to us through the Shafi'i Muznibin (peace and blessings of Allaah be upon him) , may Allah have mercy on him: "Honoring a Muslim with a white beard, honoring a Qur'an reciter who has not done bad things, and honoring a just king are among the blessings of Allah!" ("Mishkoti Sharif")" [4]. Indeed, the basis of morality is justice. Because justice is a

moral quality that ensures the stability of the structure of society, the unity of people.

Justice is not in a narrow sense that represents interpersonal relationships, but is a great blessing that opens the doors of happiness for all in society, that is necessary and beneficial for all people. This blessing does not come naturally, of course. This will require certain conditions, first and foremost, Islamic morality with a high level and solid foundations. Where there is no justice, life is worthless, where there is no peace, there is no prosperity, where there is no freedom, there is no creation, there is no progress, where there is no morality, any value is observed to deviate from its original essence, to be distorted, and so on. In short, what value a person prioritizes in his or her life path depends on his or her level of knowledge, the goodness of his or her feelings, and morality. Of course, the same ideas apply to a wide range of social values.

Abu Hanifa also advanced many ideas on Sufism philosophy and Sufism ethics. For this reason, Imam Muhammad al-Haskafi (h. 1025-1088 / m.1616-1677), one of the scholars of the Hanafi school, said about the role of Imam Abu Hanifa (may God have mercy on him) in the Sufi order: "Master Abu al-Qasim Qushairi in his sect as the leader of this sect, he says in his treatise (Risalat al-Qushayriya): "I heard from the teacher Abu Ali al-Daqqaq (he was the sheikh of Qushayri) that he said,' I received this sect from Abul-Qasim al-Nasrabazi. ' Abu'l-Qasim (an-Nasrabazi) said: I took it from Shibli. He received it from Sarri Saqati, he received it from Maruf Karhi, he received it from Dawood Tay, and he received knowledge and teachings from Abu Hanifa. Each of them praised him and acknowledged his grace." [5] According to Abu Hanifa, love for the Creator brings man to the level of perfection that the human race is capable of. That is, the lower powers and parts of the soul are in close proximity to its glorious and noble powers and aspirations, and acquire virtue as a result of their influence.

Abu Hanifa, in his work "al-Fiqh al-Akbar", emphasizes that human life is created on the basis of faith as the sweetest and purest, and that human beings are created differently in rank, property, intellect and thinking. He wrote: "We know Allah with true enlightenment, as He describes Himself in His Book with all His attributes. No one will be able to truly worship Allah as He deserves. However, he is prayed according to his command as commanded in his book and in the Sunnah of his Messenger. All believers are equal in enlightenment, clarity, trust, love, contentment, danger, hope and faith. In matters other than faith, they are different in all of this." [6]

Abu Hanifa considers man to be different from other beings in that he gathers, stores, prepares, and protects for another day of time and necessity, in spite of the abundance of power and labor. In this work, the scholar gives valuable insights into the reform of the nafs (greed). He has "yad", "vajh" and "nafs" as mentioned in the Qur'an. Since Allah mentions "yad", "wajh" and "nafs" in the Qur'an, they are His moodless attributes. Hence, his "yad" is not said to be His power or blessing. Because it has a void of quality. It is the word of the Qadaris and the Mu'tazilites. However, "yad" is His moody quality. His "wrath" and "approval" are also the two moodless attributes of Allah.[7]

Abu Hanifa's views on science and ethics are still relevant today and serve as a unique source for the development of spiritual, moral, educational and harmoniously developed generation. Abu Hanifa writes about this in his book al-Fiqh al-Akbar: "Allah is always knowledgeable with His knowledge. Science has always been its quality. He is always capable by His power. Power is an eternal quality. He is always a speaker in his own word. The Word is an eternal quality. He is always a creator. Creation is an eternal quality. He is always the doer by his actions. The action is an eternal quality. The doer is Allah. The character is an eternal quality. What is done is created. The act of Allah is not created. His primordial qualities have neither appeared nor been created. So whoever says that he has been created or has come into being, or that he is in doubt about it, then he is a disbeliever in Allah." [8] Indeed, it is science that serves to determine human spiritual maturity, humanity, and similar moral qualities, and in a society where morality, high spirituality does not prevail, justice and good deeds, law will never emerge.

Based on the moral views of Abu Hanifa, it can be said that the moderation applied in a person's morality will be determined by the direction, strength, amount of moral activity, the time spent on it, and how and where it should be done. Of course, it is difficult to define such a norm, and therefore the opinions of Islamic thinkers and scholars on this subject are only for the specific and not for the common people. This situation has led to the formation of different relationships in the separation and evaluation of virtues and vices. Ibn as-Sabbah explains the solidity of Abu Hanifa's moral views based on Islamic principles as follows: "Whenever Abu Hanifa had a problem, he would follow it if it was an authentic hadith, even if it was the word of a Companion or a follower. If that were not the case, he would only compare. How beautiful that would be!"[9].

Religious faith has always been the foundation of human morality. The current spiritual crisis shows that it is naive to think that it is possible to be moral even without religion. For this reason, the Qur'an, the holy book of Islam, is a powerful source and means of spiritual and moral education, a holy book that calls people to honesty, purity, morality,

and integrity. It is no coincidence that the Holy book is based on the interpretation of the Qur'an: "Spirituality is the divine light in the human heart, the light of the Supreme Truth ..." [10]. In the suras of the Qur'an, people are called to goodness, honesty and purity in the name of Allah. Those who do so are promised eternal life in paradise. That is why the scholars of Islam say, "O Allah, O Zuljalol val-ikram! Give us moral tawfiq! O Allah! Give us a chance to love your friends and loved ones! A chance to avoid being rude and immoral to them! Because immorality is humiliation in two worlds. O Allah! He who loves your friends will love you. Whoever honors Your friends has honored You." [11] For those who do not turn from the path of evil, the inevitability of the torment of hell is reminded. It encourages people to refrain from bad behaviors and to do good.

In short, first of all, the history of Islam and the moral views of Abu Hanifa shows that the independence of a state with faith, moral virtues, strong spirituality, a sense of national responsibility, spiritually mature people will last forever and develop steadily, contribute to world civilization. Second, there are many ideas in the teachings of Islam about morality and the etiquette of acquiring knowledge. There is no doubt that the upbringing of a harmoniously developed generation in Islamic teachings still plays a key role in determining the meaning of life for young people today.

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THE INFLUENCE OF REGIONAL INCOME ON ECONOMIC GROWTH OF THE EASTERN COAST OF NORTH SUMATERA PROVINCE

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ABSTRACT

This study aims to determine the effect of Regional Original Revenue (PAD), General Allocation Fund (DAU), Special Allocation Fund (DAK), and Profit-Sharing Fund (DBH) on economic growth in the eastern coast of North Sumatra province. This study analyzes the Revenue and Expenditure Budget report of the Regency / City Government of North Sumatra Province from the North Sumatra Central Statistics Agency library which is located at Jl. Asrama No. 179 Medan. Data collection was carried out through non-participant observation techniques. Data analysis was performed using descriptive analysis and multiple linear regression. Based on the results of the study, it shows that the Regional Original Revenue (PAD), the General Allocation Fund (DAU), the Special Allocation Fund (DAK), and the Revenue Sharing Fund (DBH) have a positive effect on economic growth in the eastern coast of North Sumatra province.
KEYWORDS: *economic growth, regional revenue, eastern coast*

1. INTRODUCTION

Economic growth is a growth rate formed from various economic sectors which indirectly describes the rate of economic growth that occurs. Economic growth is the process of increasing the production capacity of an economy which is manifested in the form of an increase in national income. A country is said to experience economic growth when there is an increase in real GNP in that country. Their economic growth is an indication of the success of economic development. The last fiscal decentralization in Indonesia is regulated by Law Number 2 of 2015 concerning the Second Amendment to Law Number 23 of 2014 concerning Regional Government, as well as Law no. 33 of 2004 concerning Financial Balance between the Central Government and Local Government. In the implementation of fiscal decentralization, it is explained that PAD, DAU, DAK, DBH, regional loans, and other legal receipts are a source of revenue used for local government funding.

Based on its topography, North Sumatra is divided into 3 (three) parts, namely the eastern part which is relatively flat, the middle part is wavy to hilly and the western part is a wavy plain. The East Coast region, which is a lowland area of 24,921.99 km2 or 34.77% of the total area of North Sumatra, is a fertile area with high humidity and relatively high rainfall. This region has high economic potential, so it tends to be denser due to migration flows from the West Coast and highlands. The highland area and the West Coast area covering 46,758.69 km2 or 65.23% of the total aPADrea of North Sumatra, which is mostly mountainous, has variations in the level of soil fertility, climate, topography, and contours as well as areas where the soil structure is unstable. Several lakes, rivers, waterfalls, and volcanoes are found in this area and some areas are recorded as areas of tectonic and volcanic earthquakes.

The economic growth of City/Regency Governments in the East Coast Region of North Sumatra Province, namely Asahan Regency, Batubara Regency, Tanjungbalai City, Labuhanbatu Regency, North Labuhanbatu Regency, South Labuhanbatu Regency, Deli Serdang Regency, Langkat Regency, Serdang Bedagai Regency, Tebing Tinggi City, Medan City, and Binjai City during the period 2014-2018 there were differences between City / Regency Governments, resulting in regional development among the City/Regency Governments that grew slowly and some grew fast, as shown in Table 1.

Table 1

Economic Growth of City / Regency Government of East Coast Region and North Sumatra Province in 2014-2018 (%)

No.	Regency/City	2014	2015	2016	2017	2018
1	Asahan	4.01	5.22	5.53	5.85	5.70
2	Tanjung Balai	4.11	3.54	4.01	4.00	4.17
3	Batubara	5.77	5.96	5.12	5.72	5.36
4	Labuhanbatu	4.39	5.33	5.98	6.04	5.95
5	Labuhanbatu Selatan	6.98	7.76	7.78	6.89	6.55
6	Labuhanbatu Utara	5.28	5.32	5.68	5.54	5.87
7	Deli Serdang	7.51	5.24	5.32	5.10	5.15
8	Langkat	5.12	5.03	4.98	5.05	5.01
9	Serdang Bedagai	5.12	5.05	5.14	5.16	5.17
10	Tebing Tinggi	5.45	4.90	5.11	5.14	5.17
11	Medan	6.08	5.74	6.27	5.81	5.92
12	Binjai	5.83	5.40	5.54	5.39	5.46
13	Provinsi Sumatera Utara	5.23	5.10	5.18	5.12	5.18

Source: Central Statistics Agency of North Sumatra Province

2. RESEARCH METHODOLOGY

This research according to the type of data and analysis can be grouped into quantitative data. To obtain and collect the data needed in the completion of this research, it is obtained from the Regional Government Revenue and Expenditure Budget report of the Regency/City of North Sumatra Province from the North Sumatra Central Statistics Agency library which is located at Jl. Asrama No. 179 Medan. The scope of the research is the City/Regency Government of the East Coast Region of North Sumatra Province which has data on economic growth, PAD, DAU, DAK, and DBH successively from 2009 to 2018 in the thirteen regencies/cities in the East Coast region of North Sumatra Province. The location of the thirteen Regencies / Cities was chosen because it has potential in the fields of food crops and plantations, processing industry, trade, and services as well as ports.

3. LITERATURE REVIEW

Economic growth is one very important indicator in analyzing the economic development that occurs in a country. According to Sirojuzilam and Mahalli (2010), economic growth is a description of the impact of government policies implemented, especially in the economic sector.

According to Jhingan (2010) in the theory of economic development, it is stated that there are six characteristics of economic growth, namely the presence of a high rate of increase in production per capita to compensate for the fast rate of population growth, the increasing rate of production per capita, especially due to improvements in technology and quality of inputs used, changes the economic structure from the agricultural sector to the industrial and service sectors, the increasing number of people moving from rural areas to urban areas (urbanization), economic growth due to the expansion of developed countries and the strength of international relations, the increasing flow of goods and capital in international trade.

The granting of regional autonomy is an effort to empower regions in the context of managing development in their regions, creativity, innovation, and independence are expected to be owned by each region, to reduce the level of dependence on the Central Government. And what is more important is that with the existence of regional autonomy, the quality of services provided by the government to the community will increase, both services that are directly provided to the community and services that are not directly provided, such as the construction of public facilities and other social facilities. In other

words, the provision of public goods (public goods) and public services (service goods) can be more secure (Sun'an and Senuk, 2015)

The term decentralization does not have only one meaning. It can be translated into several meanings, depending on the context in which it is used. Hidayat in Zulyanto (2010) defines decentralization as the sharing of government power between groups of power holders at the center with other groups, where each of these groups has the authority to regulate certain fields within the territorial scope of a country. Mawhood in Zulyanto (2010) clearly states that decentralization is the devolution of power from the central government to regional governments.

In the 1945 Constitution (UUD) governs the power of local governments in the administration of regions. Appropriate financial sources, including PAD, tax and non-tax revenue sharing, loans, as well as subsidies or assistance from the central government, must support fiscal decentralization as the main component of governmental authority decentralization. Accordingly, the implementation of fiscal decentralization has an impact on first of all the allocation of regional finances, which ensures that regions have maximum flexibility or independence in making use of the main sources of funding for developing regions. Second, there is a need for guidance so that fiscal decentralization operates the way planners want. Third, several breakthroughs are needed to get around the fiscal gap by expanding the revenue base. Among other things, identifying potential taxpayers, improving the object database, and calculating the revenue capacity of each levy (Akhmad, 2019).

Original Regional Revenue (PAD) is regional revenue that comes from local taxes, levies, management of separated regional assets, and other legitimate original regional income, which aims to provide opportunities for regions to earn revenue for the implementation of regional autonomy as the embodiment of decentralization (Badrudin, 2011).

The definition of General Allocation Fund (DAU) according to Regulation of the Minister of Finance of the Republic of Indonesia Number 48 / PMK.07 / 2016 concerning Management of Transfers to Regions and Village Funds. General Allocation Fund, hereinafter referred to as DAU, is a fund allocated in the APBN to regions with the aim of equal distribution of inter-regional financial capacity to finance regional needs in the context of implementing decentralization. The Special Allocation Fund (DAK) is one of the central government financial transfer mechanisms to the regions which aims to increase the provision of regional physical facilities and infrastructure according to national priorities and reduce the gap in growth rates between regions and services between fields (Subekan, 2012). Revenue Sharing Funds (DBH) are funds originating from the State Revenue and Expenditure Budget (APBN) that are distributed to regions, taking into account the potential of generating regions to finance regional needs in the direction of decentralization, based on certain percentage figures. Revenue Sharing Funds consist of Tax DBH and Natural Resources DBH (SDA) (Harahap, 2017).

4. RESULT

The capital city of North Sumatra Province is Medan, located between 10 - 40 LU, 980 - 1000 B.T. The borders of the northern province of Aceh and the Sumatra Strait, the west borders the provinces of West Sumatra and Riau, while the east is bordered by the Sumatra Strait. The area consists of the coast and lowlands in the east and west of the province, and uplands in the highlands of Karo, Toba, and Humbang. The mountains include Sibayak, Sinabung, Martimbang, Sorik Marapi, and others. Then the rivers are the Wampu, Batang Serangan, Deli, Asahan, and others.

Figure 1 Regional Map of North Sumatra Province

Before discussing statistical data, it is necessary to first consider the description of the data from the Regency / City Government of the East Coast region and North Sumatra Province which have been determined as samples. The population in this study was 13 samples consisting of 12 Regency / City Governments in the East Coast region of North Sumatra Province, namely Langkat Regency, Binjai City, Medan City, Deliserdang Regency, Serdangbedagai Regency, Tebingtinggi City, Batubara Regency, Tanjungbalai City, Asahan Regency, North Labuhanbatu Regency, Labuhanbatu Regency, South Labuhanbatu Regency, and 1 North Sumatra Provincial Government.

Based on the research data obtained based on 10 years of data observations, descriptive statistical research data were obtained. From the descriptive statistical research data, it is obtained data that includes n (the amount of data obtained), the average (mean), the standard deviation, the minimum value, and the maximum value for the research variables. These variables include economic growth, PAD, DAU, DAK, and DBH which can be seen in Table 2.

Table 2
Descriptive Statistics Economic Growth Data (%), PAD, DAU, DAK and DBH (in Millions Rupiahs)

		PAD	DAU	DAK	DBH	Pertumbuhan Ekonomi
N	Valid	130	130	130	130	130
	Missing	0	0	0	0	0
	Mean	432.7397	1918.2078	330.7923	169.9858	5.5614
	Median	63.5625	576.6750	67.1900	46.7900	5.4550
	Mode	41.17	367.74a	45.51a	18.62a	5.12
	Std. Deviation	1022.38902	4587.54559	1005.00800	359.58863	.73456
	Range	6494.33	22115.27	6591.58	1604.08	5.11
	Minimum	2.38	158.68	.06	.86	4.11
	Maximum	6496.72	22273.95	6591.64	1604.94	9.22

Table 2 shows descriptive statistical research data on data that includes n (the amount of data obtained), average (mean), standard deviation, minimum value, and maximum value for research variables including economic growth, PAD, DAU, DAK. and DBH.

Table 3
Average PAD, DAU, DAK, DBH and Economic Growth of 13 Regency/City Governments in Eastern Region and Province of North Sumatra for the Period of 2009-2018

No.	Regency/City	PAD (in Millions Rupiahs)	DAU (in Millions Rupiahs))	DAK (in Millions Rupiahs)	DAK (in Millions Rupiahs)	Economic Growth (%)
1	Labuhanbatu	95.445	517.516	82.350	47.365	5.32
2	Asahan	69.371	718.843	142.005	56.462	5.46
3	Batubara	35.434	503.376	67.050	25.313	4.53
4	Labuhanbatu Selatan	28.182	393.813	74.151	50.000	5.50
5	Labuhanbatu Utara	26.507	450.686	46.418	32.826	5.63
6	Tanjung Balai	41.589	349.781	48.527	16.876	5.57
7	Deli Serdang	454.491	1204.254	208.460	86.543	5.97
8	Langkat	92.742	951.762	159.758	153.022	5.46
9	Serdang Bedagai	75.118	617.900	130.238	41.901	5.57
10	Tebing Tinggi	63.015	343.804	60.769	17.965	5.52
11	Medan	1290.772	1293.955	126.874	240.973	6.43
12	Binjai	69.204	457.966	57.333	57.446	5.73
13	Provinsi Sumatera Utara	3283.747	17133.039	3088.711	1383.120	5.62
	Mean	432.740	1918.207	330.203	169.986	5.56

Source: Central Statistics Agency of North Sumatra Province

Based on Table 3 above, shows that the Medan City Government had the highest average economic growth during the 2009-2018 period, namely 6.43%, followed by the Deli Serdang Regency Government at 5.97%, and the Binjai City Government at 5.73%, meanwhile, Batubara Regency Government has the lowest economic growth, which is 4.53%. The average results above show that the Medan City Government has the highest economic growth and the Batubara Regency Government has the lowest economic growth, which shows that the level of development in Medan City is higher than that of Batubara Regency so that the factors that affect economic growth are more likely to be implemented in Medan City such as There are investors who invest their funds in the hotel, restaurant, and trade sector, the manufacturing sector, the building sector, and the services sector.

The average results of the General Allocation Fund (DAU), the Special Allocation Fund (DAK), and the Revenue Sharing Fund (DBH) during the 2009-2018 period show that the North Sumatra Provincial Government has the highest value.
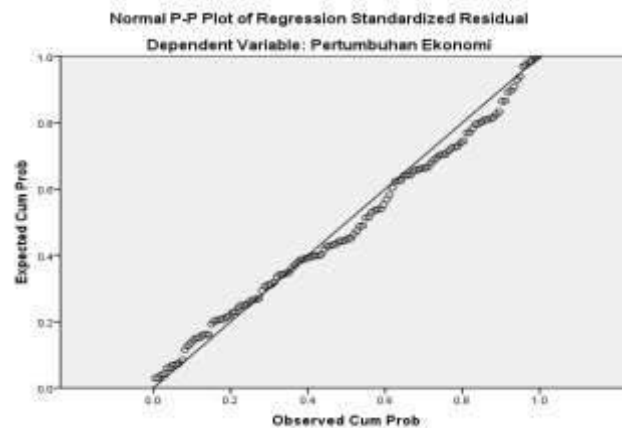

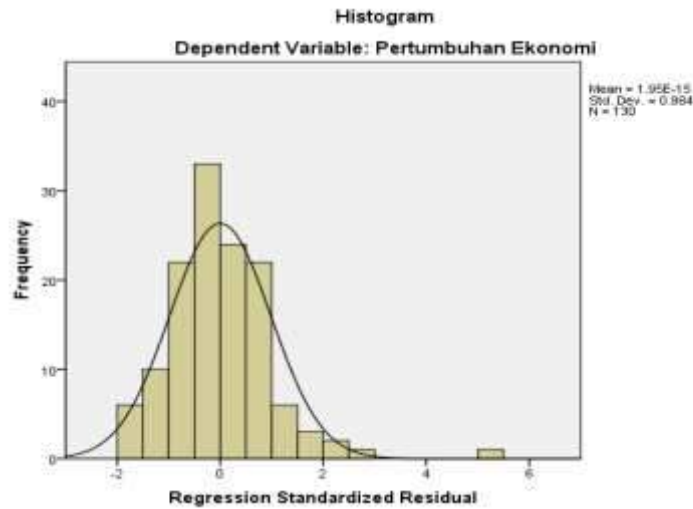**Figure 2 Normal P-Plot of Standardized Residual Regression**

Figure 3 Economic Growth Histogram

The results of the histogram graph in Figure 3 show that the residual data is normally distributed as seen from the almost perfect (symmetric) bell-shaped image.

Table 4
Kolmogorov-Smirnov test results

		Unstandardized Residual
N		130
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.65016248
Most Extreme Differences	Absolute	.065
	Positive	.065
	Negative	-.044
Kolmogorov-Smirnov Z		.739
Asymp. Sig. (2-tailed)		.645

a. Test distribution is Normal.
b. Calculated from data.
Source: Primary data processed, 2020

The statistical test results in the table above show that the Kolmogorov-Smirnov Z value is 0.739 and the significance is at 0.645 and the value is above $\alpha = 0.05$ (Asymp. Sig = 0.645> 0.05) so that the Ho hypothesis is accepted, which means that the residual data is normally distributed.

Table 5
Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
PAD	.238	4.200
DAU	.109	9.163
DAK	.345	2.899
DBH	.286	3.499

a. Dependent Variable: Pertumbuhan ekonomi
Source: Primary data processed, 2020

The VIF value <10 in the table variable above does not occur symptoms of multicollinearity and the values obtained from the calculation are following the VIF value and tolerance, it can be concluded that the independent variable does not occur multicollinearity so that the model meets the requirements of the classical assumptions in regression analysis
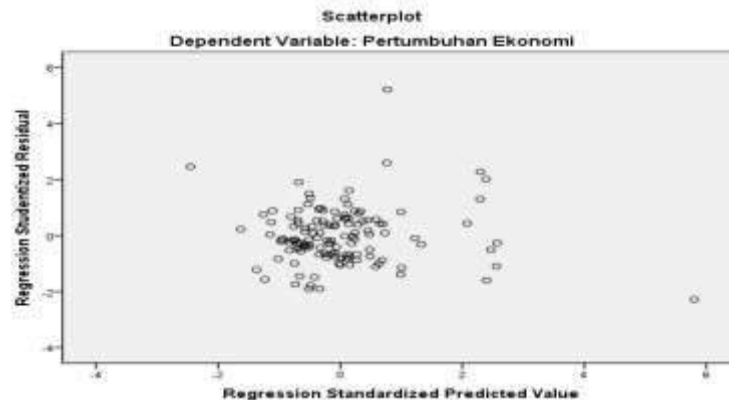
Figure 4 Graph of Economic Growth Scatterplots

Scatterplots graph in Figure 4 shows that there is no heteroscedasticity in the regression model. So it can be concluded overall that the regression model meets the requirements of the classical assumption test.

Table 6
Result of Determination Coefficient Test (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.465[a]	.217	.192	.66048

a. Predictors: (Constant), DBH DAK, DAU, PAD

b. Dependent Variable: Economic Growth

Source: Primary data processed, 2020

The result of the calculation of the value of R Square is 0.217. This result means that 21.7 percent of economic growth can be explained by the four independent variables above (PAD, DAU, DAK, and DBH), while the remaining 78.3 percent is explained by other variables not included in this study, such as government spending, inflation. and population.

Table 7
Simultaneous Test Results (Test F)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.076	4	3.769	8.640	.000[a]
	Residual	54.530	125	.436		
	Total	69.606	129			

a. Predictors: (Constant), DBH, DAU, PAD, DAK

b. Dependent Variable: Economic Growth

Source: Primary data processed, 2020

The simultaneous statistical test shows the probability level of 0.000, it can be concluded, P = 0.000 <α = 0.05, which means that Ha is accepted. This means that the independent variables PAD, DAU, DAK and DBH simultaneously have a significant effect in influencing economic growth.

Table 8
Partial Test Result (t test)

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	5.864	.586		10.002	.000
PAD	.552	.171	.523	3.223	.002
DAU	-.257	.391	-.157	-.656	.513
DAK	-.661	.163	-.548	-4.067	.000
DBH	.355	.197	.267	1.800	.074

a. Dependent Variable: Economic Growth

Based on Table 8 and the description above, the multiple regression equation can be formulated as follows:
$Y = 5,864 + 0,552 X1 - 0,257 X2 - 0,661 X3 + 0,355 X4$
The multiple regression equation model means:
1. The constant value is 5.864 which means that if there is no independent variable value, in this case, the PAD, DAU, DAK, and DBH variables are equal to 0 (zero) then the value of economic growth will be 5.864 percent.
2. Variable PAD (X_1) = 0.552. The PAD variable which is positive means that it has a unidirectional influence, which means that each addition or increase in the log of the PAD variable will add to the value of economic growth by 0.552 percent.
3. DAU variable (X_2) = -0,257. The DAU variable which is negative means that it has a non-directional effect, which means that each addition or increase in the log of the DAU variable will reduce the value of economic growth by 0.257 percent.
4. The variable DAK (X_3) = -0.661. The DAK variable which has a negative sign means that it has a unidirectional influence, which means that each addition or increase in the log of the DAK variable will decrease the value of economic growth by 0.661 percent.
5. Variable DBH (X_4) = 0.355. The DBH variable which has a positive sign means that it has a unidirectional influence, which means that each addition or increase in the log of the DBH variable will add to the value of economic growth by 0.355 percent.

5. DISCUSSION
The DAU variable has no and insignificant effect on the economic growth of the East Coast region of North Sumatra Province. The results of this study are in line with the research of Rahmah and Zein (2016) and the research of Abdullah, Mawarni, and Dawarnis (2013) that the general allocation funds have a positive effect on economic growth. The DAK variable has no and significant effect on the economic growth of the East Coast region of North Sumatra Province. The results of this study are in line with Siswiyanti's (2015) research which proves that DAK has no effect on economic growth and research by Anwar, et al., (2016) which concluded that DAK does not affect economic growth in Manado City in 2001-2013, as well as Jannah and Nasir (2018), which proves that DAK does not affect economic growth in Aceh Province in 2008-2014. The DBH variable has a positive and insignificant effect on the economic growth of the East Coast region of North Sumatra Province. The results of this study are in line with research by Nisa (2017) which shows that DBH has a positive effect on economic growth regency/cities in East Java Province 2011-2015. The variables PAD, DAU, DAK, and DBH simultaneously have a positive and significant effect on economic growth in the East Coast Region of North Sumatra Province. The results of this study are in line with the research of Rahmah and Zein (2016) which proves that PAD, DAU, and DBH simultaneously have a positive effect on economic growth in Aceh Province. One of the goals of regional development is to increase economic growth. Economic growth is related to the process of increasing the production of goods and services in people's economic activities and it can be said that economic growth involves single-dimensional development and is measured by an increase in production and income. Economic growth is a problem for a country's economy in the long run. Economic growth measures the performance of an economy's development from one period to the next. An economy is said to experience growth if the level of economic activity achieved now is higher than that achieved in the previous period. Growth is achieved when the physical quantity of goods and services produced in the economy increases in size from previous years.

Regional autonomy aims to improve the welfare of the people. With efforts to accelerate economic growth and regional development, reduce disparities between regions, and improve the quality

of public services to make them more efficient and responsive to the needs, potentials, and characteristics of each region. For this purpose, improving the quality of decentralized government affairs, through increasing the rights and responsibilities of local governments to manage and manage their household affairs.

The implementation of regional autonomy by regencies/cities does not mean that all regions can rapidly promote regional development and reduce gaps between regions. For regions rich in natural resources, human resources, good infrastructure, which can take advantage of the decentralization of government affairs to improve the welfare of their people. Meanwhile, regions that are poor in natural resources, low quality of human resources, and poor infrastructure, cannot take advantage of the opportunity for autonomy as a means of improving people's welfare.

Regional Original Revenue (PAD) is an important indicator to assess the success rate of implementing autonomy. The amount of PAD contribution in the APBD is a measure of the success of the implementation of development, improving services, and increasing the welfare of the community. All autonomous regions should be able to increase the contribution of PAD in the Regional Revenue and Expenditure Budget (APBD) because the formation of autonomous regions is based on the potential that is assumed to increase the welfare of the community.

6. CONCLUSION

1. Regional Original Revenue (PAD) has a positive and significant effect on economic growth in the East Coast region of North Sumatra Province.
2. The General Allocation Fund (DAU) has a negative and insignificant effect on the economic growth of the East Coast region of North Sumatra Province.
3. The Special Allocation Fund (DAK) has a negative and significant effect on the economic growth of the East Coast region of North Sumatra Province.
4. Revenue Sharing Fund (DBH) has a positive and insignificant effect on economic growth in the East Coast region of North Sumatra Province.
5. PAD, DAU, DAK and DBH simultaneously have a significant effect on the economic growth of the East Coast region of North Sumatra Province.

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EFEKTIVITAS DANA DESA TERHADAP KESEJAHTERAAN MASYARAKAT DI KABUPATEN ACEH TENGGARA

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ABSTRACT

Penggunaan dana desa oleh pemerintah desa harus digunakan secara efektif agar tujuan yang telah ditetapkan sebelumnya melalui musyawarah dapat tercapai sesuai dengan waktu yang telah direncanakan karena efektivitas suatu program atau kegiatan yang dijalankan suatu organisasi atau kelompok berimplikasi pada capaian atau hasil yang diperoleh. Penelitian ini bertujuan mengetahui efektivitas Dana Desa di Kabupaten Aceh Tenggara. Metode yang digunakan dalam penelitian ini adalah adalah pendekatan kualitatif yaitu penelitian yang menghasilkan data deskriptif dengan teknik pengumpulan data melalui wawancara, observasi dan dokumentasi. Hasil penelitian ini menunjukkan bahwa dfektivitas Program Dana Desa di Kabupaten Aceh Tenggara berada pada interpretasi efektif, dan dapat dinyatakan bahwa pembangunan dan pemberdayaan masyarakat di Kabupaten Aceh Tenggara sudah efektif, namun masih belum terlaksana dengan maksimal karena masih belum dalam interpretasi sangat efektif.

KEYWORDS: *Efektivitas, dana desa, pengembangan wilayah*

1. INTRODUCTION

Undang nomor 6 tahun 2014 tentang desa memberikan kepastian, selain pemberian kewenangan kepada desa juga diberikan Dana Desa (DD) yang bersumber dari Anggaran Pendapatan dan Belanja Negara (APBN) juga mendapat alokasi Dana Desa yang bersumber dari Anggaran Pendapatan Belanja Daerah (APBD).

Dana Desa tersebut telah disalurkan oleh Kementerian Keuangan (Kemenkeu). Setelah disalurkan, Kementerian Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi (Kemendesa PDTT) bertugas mengawal prioritas penggunaan Dana Desa agar sesuai dengan Peraturan Menteri yang telah ditetapkan. Berdasarkan Peraturan Menteri Desa, Pembangunan Daerah Tertinggal, dan Transmigrasi Nomor 21 Tahun 2015 tentang Penetapan Prioritas Penggunaan Dana Desa.

Kabupaten Aceh Tenggara merupakan salah satu Kabupaten di Provinsi Nanggroe Aceh Darussalam. Kabupaten Aceh Tenggara telah mengalokasikan Dana Desa sejak tahun 2015 dengan harapan pembangunan semakin merata sampai ke tingkat desa. Alokasi Dana Desa di Kabupaten Aceh Tenggara digunakan untuk pembangunan infrastruktur, sosial dan budaya, sehingga dengan adanya pembangunan tersebut akan menambah pendapatan bagi masyarakat desa di Kabupaten Aceh Tenggara.

Tabel 1
Jumlah Dana Desa tahun 2016-2018 di Kabupaten Aceh Tenggara

No	Tahun	Jumlah Dana Desa (Rp)
1.	2015	302.843.287.000
2.	2016	306.712.093.000
3.	2017	346.782.098.000
4.	2018	402.756.768.800

Sumber: Dinas Pemberdayaan Masyarakat Desa Kabupaten Aceh Tenggara

Penggunaan dana desa yang dialokasikan untuk bidang pembangunan adalah sebesar 70% dan biaya yang dialokasikan untuk operasional desa tidak melebihi 30%. Penggunaan dana desa oleh pemerintah desa harus digunakan secara efektif agar tujuan yang telah ditetapkan sebelumnya melalui musyawarah dapat tercapai sesuai dengan waktu yang telah direncanakan karena efektivitas suatu program atau kegiatan yang dijalankan suatu organisasi atau kelompok berimplikasi pada capaian atau hasil yang diperoleh. Penelitian ini penting untuk dilakukan sehingga memberikan gambaran sejauh mana pelaksanaan Dana Desa dalam rangka pengembangan wilayah baik berupa infrastruktur, sosial dan budaya di desa khususnya di kecamatan-kecamatan Kabupaten Aceh Tenggara.

2. RESEARCH METHODOLOGY

Jenis penelitian ini dengan menggunakan pendekatan kualitatif yang menghasilkan data deskriptif mengenai kata-kata lisan maupun tulisan dan tingkah laku yang dapat diamati dari orang-orang yang diteliti (Bagong Suyanto, 2006:5). Penelitian dilakukan di Kabupaten Aceh Tenggara yang merupakan salah satu daerah penerima Dana Desa. Wawancara dilakukan dengan bertemu langsung masyarakat responden untuk menggali informasi secara mendalam melalui pokok-pokok pertanyaan yang dijadikan pegangan peneliti. Skoring dilakukan terhadap jawaban dari responden terhadap item pertanyaan dalam kuesioner (angket). Dalam pemberian bobot dan scoring digunakan skala Likert.

Tabel 2
Kriteria Interprestasi Skor

Kelas	Kriteria Interprestasi	Kategori	Nilai
1	81% - 100%	Sangat Efektif	5
2	61% - 80%	Efektif	4
3	41% - 60%	Cukup Efektif	3
4	21% - 40%	Kurang Efektif	2
5	0% - 20%	Tidak Efektif	1

Sumber: Johan (2012)

3. LITERATURE REVIEW

Makmur (2011: 5) mengungkapkan bahwa efektivitas berhubungan dengan tingkat kebenaran atau keberhasilan dan kesalahan. Siagian (2005:24) berpendapat bahwa efektifitas adalah pemanfaatan sumber daya, sarana dan prasarana dalam jumlah tertentu yang secara sadar di tetapkan sebelumnya untuk menghasilkan sejumlah barang atas jasa kegiatan yang dijalankannya. Efektifitas adalah seberapa besar tingkat kelekatan output yang dicapai output yang di harapkan dari sejumlah input. Seuatu pekerjaan dapat dilaksanakan secara tepat, efektif, efesien apabila pekerjaan tersebut dilaksanakan dengan tepat sesuai dengan yang telah direncanakan.

Menurut Cambel J.P (1989:121), Pengukuran efektivitas secara umum dan yang paling menonjol dengan melihat pada eberhasilan program, keberhasilan sasaran, kepuasan terhadap program, tingkat input dan output, dan pencapaian tujuan menyeluruh. UU No. 6/2014 tentang Desa telah menempatkan desa sebagai organisasi campuran (*hybrid*) antara masyarakat berpemerintahan (*self*

governing community) dengan pemerintahan lokal (*local self government*), sehingga desa berbentuk pemerintahan masyarakat atau pemerintahan berbasis masyarakat. Desa tidak berkedudukan sebagai pemerintahan yang berada dalam sistem pemerintahan kabupaten/kota sebagaimana ditegaskan dalam Pasal 200 UU No. 32/2004. Menurut UU No. 6/2014, desa berkedudukan dalam wilayah kabupaten/kota. Hal ini sama sebangun dengan keberadaan kabupaten/kota dalam wilayah provinsi.

Zamroni, dkk (2015) menyebutkana bahwa Pemerintah Desa yang mempunyai integritas dan visi membangun kesejahteraan bersama. UU Desa yang didukung PP No. 43 Tahun 2014 tentang Peraturan Pelaksanaan Undang-Undang Nomor 6 Tahun 2014 Tentang Desa dan PP No. 60 tentang, Dana Desa yang Bersumber dari APBN, telah memberikan fondasi dasar terkait dengan Penyelenggaraan Pemerintahan Desa, pelaksanaan Pembangunan Desa, pembinaan kemasyarakatan Desa, dan pemberdayaan masyarakat Desa.

Soemarwoto (2018) mengemukakan bahwa Dana Desa adalah dana yang bersumber dari Anggaran Pendapatan dan Belanja Negara (APBN) yang diperuntukkan bagi desa dan desa adat yang ditransfer melalui Anggaran Pendapatan dan Belanja Daerah (APBD) kabupaten/kota dan digunakan untuk membiayai penyelenggaraan pemerintah, pembangunan, serta pemberdayaan masyarakat pedesaan. Fokus utama dari penyaluran dana ini lebih terkait pada implementasi pengalokasian Dana Desa agar benar-benar untuk kepentingan masyarakat desa.

Indrawati (2017) menyebutkana bahwa guna mendukung pelaksanaan tugas dan fungsi desa dalam penyelenggaraan pemerintahan dan pembangunan desa dalam segala aspeknya sesuai dengan kewenangan yang dimiliki, UU Nomor 6 Tahun 2014 memberikan mandat kepada Pemerintah untuk mengalokasikan Dana Desa. Dana Desa tersebut dianggarkan setiap tahun dalam APBN yang diberikan kepada setiap desa sebagai salah satu sumber pendapatan desa.

Dakelan, dkk (2016) menyebutkan bahwa Undang-Undang No. 6 tahun 2014 tentang Desa telah mengamanahkan agar setiap tahapan perencanaan dan penganggaran dilakukan secara partisipatif. Kurnia (2015) menyebutkan bahwa dalam tahap perencanaan dan penganggaran, Pemerintah Desa harus melibatkan masyarakat desa yang direpresentasikan oleh Badan Permusyawaratan Desa (BPD), sehingga program kerja dan kegiatan yang disusun dapat mengakomodir kepentingan dan kebutuhan masyarakat desa serta sesuai dengan kemampuan yang dimiliki oleh desa tersebut.

Menurut Juwono dan Subagiyo (2018), mengemukakan bahwa pengembangan berorientasi pada kekuatan pasar yang dilaksanakan melalui pemberdayaan usaha budi daya dan kegiatan agrobisnis/minabisnis yang uluh sampai dengan hilir. Adisasmita (2014) mengemukakan bahwa pengembangan wilayah adalah suatu kejadian yang mempelajari perilaku pembangunan, interaksi sumberdaya manusia dengan sumber-sumberdaya lainnya di dalam tata ruang. Menurut Sumpeno (2004) mengemukakan bahwa pengembangan wilayah merupakan bagian penting dari pembangunan suatu daerah terutama di perdesaan yang sangat rentan dan berat menghadapi perubahan yang berskala global. Menurut Adisasmita (2014) menyebutkan bahwa Indikator pengembangan wilayah adalah pembangunan infrastruktur, pertumbuhan ekonomi wilayah, sosial budaya.

4. RESULT
Gambaran umum wilayah penelitian

Aceh Tenggara adalah salah satu kabupaten di Provinsi Aceh. Secara geografis Kabupaten Aceh Tenggara terletak antara 3 0 55' 23" – 4 0 16' 37" Lintang Utara dan 960 43 ' 23" – 980 10' 32" Bujur Timur dengan topografi yang bervariasi. Daerah Kabupaten Aceh Tenggara merupakan suatu dataran yang dikelilingi oleh perbukitan dan pegunungan yang merupakan gugusan Bukit Barisan. Sebagian kawasannya merupakan daerah suaka alam Taman Nasional Gunung Leuser. Ketinggian tempat di Kabupaten Aceh Tenggara berkisar antara 50 m dpl – 400 m dpl.
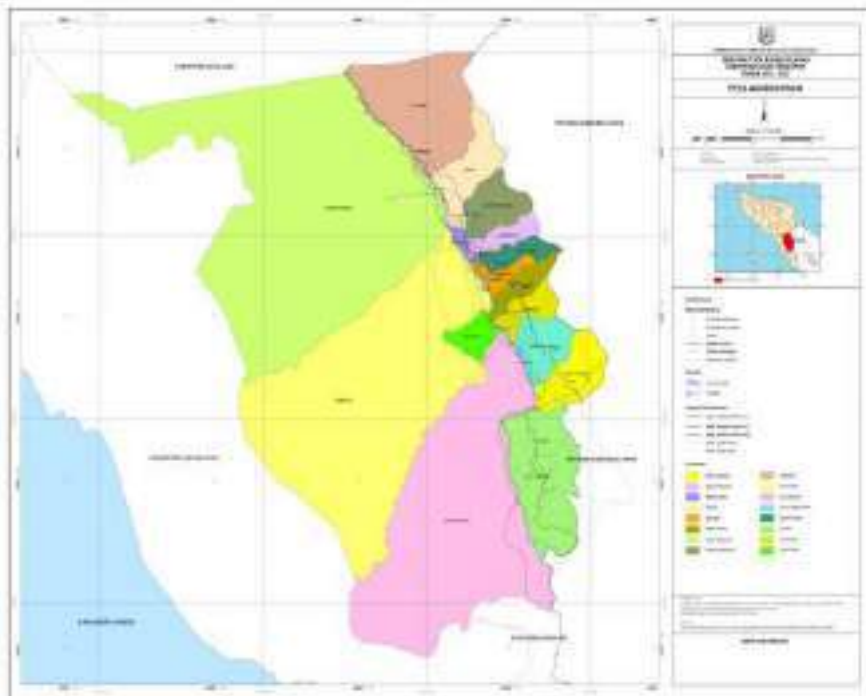
Gambar 1 Peta Administrasi Kabupaten Aceh Tenggara

Kabupaten Aceh Tenggara memiliki wilayah seluas 4.231,41 km² dengan batas-batas wilayah adalah sebelah Utara berbatasan dengan Kabupaten Gayo Lues dan Kabupaten Langkat Provinsi Sumatera Utara; sebelah selatan berbatasan dengan Kota Subulussalam, Kabupaten Aceh Selatan dan Kabupaten Tanah Karo Provinsi Sumatera Utara; sebelah Timur berbatasan dengan Kabupaten Langkat dan Tanah Karo Provinsi Sumatera Utara; sebelah Barat berbatasan dengan Kabupaten Aceh Selatan dan Kota Subulussalam.

Tabel 3
Karakteristik Responden

Variabel	Kategori	Frequency	Precentage
Umur	30-40	32	31,00
	41-50	43	42,00
	51-60	25	27,00
Pendidikan	SD	12	13,00
	SMP	33	32,00
	SMA	42	40,00
	D1/D3/S1	13	15,00
Jenis Kelamin	Laki-laki	84	84,00
	Perempuan	16	16,00

Sumber: Data Primer diolah, 2020

Distribusi jawaban responden mengenai efektivitas Dana Desa di Wilayah Kabupaten Aceh Tenggara dapat dilihat pada Tabel 4.

Tabel 4
Distribusi Jawaban Responden mengenai Efektivitas Program Dana Desa

No	Variabel	Jawaban Responden						Persentase					
		SS	S	CS	KS	TS	Jlh	SS	S	CS	KS	TS	Jlh
1	Kejelasan tujuan yang hendak dicapai		52	47	1		100		52	47	1		100
2	Kejelasan strategi pencapaian tujuan		53	40	7		100		53	40	7		100
3	Proses analisis dan perumusan kebijakan yang mantap		53	43	4		100		53	43	4		100
4	Perencanaan yang matang		45	50	5		100		45	50	5		100
5	Penyusunan program yang tepat		53	35	12		100		53	35	12		100
6	Tersedianya sarana dan prasarana kerja		56	38	6		100		56	38	6		100
7	Pelaksanaan yang efektif dan efisien		54	35	11		100		54	35	11		100
8	Sistem pengawasan dan pengendalian		37	57	6		100		37	57	6		100
	Rataan		50	43	7		100		50	43	7		100

Sumber: Data Primer diolah, 2019

Tabel 4 menunjukkan bahwa rata-rata tanggapan responden yang menjawab setuju mengenai keseluruhan indikator efektivitas Dana Desa sebanyak 50 orang (50%), cukup setuju sebanyak 43 orang (43%) dan kurang setuju sebanyak 7 orang (7%).

Dari hasil perhitungan yang dipresentasekan didapatkan bahwa secara kesuluruhan instrumen indikator efektivitas Dana Desa (Lampiran 2) yang diteliti menunjukkan nilai presentase seperti yang terlihat pada Tabel 5.

Tabel 5
Efektivitas Program Dana Desa di Kabupaten Aceh Tenggara

No	Variabel	Efektivitas Persen (%)	Efektivitas Program
1	Kejelasan tujuan yang hendak dicapai	70,20	
2	Kejelasan strategi pencapaian tujuan	69,20	
3	Proses analisis dan perumusan kebijakan yang mantap	69,80	
4	Perencanaan yang matang	68,00	**68,78**
5	Penyusunan program yang tepat	68,20	
6	Tersedianya sarana dan prasarana kerja	70,00	
7	Pelaksanaan yang efektif dan efisien	68,60	
8	Sistem pengawasan dan pengendalian	66,20	

Sumber: Data Primer diolah, 2019

Hasil pada Tabel 5 jika diinterprestasi pada Tabel 2 mengenai kriteria interprestasi skor maka diperoleh hasil sebagai berikut:

1. Indikator kejelasan tujuan yang hendak dicapai diperoleh hasil 70,20% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa kejelasan tujuan yang hendak dicapai Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

2. Indikator kejelasan strategi pencapaian tujuan diperoleh hasil 69,20% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa kejelasan strategi pencapaian tujuan Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

3. Indikator proses analisis dan perumusan kebijakan yang mantap diperoleh hasil 69,80% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa proses analisis dan perumusan kebijakan yang mantap Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

4. Indikator perencanaan yang matang diperoleh hasil 69,00% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa perencanaan yang matang Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

5. Indikator penyusunan program yang tepat diperoleh hasil 68,20% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa penyusunan program yang tepat Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

6. Indikator tersedianya sarana dan prasarana kerja diperoleh hasil 70,00% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa tersedianya sarana dan prasarana kerja Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

7. Indikator pelaksanaan yang efektif dan efisien diperoleh hasil 68,60% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa pelaksanaan yang efektif dan efisien Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

8. Indikator sistem pengawasan dan pengendalian diperoleh hasil 66,20% . Hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa sistem pengawasan dan pengendalian Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

5. DISCUSSION
Efektivitas Dana Desa di Kabupaten Aceh Tenggara

Upaya mengevaluasi jalannya suatu program, dapat dilakukan melalui konsep efektivitas. Konsep ini adalah salah satu faktor untuk menentukan apakah perlu dilakukan perubahan secara signifikan terhadap bentuk dan manajemen organisasi atau tidak. Dalam hal ini efektivitas merupakan pencapaian tujuan organisasi melalui pemanfaatan sumber daya yang dimiliki secara efisien, ditinjau dari sisi masukan (input), proses, maupun keluaran (output). Dalam hal ini yang dimaksud sumber daya meliputi ketersediaan

personil, sarana dan prasarana serta metode dan model yang digunakan. Suatu kegiatan dikatakan efisien apabila dikerjakan dengan benar dan sesuai dengan prosedur sedangkan dikatakan efektif bila kegiatan tersebut dilaksanakan dengan benar dan memberikan hasil yang bermanfaat.

Kriteria atau ukuran mengenai pencapaian tujuan efektif atau tidak, sebagaimana dikemukakan oleh Siagian (2005), yaitu: 1) Kejelasan tujuan yang hendak dicapai. Hal ini dimaksudkan supaya karyawan dalam pelaksanaan tugas mencapai sasaran yang terarah dan tujuan organisasi dapat tercapai, 2) Kejelasan strategi pencapaian tujuan. Telah diketahui bahwa strategi adalah "pada jalan" yang diikuti dalam melakukan berbagai upaya dalam mencapai sasaran-sasaran yang ditentukan agar para implementer tidak tersesat dalam pencapaian tujuan organisasi, 3) Proses analisis dan perumusan kebijakan yang mantap. berkaitan dengan tujuan yang hendak dicapai dan strategi yang telah ditetapkan artinya kebijakan harus mampu menjembatani tujuan-tujuan dengan usaha-usaha pelaksanaan kegiatan operasional, 4) Perencanaan yang matang. Pada hakekatnya berarti memutuskan sekarang apa yang dikerjakan oleh organisasi di masa depan, 5) Penyusunan program yang tepat. Suatu rencana yang baik masih perlu dijabarkan dalam program-program pelaksanaan yang tepat sebab apabila tidak, para pelaksana akan kurang memiliki pedoman bertindak dan bekerja, 6) Tersedianya sarana dan prasarana kerja. Salah satu indikator efektivitas organisasi adalah kemamapuan bekerja secara produktif. Dengan sarana dan prasarana yang tersedia dan mungkin disediakan oleh organisasi, 7) Pelaksanaan yang efektif dan efisien. Bagaimanapun baiknya suatu program apabila tidak dilaksanakan secara efektif dan efisien maka organisasi tersebut tidak akan mencapai sasarannya, karena dengan pelaksanaan organisasi semakin didekatkan pada tujuannya, dan 8) Sistem pengawasan dan pengendalian. Bersifat mendidik mengingat sifat manusia yang tidak sempurna maka efektivitas organisasi menuntut terdapatnya sistem pengawasan dan pengendalian.

Rataan efektivitas Dana Desa di Kabupaten Aceh Tenggara menunjukkan sebesar 68,78 termasuk dalam kategori efektif berdasarkan kriteria interprestasi skor. Indikator kejelasan tujuan yang hendak dicapai diperoleh hasil 70,20%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa kejelasan tujuan yang hendak dicapai Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif. Indikator kejelasan strategi pencapaian tujuan diperoleh hasil 69,20%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa kejelasan

strategi pencapaian tujuan Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

Indikator proses analisis dan perumusan kebijakan yang mantap diperoleh hasil 69,80%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa proses analisis dan perumusan kebijakan yang mantap Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif. Indikator perencanaan yang matang diperoleh hasil 68,00%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa perencanaan yang matang Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

Indikator penyusunan program yang tepat diperoleh hasil 68,20%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa penyusunan program yang tepat Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif. Indikator tersedianya sarana dan prasarana kerja diperoleh hasil 70,00%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa tersedianya sarana dan prasarana kerja Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif.

Indikator pelaksanaan yang efektif dan efisien diperoleh hasil 68,60%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa pelaksanaan yang efektif dan efisien Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif. Indikator sistem pengawasan dan pengendalian diperoleh hasil 66,20%, hasil ini berdasarkan kriteria interprestasi skor termasuk dalam kriteria 61-80% yang menunjukkan bahwa sistem pengawasan dan pengendalian Program Dana Desa di Kabupaten Aceh Tenggara termasuk dalam kategori efektif. Efektifitas menunjukkan keberhasilan dari segi tercapai tidaknya sasaran yang telah ditetapkan. Jika hasil kegiatan semakin mendekati sasaran, berarti makin tinggi efektifitasnya. Efektivitas berhubungan dengan tingkat kebenaran atau keberhasilan dan kesalahan. Untuk menentukan tingkat efektivitas keberhasilan seseorang, kelompok, atau organisasi harus melakukan perbandingan antara kebenaran atau ketepatan dengan kekeliruan atau yang dilakukan. Semakin rendah tingkat kekeliruan atau kesalahan yang terjadi, tentunya akan semakin mendekati ketepatan dalam pelaksanaan setiap aktivitas atau pekerjaan (tugas) yang dibebankan setiap orang (Makmur, 2011: 5)

6. CONCLUSION

Beberapa alternatif strategi yang dapat dilakukan dalam pencapaian perolehan pajak adalah : 1) Mengoptimalkan program intensifikasi dab ekstensifikasi pajak daerah; 2) Melakukan pendataan secara efektif; 3) Pemanfaatan teknologi informasi dalam pelaksanaan, pengawasan, dan pengendalian pemunguttan pajak kenderaan bermotor; 4) Penertiban sistem dan prosedur pemungutan pajak kenderaan bermotor; 5) Meningkatkan kualitas SDM yang belum memadai dengan mengusahakan pelatihan bidang perpajakan secara berkala dan pemutakhiran data, untuk meningkatkan kemampuan dan keterampilan agar bisa memberikan pelayanan yang optimal; 6) Adanya Tim Pembina Pajak di setiap UPT; 7) Meningkatkan partisipasi wajib pajak; 8) Meningkatkan pengawasan dan evaluasi kepada para wajib pajak; 9) Pembuatan peraturan daerah yang jelas dan berkekuatan hukum; 10) Koordinasi antar aparatur; 11) Meningkatkan sosialisasi, dan 12) Penerapan pajak online

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ANALYSIS OF THE IMPLEMENTATION OF E-KINERJA OF STATE CIVIL APPARATUS (ASN) TO IMPROVE PUBLIC SERVICES IN THE POPULATION AND CIVIL REGISTRATION DEPARTMENT OF PAK PAK BHARAT REGENCY

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ABSTRACT

This study aims to analyze the application of E-Kinerja to the level of expectation and performance of public services at the Department of Population and Civil Registration of Pakpak Bharat Regency. The results showed that the application of E-Kinerja towards the level of expectation and performance of public services at the Department of Population and Civil Registration of Pakpak Bharat Regency shows a better impact; this can be seen from the reduction in the negative gap of public expectations on public service performance after the implementation of E-Kinerja than before the implementation of E-Kinerja.

KEYWORDS: *E-Performance, Public Service, Community Satisfaction Index*

INTRODUCTION

Public services have now become a central issue in the creation of development in Indonesia. Public services are all forms of services, both in the form of public goods and public services which in principle are the responsibility and implemented by government agencies, to meet the needs of society and in the context of implementing the provisions of laws and regulations (Kep. Menpan No. 63/ 2003).

To improve public services, the Government of the Republic of Indonesia began to develop the use of electronic government in the form of Presidential Instruction No. 3 of 2003 concerning e-Government Development. Then it reaffirmed through Presidential Regulation (PerPres) No. 59 of 2018 concerning electronic-based government systems. The form of the seriousness of the Government of the Republic of Indonesia in implementing e-government in its government bureaucracy is shown from a survey of

the implementation of e-government by the United Nations through ranking data of the E-Government Development Index (EGDI) in the United Nations E-Government Survey 2018 (2018: 229). The form of local government support in using information technology is seen through the development of computer-based local governments or websites, one of which is the e-Kinerja application to improve the performance of the State Civil Apparatus (ASN).

E-Kinerja is an application that is used as an indicator that is considered capable of monitoring the performance of the State Civil Apparatus (ASN) in government. The birth of the e-Kinerja application was motivated by the motivation to digitize the personnel work system so that every employee knows clearly what to do, which is their obligation, and strives to achieve the performance targets that have been determined through work contracts in the Employee Work Goals (SKP) which is an element of which is important from Government Regulation

Number 46 of 2011 concerning Civil Servant Job Performance Assessment.

This study discusses community satisfaction with public services implemented by the Pakpak Bharat Regency Government as a new autonomous region. The scope of the research is limited to the forms of public services provided by the Pakpak Bharat Regency government to the community, such as administrative services at the Population and Civil Registration Service. Recognizing the importance of public services in the field of administration (birth certificates, death certificates, divorce certificates, marriage certificates, E-KTPs, Family Cards, and Child Identity Cards (KIA)) and issuing Presidential Instruction No. 3 of 2003 concerning e-Government Development, then reaffirmed by Presidential Regulation (PerPres) No. 59 of 2018 concerning electronic-based government systems. The form of local government support in using information technology is seen through the development of computer-based local governments or websites, one of which is the e-Kinerja application to improve the performance of the State Civil Service (ASN) which is expected to have a significant influence on public services.

RESEARCH METHODOLOGY

This study uses a correlational method with a quantitative approach. This research focuses on the analysis of the application of E-Kinerja at the Department of Population and Civil Registration of Pakpak Bharat Regency for public services to the community in the administrative field. The research was conducted at the Department of Population and Civil Registration, Pakpak Bharat Regency, North Sumatra Province. Primary data were obtained from questionnaires, interviews, and field observations, and secondary data were obtained from the Central Bureau of Statistics (BPS) regarding Pakpak Bharat District in published figures. Meanwhile, supporting data is obtained from each agency or institution related to the research objectives. The population in this study were all households (RT) of the Pakpak Bharat Regency community who came to the Civil Registration Population Service in managing administration. Based on data from the Department of Population and Civil Registration during the beginning of January 2020 to mid-February 2020 or for 6 weeks, the total population was 895 people.

Table 1
The number of people who came from mid-November to December 2019 who registered birth certificates, ID cards and family cards

Month (2020)	Weeks	Total Population
January	1	113
January	2	156
January	3	135
January	4	145
February	1	182
February	2	164
Total		895

Source: Department of Population and Civil Registration (2020)

The total population is 895 people as the basis for determining the number of sample respondents that will be obtained for research conducted from May to June 2020. Furthermore, by using the Slovin formula, the total sample size is 89.95 people and rounded up to 90 respondents.

LITERATURE REVIEW

Development is an activity for adding, enhancing, developing, or expanding. A region is a group of areas in shape and size overlaid as a geographic unit. According to Law No 26 of 2007 on Spatial Planning, a region is a geographical unit area along with all related elements, the boundaries, and structures of which are defined based on administrative and/or functional aspects. A region of Sirojuzilam and Mahalli (2010) is a community of areas over a certain territory that is located close together and occupied by certain communities. In short, the definition of space is defined by a particular picture's absolute location and area distribution on the surface of the earth.

Regional development means an increase in the value of the benefits of the area for the people of a certain area being able to accommodate more residents, with an average level of community welfare that has many facilities/infrastructure, goods or services available and increased community business activities, both in the meaning of type, intensity, service, and quality (Sirojuzilam, 2005).

Mulyanto (2008) regional development is any government action that will be carried out together with the actors to achieve a goal that is beneficial to the region itself and for the administrative unit of which the territory is a part, in this case, the Unitary State of the Republic of Indonesia. The more complete set of laws and regulations regarding spatial planning in each province and regency/city can become a reference for regional officials in managing various spatial

elements (such as natural, human, and artificial resources) optimally, as well as developing the concept of sustainable development.

E-kinerja is a web-based application for analyzing the job requirements of the job load and the workload of the organizational work unit or unit as a basis for calculating work performance and providing work incentives (Putri, 2014: 72). Previously, employee performance measurement was carried out using Job Implementation Assessment List (DP3), along with the times; the assessment of civil servant work performance with DP3 is no longer relevant.

The government found a solution to this problem by issuing Government Regulation Number 46 of 2011 concerning Civil Servant Job Performance Assessment which became effective on January 1, 2014. Current employee appraisal has changed from previously using DP3 to Employee Performance Targets (SKP). E-kinerja is an example of the application of human resource accounting theories summarized in a web-based application. E-kinerja can measure, identify, convey, provide assessment, and reward additional income. To be able to use the e-kinerja system all employees are given the training to use the system. Users will be satisfied using the system if they believe that the training they are taking can help them use the system.

Hutasuhut (2006) states that the types of services are very diverse with different characteristics, based on the Decree of the Minister of State Apparatus Empowerment Number: KEP / 25 / PAN / 2/2005 concerning General Guidelines for Preparation of Community Satisfaction Index for Service Units of Government Agencies, to facilitate the preparation of the Community Satisfaction Index (IKM) service units required general guidelines that are used as a reference for agencies, central government, provincial and regency/city governments to determine the level of performance of service units within their respective agencies.

Based on the principle of service as stipulated in the Decree of the Men.PAN. Number 63 / KEP / M.PAN / 7/2003, which was then developed into 14 elements that were "relevant, valid" and "reliable", as the minimum elements that must exist for the basis of measuring the community satisfaction index are as follows: 1). service procedures, 2) service requirements, 3) clarity of service personnel, 4) discipline of service officers, 5) responsibility of service officers, 6) ability of service officers, 7) speed of service, 8) justice for service, 9) courtesy and friendliness of officers, 10) fairness of service fees, 11) certainty of service costs, 12) certainty of service schedules, 13) comfort of the environment, and 14) security of services.

RESULTS

Pakpak Bharat Regency is one of the districts in North Sumatra Province. The area of Pakpak Bharat Regency has an area of 1,218.30 Km2 (121,830 Ha). Pakpak Bharat Regency with its capital is located in Salak Sub-District. Geographically, Pakpak Bharat Regency is located between 2º 15 "00" - 90º 00 "North latitude and 90º 00" - 98º 31 "East Longitude. This regency is located on the west coast of North Sumatra Province. The boundaries of Pakpak Bharat Regency are in the north bordering Silima Pungga-Pungga Sub-District and Lae Parira Sub-District, Dairi Regency, the south is bordered by Parlilitan Sub-District and Tara Bintang Sub-district, Humbang Hasundutan Regency and Manduamas Sub-District, Central Tapanuli Regency, East bordering Sub-District Parbuluan, Dairi Regency and Harian Sub-District, Samosir Regency, Westside, bordering Aceh Singkil Regency and Subulussalam City, Naanggroe Aceh Darussalam Province

Table 2
Respondent characteristics

Variabel	Category	Frequency	Precentage
Age	20-30	24	26,67
	31-40	40	44,44
	41-50	20	22,22
	> 50	6	6,67
Level of education	Primary	10	11,11
	Junior secondary	23	25,56
	Sernior secondary	31	34,44
	Higher education	26	28,89
Sex	Male	57	63,33
	Female	33	36,67

Source: Primary data processed, 2020

The different age groups displayed that the respondents of this study have involved individuals of all ages and demonstrate that different age levels include individuals who want to get public services in Pakpak Bharat Regency. The different levels of education of the respondents suggest that different levels of education include participants who want to get public services in Pakpak Bharat Regency. The

number of female participants in Pakpak Bharat Regency who want to get public services indicates that in Pakpak Bharat Regency, the respondents of this study also include the gender of women in getting public services.

Table 3
Recapitulation of Weighted Value for Expectation Levels and Performance Levels of Public Services at the Department of Population and Civil Registration of Pakpak Bharat Regency Before the Implementation of E-Kinerja

No	Criteria	Total Expectation	Expectation (Y)	Performance (X)	Gap	%
1	Service procedure	450	353	294	-59	83.29
2	Terms of service	450	355	296	-59	83.38
3	Clarity of service officers	450	355	292	-63	82.25
4	Discipline of service officers	450	357	294	-63	82.35
5	Responsibilities of service officer	450	348	295	-53	84.77
6	The ability of service officers	450	347	291	-56	83.86
7	Service speed	450	352	299	-53	84.94
8	Treated fairly and justly	450	356	290	-66	81.46
9	Courtesy and friendliness of officers	450	348	285	-63	81.90
10	Fairness of service fees	450	357	292	-65	81.79
11	Certainty of service fees	450	360	293	-67	81.39
12	Certainty of service schedules	450	357	288	-69	80.67
13	Comfortable environment	450	360	290	-70	80.56
14	Safe service	450	354	286	-68	80.79
	Mean	450	354	292	-62	82.49

Source: Primary data processed, 2020

From the recapitulation above, it can be seen that there is not a single hope of public services at the Department of Population and Civil Registration of Pakpak Bharat Regency that can be fulfilled properly before the implementation of E-Kinerja. The following is a recapitulation of the average value for the level of implementation (performance) and the level of expectation of the respondent community on public service items at the Department of Population and Civil Registration of Pakpak Bharat Regency. These values are the basis for determining each point (items) on the Cartesian diagram.

Table 4
Recapitulation of Average Expectation Levels and Performance Levels of Public Services in the Department of Population and Civil Registration of Pakpak Bharat Regency Before the Implementation of E-Kinerja

No	Criteria	Expectation (Y)	Performance (X)
1	Service procedure	3.92	3,22
2	Terms of service	3.94	3,23
3	Clarity of service officers	3.94	3,19
4	Discipline of service officers	3.97	3,20
5	Responsibilities of service officer	3.87	3,23
6	The ability of service officers	3.86	3,17
7	Service speed	3.91	3,27
8	Treated fairly and justly	3.96	3,16
9	Courtesy and friendliness of officers	3.87	3,11
10	Fairness of service fees	3.97	3,18
11	Certainty of service fees	4.00	3,20
12	Certainty of service schedules	3.97	3,14
13	Comfortable environment	4.00	3,18
14	Safe service	3.93	3,12
	Mean	3,94	3,24

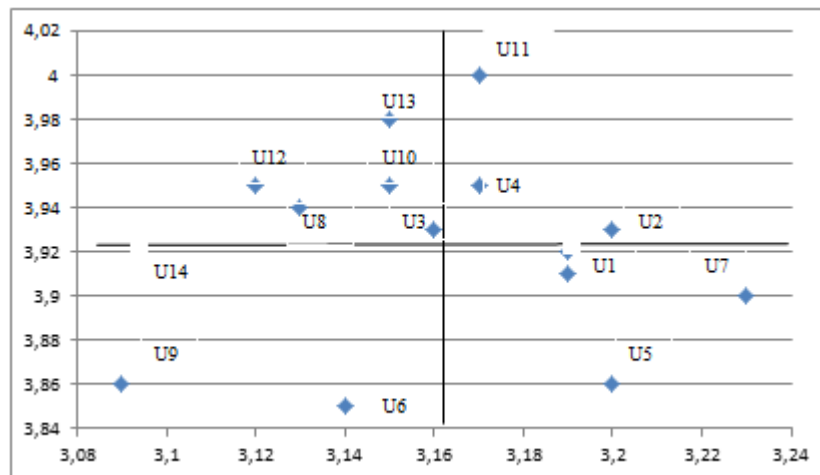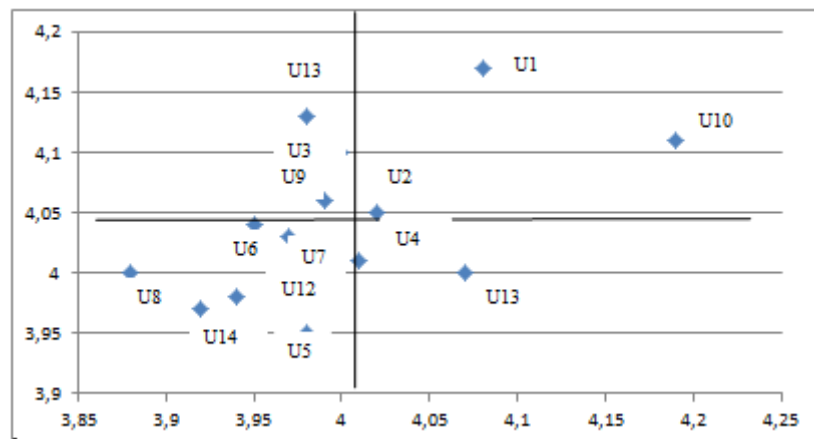*Source: Primary data processed, 2020*

Figure 1 Cartesian Diagram on the Performance and Expectations of the Community for Public Services in the Department of Population and Civil Registration of Pakpak Bharat Regency before the Implementation of E-Kinerja

From Figure 1, it can be seen that the position of public service items at the Department of Population and Civil Registration of Pakpak Bharat Regency is divided into 4 quadrants.

Table 5
Recapitulation of Average Expectation Levels and Performance Levels of Public Services in the Department of Population and Civil Registration of Pakpak Bharat Regency After the Implementation of E-Kinerja

No	Criteria	Expectation (Y)	Performance (X)
1	Service procedure	4.21	4.11
2	Terms of service	4.08	4.04
3	Clarity of service officers	4.13	4.02
4	Discipline of service officers	4.03	4.03
5	Responsibilities of service officer	3.97	4.00
6	The ability of service officers	4.07	3.97
7	Service speed	4.06	3.99
8	Treated fairly and justly	4.02	3.89
9	Courtesy and friendliness of officers	4.09	4.01
10	Fairness of service fees	4.14	4.21
11	Certainty of service fees	4.17	4.00
12	Certainty of service schedules	4.28	3.96
13	Comfortable environment	4.02	4.08
14	Safe service	3.99	3.93
	Mean	4.09	4.02

Source: Primary data processed, 2020

Figure 1 Cartesian Diagram on the Performance and Expectations of the Community for Public Services in the Department of Population and Civil Registration of Pakpak Bharat Regency after the Implementation of E-Kinerja

From Figure 2, it can be seen that the position of public service items at the Department of Population and Civil Registration of Pakpak Bharat Regency is divided into 4 quadrants.

DISCUSSION

The results show that in the Department of Population and Civil Registration of the Pakpak Bharat Regency, there are four expectations of public services that can be properly fulfilled after the implementation of E-Kinerja, while 10 additional expectation levels still have a negative gap on each item of the issue, but the negative gap is not too far from the level of performance that has been achieved, which indicates that the level of performance of public services after the implementation of E-Kinerja shows an improvement because it is close to community expectations. In their study in Cimahi City on the effect of implementing e-government policies on e-kinerja, the findings of this study are in line with Kurniasih, et al. (2013), which notes that the implementation of e-government policies has an impact of 54.85 percent on the performance of government officials in Cimahi City. While the remaining 45.15% is the impact of other variables. These results provide empirical evidence that the better the implementation of e-Government policies, the higher the performance of government officials in Cimahi City. Communication, resources, disposition, and bureaucratic structures have contributed significantly to the success of policies, the most dominant thing in the implementation of this policy is the consistency of the attitude of the implementers from planning to supervision starting from the top management level to implementers to implement policies under policy objectives.

The results of the study by Mukti et al. (2019) regarding e-kinerja-based performance appraisal have a significant effect on the work performance of the employees of the Banyuwangi Regency Population and Civil Registration Service. The results showed that the performance appraisal based on e-kinerja can improve the work performance of the employees of the Department of Population and Civil Registration of Banyuwangi Regency. Appraisers' feedback is given to improve the performance of employees who are deemed insufficient by providing advice, reprimands, and even sanctions, as well as showing the best work results that can be achieved by employees by obtaining the number of extra allowances that are obtained.

Performance appraisal is one aspect that can encourage employees to be more creative and innovative based on the abilities or skills of employees in every job they do on time to encourage increased work performance. Hasibuan (2006) suggests that work performance is a result of work achieved by a person in carrying out tasks that are assigned to those based on skill, experience and seriousness, and time. The performance assessment based on e-kinerja is a breakthrough for the Banyuwangi Regency government to encourage employees to be more innovative in their work. So that with the creation of innovations that can be developed in the field of public services that are useful for serving the wider community and able to improve the work performance of the employees of the Department of Population and Civil Registration of Banyuwangi Regency.

The results of research by Putri, et al., (2014) on financial management officers in the Banda Aceh City Government and Nurhayati (2017) on employees of East Semarang Sub-District also prove that the application of e-kinerja has a significant effect on employee performance. E-Kinerja is a web-based application for analyzing job requirements, job load, and organizational workloads

as a basis for calculating work performance and providing work incentives

The application of eGovernment in Pakpak Bharat Regency can create an efficient, participatory, fair, democratic, transparent, and responsible work result if it is supported by a modern state apparatus system, which is based on a high degree of rationality. The Pakpak Bharat Regency Government realizes that e-Government is important in today's bureaucratic reform. The hope that arises is that the application of e-Government will provide better service to the community. However, its implementation is not easy, because it requires processes and stages such as improving the work of the bureaucracy.

CONCLUSION

The application of E-Kinerja towards the level of expectation and performance of public services at the Department of Population and Civil Registration of Pakpak Bharat Regency shows a better impact, this can be seen from the reduction in the negative gap of public expectations on public service performance after the implementation of E-Kinerja.

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ANALYSIS OF MOTOR VEHICLES TAX COLLECTION ACHIEVEMENT IN REGIONAL TAX AND RETRIBUTION MANAGEMENT AGENCIES NORTH SUMATERA PROVINCE

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ABSTRACT

This study aims to analyze the strategy for increasing the collection of motor vehicle tax in North Sumatra Province. The research was conducted at the Regional Tax and Retribution Management Agency of North Sumatra Province. The data used is secondary data in the form of motor vehicle tax revenue from North Sumatra Province over a period of six years, namely 2014 to 2018 issued by the Regional Tax and Retribution Management Agency of North Sumatra Province. Other data sources include articles, scientific journals, books, newspapers, magazines, and internet sites. The method used is a qualitative descriptive research method with SWOT analysis. The results shows in the SWOT matrix, twelve alternative strategies can be formulated which are the selected solutions which include: three alternatives for SO-Strategy, three alternatives for WO-Strategy, three alternatives for ST-strategy and three alternatives for WT-Strategy, namely: (1) Optimizing the intensification and extensification program of local taxes, (2) Carrying out data collection effectively, Utilizing information technology in the implementation, supervision and control of tax collection on motor vehicles, (3) Ordering systems and procedures for collecting motor vehicle tax, (5) Improving the quality of human resources inadequate by undertaking regular training in taxation and updating data, to improve capabilities and skills in order to provide optimal services, (6) There is a Tax Advisory Team in each Technical Implementing Unit (UPT), (7) Increasing taxpayer participation, (8) Improve monitoring and evaluation of taxpayers, (9) Making regional regulations clear and legally enforceable, (10) Coordination among officials, (11) Increase socialization, (12) Application of online taxes.
KEYWORDS: *Motor vehicle tax, Strategy, SWOT analysis*

1. INTRODUCTION

Implementing Law No. 23/2014 on Regional Government, regional autonomy is the right, authority, and obligation of an autonomous region to regulate and manage government affairs and the interests of local communities under statutory regulations. The sources of regional autonomy financing come from Regional Original Revenue (PAD), balancing funds, regional loans, and other legal income. PAD aims to give authority to local governments to finance the implementation of regional autonomy under the potential of their respective regions as a manifestation of decentralization.

PAD is a regional revenue arising from the implementation of the regional government's rights and responsibilities, as well as the use of regional potential or resources, both controlled by the regional government and located in the area concerned, where the collection is the responsibility of the regional government. Regional Original Revenue (PAD) consists of a) Regional Taxes, (b) Regional Levies, (c) Separate Regional Asset Management Results, and (d) Other Legal PAD's (including proceeds from the sale of non-separated regional assets, demand for

deposit services, interest income, foreign currency exchange rate differential earnings, and fees, discounts or other forms of payment)

Table 1
Target and Realization of Regional Original Revenue (PAD) of North Sumatra Province 2015 - 2019

Year	Target	Realization	%
2015	4.623.636.999.015	4.883.880.619.308	105,63
2016	4.691.493.452.883	4.949.272.102.622	105,49
2017	5.060.796.805.526	5.361.456.694.693	105,94
2018	5.732.425.486.154	5.861.237.725.098	102,25
2019	6.284.220.582.270.	5.756.303.676.494	91,60

Source: Data from the North Sumatra Province Regional Tax and Retribution Management Agency (2019)

Under Law Number 28 of 2009 concerning Regional Taxes and Regional Charges, amendments from Law No.34 of 2000 concerning Regional Taxes and Regional Levies, which state: "That local taxes and levies are one of the sources of regional income that are important to finance the implementation of the regional government. "

Table 2
Target and Realization of Regional Tax Revenues in North Sumatra Province in 2015 - 2019

Year	Target	Realization	%
2015	4.180.782.532.441	4.427.143.658.803	105,89
2016	4.131.917.714.565	4.446.422.014.271	100,73
2017	4.551.528.006.240	4.823.857.040.271	105,98
2018	5.214.897.141.497	5.219.369.124.912	100,09
2019	5.171.010.376.283	5.058.443.944.654.	97,82

Source: Data from the North Sumatra Province Regional Tax and Retribution Management Agency (2019)

Furthermore, the income from Motor Vehicle Taxes in North Sumatra Province can be seen in the following table:

Tabel 3
North Sumatra Province Motor Vehicle Tax (PKB) Target and Realization in 2015 - 2019

Year	Target	Realization	%
2015	1.487.852.149.076	1.493.759.066.260	100,40
2016	1.589.047.921.801	1.600.726.046.444	100,73
2017	1.702.482.587.800	1.835.216.475.836	107,80
2018	1.750.758.714.765	2.048.414.470.446	117,00
2019	1.986.414.422.977.	1.995.480.813.304	100,46

Source: Data from the North Sumatra Province Regional Tax and Retribution Management Agency (2019)

The insignificant increase in motor vehicle tax is due to the inability of the regions to develop a collection strategy and map the potential for motor vehicle tax. The technique used to measure potential is also often unrealistic based only on the desire to constantly increase the tax target of the motor vehicle without looking at other aspects that influence the decision. Given the large role of local taxes as one of the main sources of regional financial revenue in the PAD component, this makes it a very vital part. Based on this, it is necessary to conduct a study on the strategy to increase motor vehicle tax in North Sumatra Province.

2. RESEARCH METHODOLOGY

A qualitative descriptive study is this research according to the type of data and analysis. This study analyzes North Sumatra Province's realization of motor vehicle tax revenue by comparing it with the North Sumatra Province's vehicle tax revenue target. The research was performed at the North Sumatra Province Provincial Tax and Retribution Management Department. The data collection technique is carried out using literature analysis, secondary data in the form of motor vehicle tax revenue provided by the Regional Tax and Retribution Management Agency of the Province of North Sumatra for a period of six years, namely 2014 to 2018. Articles, scientific journals, books, newspapers, magazines, and Internet pages are other data sources. Using SWOT analysis, data analysis was carried out.

3. LITERATURE REVIEW

Based on Article 18 Paragraph (1) of the 1945 Constitution of the Republic of Indonesia, Indonesia is divided into provinces, and provinces are divided into regencies and cities. Provinces, districts, and cities have local governments which are regulated by Law no. 23 of 2014 concerning Regional Government. The regional government is the administration of government affairs by the Regional Government and the Regional People's Representative Council according to the principle of autonomy in the system and principles of the Unitary State of the Republic of Indonesia as referred to in the 1945 Constitution of the Republic of Indonesia.

According to Article 1(3) of Law No 23 of 2014 concerning the Regional Government, the Regional Government is defined by the Regional Head as an element of the Regional Government, which is the Autonomous Region's Authority, administering the implementation of government affairs. Based on Article 5(4) of Law No 23 of 2014, the principle of decentralization, the principle of deconcentration, and the principle of co-administration are the principles of government administration in Indonesia. There have been very basic implications of the concept of decentralization applied in Indonesia, especially concerning fiscal policy and state administrative policy.

Physical decentralization is an integral part of regional autonomy and its implementation is regulated through a Financial Balance between the Central Government and Regional Governments (Halim, 2009: 17). Design and Fiscal Balance between the Central and Regional Governments still focus on the sources of regional government revenue from the central government in the form of balancing funds, which consist of: the regional portion of the Land and Building Tax (PBB), Land Rights Acquisition Fees (BPHTB), Natural Resources (SDA), the General Allocation Fund (DAU), and the Special Allocation Fund (DAK).

According to Mardiasmo (2002) theoretically, two benefits can be expected from decentralization, namely: (1) Encouraging community participation, initiative, and creativity in the development and encouraging the equitable distribution of development results throughout the region by utilizing the resources and potential available in each region. (2) Improve the allocation of productive resources by shifting the role of public decision making to the lowest level of government that has the most complete information.

Nirzawan (2001: 75) states that the strategy that can be applied to increase local tax revenue is through intensification. Likewise expressed by Soemitro (1990: 8). Intensification efforts can be taken through three events, namely: (1) improving tax administration; (2) improving the quality of employees or collecting officers; and (3) revision of the Tax Law. While extensification is an effort to expand the subject and object of tax and tariff adjustments. Tax extensification, among others, can be achieved in three ways, including (1) expansion of taxpayers; (2) tariff improvement; and (3) expansion of the tax object. The Directorate General of Taxation, the Sunset Policy, is an example of an extension and intensification policy. Extensification for those who have not registered and intensification for those who have already registered.

The definition of tax according to Mardiasmo (2009) is the people's contribution to the state treasury based on the law (which can be enforced) without receiving lead services (counter-achievement) which can be directly demonstrated and which is used to pay for general expenses. Law Number 28 of 2009 concerning regional taxes and regional levies (PDRD), as a substitute for Law Number 18 of 1997 as amended by Law Number 34 of 2000 also further emphasizes the meaning of tax in lower levels of government, Regional taxes are compulsory contributions to regions that are owned by private persons or entities that are compelling based on law, without receiving direct compensation and used for regional needs for the greatest prosperity of the people..

The regional tax function can be divided into 2 (two) main functions, namely the budgetary function and the regulatory function. The main principle of a good tax is the principle of justice (Equity), the Principle of Certainty (Certainty), the Principle Convenience, According to the Official (2013), the tax collection system in Indonesia, both central and local taxes, adheres to three collection systems, namely: Official Assessment, Self Assessment, Withholding. The repressive system for supervising regional levies based on Law No.34 of 2000 was changed to a preventive and corrective system regulated in Law No.28 of 2009. Repressive

supervision has shifted to a preventive and corrective system carried out on regional legal products in the field of regional levies, namely regional regulations (Perda) on local taxes and levies.

The institution for supervising local tax regulations consists of two parties, namely the government and the community. Supervision of PDRD regulations by the Government is carried out formally both by the Central Government, namely the Minister of Home Affairs cq the Head of the Legal Bureau of the Ministry of Home Affairs, as well as by the Regional government, namely the Governor cq. Head of the Provincial Government Legal Bureau. General provisions for motor vehicle tax are based on the Regulation of the Governor of North Sumatra Number 25 of 2018.

4. RESULT AND DISCUSSION

RRI Law Number 22 the Year 1999 regarding Regional Government jo. Government Regulation of the Republic of Indonesia (PP RI) Number 84 of 2000 concerning Guidelines for the Organization of Regional Apparatus, the Provincial Government of North Sumatra issued Regional Regulation (Perda) Number 3 dated July 31, 2001, concerning Services as technical institutions, which assist the Provincial Government (Governor) in carrying out the tasks of decentralization, deconcentration, and co-administration. The North Sumatra Provincial Revenue Service (DIPENDASU), now transformed into the BP2RD. A UPTD/Technical Service Implementing Unit (formerly known as an office branch) was established because of the large working area of the BP2RD, which covers the entire North Sumatra region, for the efficiency and effectiveness of the implementation of its main duties and functions.

As the organizer of some governmental authority and deconcentration duties in the area of the regional revenue, the BP2RD has a very strategic role, namely: "as the main manager of the source of Regional Original Revenue (PAD) used to finance the expenditure of North Sumatra Province, guided by on the principles of accountability, transparency, efficient and effective". With this strategic role, the Regional Tax and Retribution Management Agency (BPPRD) is required to (1) be able to increase PAD continuously, especially revenue from Provincial Taxes, (2) Able to realize excellent service (excellent service) in implementing Provincial Tax administration to mandatory tax, (3) Able to improve the quality of human resources who manage taxes, (4) Able to optimize authority in the field of Provincial Tax.

Strategic Environmental Analysis.

The strategic environment that affects performance in the policy strategy to increase motor vehicle tax is divided into internal and external factors. Internal

factors, including strength (S = Strengths) and weakness (W = Weakness). Meanwhile, those classified as external factors are opportunities (O = Opportunities) and threats (T = Threats). From the results of observations and interviews in the field, we obtained a list of internal and external factors in the policy strategy to increase motor vehicle tax at the Regional Tax and Retribution Management Agency of North Sumatra Province, as follows:

Internal factors

Internal factors are strength for the policy strategy to increase motor vehicle taxes by looking at the development of a large number of vehicles in North Sumatra Province, namely:
1. Tax Verification
2. Local regulation
3. Availability of human resources in tax collection
4. Transfer of central taxes to regions

Internal factors which are a weakness in the policy strategy to increase motor vehicle tax, are as follows:
1. Counseling units
2. There is still a lack of professionals in the taxation sector
3. Tax Service System Network
4. The structures and procedures for tax collection are not yet optimal.

External Factors

Several opportunities support the policy strategy to increase motor vehicle taxes by looking at the potential aspects in the regions, namely:
1. Total Population
2. Tax Potential
3. Online Transportation
4. Progress and utilization of science and technology

Environmental factors that are a threat in the policy strategy to increase motor vehicle tax arising from outside the Regional Tax and Retribution Management Agency of North Sumatra Province, namely:
1. Lack of IT Knowledge
2. Lack of law enforcement
3. Ineffective Tax Nominal
4. Lack of work unit coordination

Analysis of Internal and External Factors

Based on the identification data adjusted to the existing conditions of motorized vehicle tax, government policies, and their potential, it shows that there are interrelationships between the factors discussed, so that the elements obtained from each of these factors show similarities, then the elements are grouped between internal and external.

Also, the elements that are beneficial to the rise in the internal tax on motor vehicles are

classified as strengths and the elements that are less favorable to the internal tax on motor vehicles are classified as weaknesses. Whereas the elements that are beneficial to the increase in external motor vehicle tax are classified as opportunities and the elements that are less favorable to the increase in external motor vehicle tax are threats.

The factors of strengths, weaknesses, opportunities, and threats can be seen in Table 4

Table 4
SWOT Data on Efforts to Increase Motor Vehicle Taxes

Strengths	Weaknesses
1. Tax Verification	1. Counseling units
2. Local regulation	2. There is still a lack of professionals in the taxation sector
3. Availability of human resources in tax collection	3. Tax Service System Network
4. Transfer of central taxes to regions	4. The structures and procedures for tax collection are not yet optimal.
Opportunities	**Threats**
1. Total Population	1. Lack of IT Knowledge
2. Tax Potential	2. Lack of law enforcement
3. Online Transportation	3. Ineffective Tax Nominal
4. Progress and utilization of science and technology	4. Lack of work unit coordination

Source: Research 2020, data processed

Furthermore, based on Table 4, the weighting, rating, and score of each internal factor for the increase in motor vehicle tax are carried out which can be seen in Table 5.

Table 5
Analysis of Internal Factors for Increasing Motor Vehicle Taxes

Strategic Internal Factors	Weight	Rating	Score
Strengths			
1. Tax Verification	0,14	4	0,56
2. Local regulation	0,13	3	0,39
3. Availability of human resources in tax collection	0,13	2	0,26
4. Transfer of central taxes to regions			
Weaknesses	0,10	1	0,10
1. Counseling units			
2. There is still a lack of professionals in the taxation sector	0,11	1	0,11
	0,13	2	0,26
3. Tax Service System Network			
4. The structures and procedures for tax collection are not yet optimal	0,13	3	0,39
	0,13	4	0,52
Total	1,00		2,59

Source: Research 2020, data processed

The results of the above analysis indicate that the dominant internal factors are tax verification, the inadequate system and procedures for tax collection, regional regulations, tax service system networks, the availability of human resources in tax collection, there is still a lack of professional personnel in the field of taxation, the transfer of central taxes to regions and extension units.

The weighting, rating and score of each external factor to increase motor vehicle tax can be seen in Table 6.

Table 6
Analysis of External Factors on Increase in Motor Vehicle Taxes

Strategic External Factors	Weight	Rating	Score
Opportunities			
1. Total Population	0,14	4	0,56
2. Tax Potential	0,13	3	0,39
3. Online Transportation	0,12	2	0,24
4. Progress and utilization of science and technology	0,11	1	0,11
Threats			
1. Lack of IT Knowledge	0,11	1	0,11
2. Lack of law enforcement	0,13	3	0,39
3. Ineffective Tax Nominal	0,14	4	0,56
4. Lack of work unit coordination	0,12	2	0,24
Total	1,00		2,60

Source: Research 2020, data processed

The results of the above analysis indicate that the dominant external factors are: population, nominal ineffective taxes, tax potential, weak law enforcement, online transportation, lack of work unit coordination, advancement and utilization of science and technology, and weak IT knowledge.

After the four components (strengths, weaknesses, opportunities and threats) can be identified, then by using the SWOT matrix, efforts will be made to obtain alternative strategies based on logic by maximizing strengths and taking advantage of opportunities simultaneously must be able to minimize weaknesses. and anticipating threats. The complete SWOT matrix can be seen in Table 7.

Table 7
Motor Vehicle Tax Increase SWOT Matrix

	Strengths	Weaknesses
	1. Tax Verification 2. Local regulation 3. Availability of human resources in tax collection 4. Transfer of central taxes to regions	1. Counseling units 2. There is still a lack of professionals in the taxation sector 3. Tax Service System Network 4. The structures and procedures for tax collection are not yet optimal
Opportunities	**SO Strategy**	**WO Strategy**
1. Total Population 2. Tax Potential 3. Online Transportation 4. Progress and utilization of science and technology	1. Optimizing local tax intensification and extensification programs 2. Carry out data collection effectively 3. Utilization of information technology in implementing, supervising and controlling motor vehicle tax collection	1. Control of motor vehicle tax collection systems and procedures. 2. Improving the quality of human resources that are inadequate by undertaking regular training in taxation and updating data, to improve capabilities and skills to provide optimal service. 3. There is a Tax Development Team in each Technical Implementing Unit (UPT)

		4.
Threats	ST Strategy	WT Strategy
1. Lack of IT Knowledge 2. Lack of law enforcement 3. Ineffective Tax Nominal 4. Lack of work unit coordination	1. Increase taxpayer participation 2. Improve monitoring and evaluation of taxpayers 3. Making local regulations that are clear and have legal force	1. Coordination between apparatus 2. Increase socialization 3. Application of online taxes

Source: Research 2020, data processed

5. CONCLUSION
From the SWOT matrix above, twelve alternative strategies can be formulated which are the selected solutions which include: three alternatives for SO-Strategy, three alternatives for WO-Strategy, three alternatives for ST-strategy and three alternatives for WT-Strategy, namely:
1. Optimizing local tax intensification and extensification programs
2. Carry out data collection effectively
3. Utilization of information technology in implementing, supervising and controlling motor vehicle tax collection
4. Control of motor vehicle tax collection systems and procedures.
5. Meningkatkan kualitas SDM yang belum memadai dengan mengusahakan pelatihan bidang perpajakan secara berkala dan pemutakhiran data, untuk meningkatkan kemampuan dan keterampilan agar bisa memberikan pelayanan yang optimal.
6. There is a Tax Development Team in each Technical Implementing Unit (UPT)
7. Increase taxpayer participation
8. Improve monitoring and evaluation of taxpayers
9. Making local regulations that are clear and have legal force
10. Coordination between apparatus
11. Increase socialization
12. Application of online taxes

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ANALYSIS OF BANYAK ISLAND TOURISM DEVELOPMENT PLAN IN ACEH SINGKIL REGENCY

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ABSTRACT

Banyak Island is one of the leading tourism destinations in the Aceh Singkil Regency. Many natural and cultural tourism objects are served by Banyak Island. There are 99 islands in the cluster of islands, many of which are very feasible to be developed into mainstay tourist objects, including the natural beauty of the underwater world and green turtles. This study aims to analyze the condition of Banyak Island in terms of attractions, amenities, accessibility, and tourism management as well as to provide alternative development strategies for tourism objects. The method used in this research is a qualitative approach, namely research that produces descriptive data with data collection techniques through interviews, observation, and documentation. The results of this study show that the government's strategy is formulated in developing the Banyak Island tourism area are by utilizing human resources/community in the management of tourism areas, Strengthen the area by optimizing services, infrastructure, stakeholders, and human resources, and by providing supporting documentation for the management of tourism on Banyak Island, intensify the promotion of the Banyak Island Tourist Destination and other Aceh Singkil Regency tourism areas.

KEYWORDS: *Strategy, tourism, regional development*

1. INTRODUCTION

In Law No. 10 of 2009, tourism is a variety of tourism activities and is supported by various facilities and services provided by the community, businessmen, government, and local governments.

The objectives of implementing tourism according to Law No.10 / 2009 are: (a) increasing economic growth, (b) improving people's welfare, (c) eliminating poverty, (d) overcoming unemployment, (e) preserving nature, the environment, and natural resources, (f) maintaining culture, (g) enhancing the image of the nation, (h) fostering a love for the country, (i) strengthening national identity and unity, and (j) strengthening friendship between nations.

Banyak Island is an archipelago located in Aceh Singkil Regency. This island is one of the sub-districts which has a coastal area with an area of 3,578 km2. Banyak Island consists of a group of islands directly adjacent to the Indian Ocean, to be

precise at the western tip of Sumatra Island (BPS, 2016).

Banyak Island is one of the tourist destinations that has great potential to be developed even better. Many natural and cultural tourism objects are served by Banyak Island. There are 99 islands in the cluster of islands, many of which are very feasible to be developed into mainstay tourist objects. Including the natural beauty of the underwater and green turtles. As an archipelago, Banyak Island has a very wide sea and beautiful beaches that are no less beautiful than other beaches in Indonesia. White sand, swaying coconut leaves, blue sea, beautiful sunset panoramas beautify the tourist atmosphere on Banyak Island.

Referring to the 2017-2021 Aceh Singkil Medium Term Development Plan (RPJM) through the Aceh Singkil Mid-Term Development Plan Conference in 2017, the government will prioritize

development programs for the potential for Regional Natural Resources. The priority sectors to be developed include the fisheries sector and the tourism sector, which are the superior potentials of Aceh Singkil Regency. According to the Regional Secretary of Aceh Singkil Regency, Drs. Azmi, M.Si, the tourism sector in Aceh Singkil Regency has the same potential and opportunities as the tourism sector in other regions but has not had a significant impact on regional progress (Mediarealitas.com).

In the development plan of a tourism area, it is necessary to have regulations governing the tourism area, because the absence of regulations governing tourism on Many Islands causes the irregularity of the tourism area. Many islands that began to go global since 2010 have not had a significant impact on the progress and development of the Aceh Singkil Regency, therefore it is necessary to have encouragement from the local government for the advancement of local tourist destinations.

2. RESEARCH METHODOLOGY

This type of research uses a qualitative approach that produces descriptive data about spoken and written words and behaviors that can be observed from the people studied (Bagong Suyanto, 2006: 5). To deepen research on the Analysis of the Banyak Island Tourism Area Development Plans, the researchers conducted interviews with informants. In this study, the informants were: (1) Head of Tourism, Youth and Sports, (2) Head of Economy and Tourism, Youth and Sports Tourism Office, (3) Head of Sub-districts of Banyak Island, (4) Tour Guides, (5) Tourism Entrepreneurs, Tour, and Travel Entrepreneurs, and Cafe Entrepreneurs, (6) Communities as Tourism Area Managers, (7) Communities as Providers of Facilities and Other Tourism Services, (8) Communities as consumers/visitors of tourism. Techniques for data collection are carried out by in-depth interviews and literature study and observation. A qualitative approach was used to gather and present the data collected from the field. By making adjustments between the theory and the research results, which had been carefully organized so that the actual situation could be understood, data analysis was carried out descriptively.

3. LITERATURE REVIEW

Development is an activity to add, enhance, improve, or expand (Sirojuzilam and Mahalli, 2010). Tourism is a term given when a tourist travels itself or in other words, the activities and events that occur when a visitor travels (Sutrisno, 1998: 23). Tourism planning must be based on conditions and carrying capacity to create long-term mutually beneficial interactions between the achievement of tourism development goals, increasing the welfare of local communities, and sustainable environmental carrying capacity in the future (Fandeli, 1995).

According to Yoeti (2016), three factors can determine the success of tourism development as an industry, these three factors are the availability of tourist attractions, the existence of accessibility facilities, and value to visit and see. Meanwhile, amenities, namely the availability of facilities such as lodging, entertainment, restaurants, and local transportation which facilitate the accessibility of tourists. A tourist attraction is the end of a tour that must meet accessibility requirements, meaning that tourism objects must be easily accessible. In developing tourism, environmental quality is also necessary. According to Inskeep (1991), the components of tourism development, in general, are tourist attractions and activities, accommodation, other tourist facilities and services, transportation facilities, and services. Other infrastructures, such as water, electricity, and telecommunication, are institutional elements, these elements are essential for regulating and developing tourism.

Tourism potential is all objects (natural, cultural, artificial) that require a lot of handling to provide an attractive value for tourists (Janianton et al, 2006). In the provision of tourism, it consists of four components, namely: attractiveness (attractiveness), accessibility (accessibility), facilities (amenity), additional services (Ancillary Service). Based on Law No.10 of 2009, the scope of tourism organizations includes (1) Government, Regional, Private and Community Organizations, including Government Organizations, Regional Government Organizations, Private / Industrial Organizations, Community Organizations, (2) Regulations and Operational Mechanisms Tourism Sector. According to Jackson (in Gde Pitana, 2005: 101) an area that develops into a tourist destination is influenced by several important things, such as attractive to clients, facilities and attractions, geographical location, transportation routes, political stability, a healthy environment, there are no restrictions/government restrictions.

Law of the Republic of Indonesia Number 10 of 2009 concerning tourism states that a tourist attraction is anything unique, beautiful, and valuable in the form of a diversity of natural, cultural, and man-made assets that serve as a means or purpose of tourist visits. For the readiness of tourist objects to be visited by tourists in tourist destinations, the tourism infrastructure needs to be built according to the location and conditions of the tourist objects concerned (Suwantoro, 1997: 21). Tourism infrastructure is natural and human resources that are needed by tourists on their way to tourist destinations, such as roads, electricity, water, telecommunications, terminals, bridges, and so on. Suwantoro (2004: 21). Concerning the types and quality of tourism facilities services in tourist

destinations, a standard tourism standard has been formulated, both nationally and internationally, so that the providers of tourism facilities only have to choose or determine the type and quality that will be provided (Suwantoro, 1997: 23).

4. RESULT AND DISCUSSION
Overview of the Field of Study

Aceh Singkil Regency with the capital city of Singkil is regency located at the southern tip of Aceh Province on the island of Sumatra, Indonesia. Aceh Singkil is a division of South Aceh Regency and part of its territory is in the Gunung Leuser National Park Area.

The archipelago which is part of the Aceh Singkil Regency is the Banyak Islands which consist of Many Islands and Many West Islands. The boundaries of Aceh Singkil Regency are in the north, bordering the City of Subulussalam and Pak-Pak Bharat of North Sumatra Province; to the south by the Indian Ocean and Central Tapanuli Regency, North Sumatra Province, to the east by the Tapanuli Tengah Regency and Pak-Pak Bharat and Humbang Hasundutan Regency, North Sumatra Province; to the west is bordered by South Aceh Regency, Subussalam City, and the Indian Ocean.

Figure 1 Administrative Map of Aceh Singkil Regency
Table 1
Area by Sub-District in Aceh Singkil Regency

Sub-district	Capital Of Subdistrict	Total Area (Sq.Km)
(1)	(2)	(3)
Banyak Island	Pulau Balai	15,02
Banyak Island Barat	Haloban	278,63
Singkil	Singkil	135,94
Singkil Utara	Gosong Telaga	142,23
Kuala Baru	Kuala Baru Sungai	45,83
Simpang Kanan	Lipat Kajang	289,96
Gunung Meriah	Rimo	224,30
Danau Paris	Biskang	206,04
Suro	Suro Baru	127,60
Singkohor	Singkohor	159,63
Kota Baharu	Danau Bungara	232,69
Kabupaten Aceh Singkil	-	1.857,88

Source of the Aceh Singkil Central Statistics Agency 2019

The Banyak Islands consist of large islands and small islands. Two of them are Banyak Island Sub-

District and West Banyak Island Sub-District which have some interesting tourist attractions. As the name

implies, there are many island clusters in the Banyak Islands. Before the tsunami hit Aceh in 2004, there were around 90 large and small island clusters on Banyak Island. The incident submerged part of the island and spawned another part. Now there are only about 60 large and small island clusters that keep a beautiful natural charm.

Surface diving or snorkeling on the Banyak Islands is regarded as a tourist activity that must be carried out while you are on vacation. There is a great deal of gosong (raised sand) which then becomes a snorkeling arena. Play with ornamental fish under the water in different types of coral reefs. From the glass-less boat robin, its beauty can also be seen. Around Tailana Island, Sikandang Island, Asok Island, Lambeudeng Island, Biawak Island, Malelo Island, Panjang Island, Palambak Kecil Island, and Balong Island, snorkeling spots can be found. The snorkeling spot with clear water is on the beach. There are many ornamental fish and reefs of coral whose habitats are preserved. You can access many snorkeling activities by renting a boat on Balai Island or Haloban.

SWOT Analysis of Banyak Island Tourism Development Strategy

To determine the strategy of the Aceh Singkil District Government in developing the Banyak Island Tourism Area, a SWOT analysis was carried out (Strengths, Weaknesses, Opportunities, and Threats) with the selection of internal and external factors as follows:

Table 2
Internal factors

Strengths	Weakness
1. Wide area to improve facilities and infrastructure	1. Infrastructure management budget that has not been maximized
2. Beautiful natural tourist attraction in small islands	2. Banyak Island tourism site management is uneven
3. availability of human resources	3. Inadequate quality of human resources

Source: Interview Results (2020)

Table 3
External Factors

Opportunity	Threat
1. Airport development on one of the islands	1. Tourists will prefer to travel to Banyak Islands which results in other tourist locations in Aceh Singkil having fewer visitors.
2. Development of facilities and infrastructure in small islands	2. No residents/communities are living on these small islands, so it will be a concern when no tourists visit.
3. Strengthening and expanding the existence of tourism promotion	3. The community is still relatively ordinary, so they often take personal advantage of every tourist and the public mindset is not completely ready to accept the Banyak Islands as tourist destinations.

Source: Interview Results (2020)

Strategies for Using Strength on Opportunities
   a. Utilizing available land in the construction of facilities and infrastructure..
   b. Maintain the beauty of tourist attractions with community support.
   c. Increase collaboration with the community in the management of Many Island tourism.
   d. Providing opportunities for the community to start a business on small islands that have tourist attractions.

Strategies to Use Strength to Overcome Challenges/Threats
   a. Build facilities and infrastructure in small islands.
   b. Forming tourism area management groups / institutions.
   c. Improve the management of tourist destinations on small islands in collaboration with village officials, communities and tour guides.
   d. Provide training / socialization to the public about tourism awareness.
   e. Provide supporting documents on tourism.
   f. Improve facilities and infrastructure on Banyak Islands and continue to increase promotions for other tourist destinations in Aceh Singkil Regency.

Strategies for Overcoming Weaknesses Using Opportunities
   a. Increase the amount of budget for the management of facilities and infrastructure on the Banyak Islands.
   b. The involvement of stakeholder initiatives in the creation and management of Banyak Island tourist destinations to provide equal opportunities.
   c. Improve the quality of human resources with various trainings on tourism.

   d. Increase opportunities for community participation in tourism destination management.

Strategies to Reduce Weaknesses and Overcome Challenges / Threats
   a. Increase the development of infrastructure and increase the promotion of tourism areas in Aceh Singkil Regency.
   b. Optimizing tourism management groups / institutions in the management of tourism areas.
   c. Create agreements between stakeholders to make equal utilization of the potential of the region.
   d. Increase skills and public awareness about tourism
   e. Build and develop networks that support the management of tourism areas.

5. CONCLUSION
Based on the results of the SWOT analysis above, the government's strategy is formulated in developing the Banyak Island tourism area as follows:
   a. Utilizing human resources/community in the management of tourism areas
   b. Strengthen the area by optimizing services, infrastructure, stakeholders, and human resources, and by providing supporting documentation for the management of tourism on Banyak Island.
   c. Intensify the promotion of the Banyak Island Tourist Destination and other Aceh Singkil Regency tourism areas.

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ASSESSMENT OF PREDICTIVE VALIDITY OF COLLEGE ENTRANCE EXAMINATION QUESTIONS (CEEQ) FOR 2014/2015 ACADEMIC SESSION AT BAYELSA STATE COLLEGE OF HEALTH TECHNOLOGY, OGBIA

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ABSTRACT
Every test designed for purposes of admission is expected to possess psychometric properties of a test in order to address the social implications of tests. This study was aimed to determine the predictive validity of College Entrance Examination Questions (CEEQ) for 2014/2015 academic session. An expos-facto research design was used on a sample of 105 candidate entrance scores and Cumulative Grade Point Averages (CGPA) from seven programs of study. Data were obtained from the College Registry and various departments running the programs. Data collected were analyzed, using Microsoft Excel 2010 and Statistical Package for Social Sciences (SPSS) 20. Result of analysis showed that CEEQ score could predict students' CGPA by 2.8% only. It was also determined that CEEQ has a weak but positive relationship with CGPAs (16.7%). On running the data on simple regression statistics revealed that the CEEQ do not predict CGPAs significantly as p =.089 (P>.05). It was concluded that CEEQ was not valid hence recommendation was made that College management should look forward to develop a standardized test for admission purposes.

KEY WORDS: *Psychometric properties, predictive validity, questions, test, entrance, academic performance.*

INTRODUCTION

Generally, every institution in the world, especially higher institutions admits students at least yearly at undergraduate and post-graduate levels. Admissions into the institution are based on specified criteria either set by the legislation from the government or by the institutions.

Any testing system in education, such as that for Universities or College admissions, will inevitably have an impact on other areas of the educational process, as well as having broader social consequences. Considerable debate has centered on the effects of admissions testing in the United States, and what the positive and negative consequences of these are (Anastasi & Urbina, 2005).

In Nigeria, the levels of education the Nigerian child is expected to pass through; depending on performance and interest are distinctly specified. The education policy document gave provision for early Childhood/Pre-primary Education which consist of crèche, the nursery and the kindergarten, Basic Education that shall be of 9-year duration comprising 6 years of Primary Education and 3 years of Junior Secondary Education; Secondary Education which is an education children receive after primary education and before the tertiary stage(Federal Republic of Nigeria, 2004).The policy document provided continuing education option through vocational and technical school. More so, those that are willing to proceed with their academic pursuit are provided with the tertiary sector which consisted of a university sector and non-university sector. The latter is made up of Polytechnics, Monotechnics, Colleges of Education and Colleges of Health Technology.

Nevertheless, entry requirement into the first degree program of Nigerian institution of higher learning is based on possession of required credit passes in subjects relevant to students proposed course of study in the Secondary School Certificate Examination (SSCE) or its equivalent conducted by West African Examination Council (WAEC) or National Examination Council (NECO); the Unified Tertiary Matriculation Examination (UTME) and attainment of the minimum age of 16 years(Olawaiye & Oluwaseun, 2014). These admission criteria into higher institution in Nigeria are stipulated by the National Universities Commission (NUC). The minimum marks required on the UTME for admission to universities is 200 (out of 400) while 150 and above for Colleges of Education, Polytechnics and Monotechnics (Olawaiye & Oluwaseun, 2014). However, each institution has cut of marks for various programs, so minimum of 150 marks does not guarantee admission (Onyukwu, 2011).Universities also conduct additional screening before final admission decision is made. Screening exercises, understandably, are done to ensure quality of products (Onyukwu, 2011) thereby introducing aptitude tests.

Unlike the circular universities and colleges in Nigeria, the College of Health Technology, Otuogidi, Ogbia-Town based admission of students in three facets namely WAEC/NECO (SSCE)/good honors degree, Entrance Examination and Probation Examination which all students must meet up to the standard set up. To be explicit, the SSCE certificate is obtained at the secondary level and individual program require specific order of credit passes on specified subjects which students must possess before entering for the Entrance Examination. The entrance examination is conducted by the registry. This examination usually takes one (1) hour or less (depending on the number of items that will make up the test) with question items consisting Uses of English language, Mathematics and Current affairs/or general sciences. At the end, successful candidates are short listed for the admission into the Probation Program. All these are geared toward maintaining a standard.

The main objective of the admission system is to determine candidates who would likely do well in the College. The quality of candidates admitted into any higher institution affects the level of research and training within the institution, and by extension, has an overall effect on the development of the country itself, as these candidates eventually become key players in the affairs of the country in all sectors, especially on human health.

Psychological journals are full of papers about predictors of academic performance of university psychology students. This is in contrast with other specialties, especially technical/professional ones like College of Health Technology. To bridge the gap in health training institutions, the present study was to assess the predictive validity of the College Entrance Examination Questions (CEEQ) of the Bayelsa State College of Heath Technology, Otuogidi, Ogbia-Town.

OVERVIEW OF TEST AND ITS PSYCHOMETRIC PROPERTIES

The most common place of the ordinary usage of the word, 'Test' is to assess the degree to which the terminal behavior of a student differs from their initial behavior. Consequent upon this, there are many test-makers who have given seemingly insoluble definitions of test. That is, contextual differences may occur but they all tune into one meaning. For (Egbule, 2007), a test is any kind of device or procedure for measurement of aptitude, interest, ability, achievement and any other traits or personal attributes. Similarly, (Onunkwo, 2005) defined a test as a measurement device used to quantify behavior or aid in understanding and predicting behavior. (Ubulom, Uzoeshi, Amini, & Vipene, 2019), considered test as the instrument or tool adopted in obtaining data or information relating to an individuals' qualities.

In view of these definitions, a test is an instrument or tool used to determine the presence or absence of a trait, attitude, characteristic, behavior etc. in an individual or about an object or thing. This view does not restrict test to the common place definition of test as question set for student in the classroom. It transcends beyond this and thus is referred to as psychological testing. In all definitions, psychological tests are identified as tools which play a significant role, especially standardized tests in measurement of behavior. Test, undoubtedly, helps in the area of classroom instruction, guidance, administrative, individual and research (Ubulom, et al., 2019).

Following this fact, psychological tests possess certain qualities which are called psychometric properties. Any instrument possessing these psychometric properties are considered as good tests. Egbule (2007) reiterated that for a test to be known, as appropriate for measuring anything, such a test must possess certain desirable psychometric properties. Consequently, (Onunkwo, 2002) and (Ukwuije, 1996), identified psychometric properties of psychological test as validity, reliability and usability. Validity, according to Onunkwo (2005), is the degree to which an instrument measures the qualities, abilities, skills, traits, and information etc. it was designed to measure. For instance, statistic examination test (SET) designed to measure students' knowledge or ability on statistic, is

only valid if it measures the students' knowledge or ability in statistics and nothing but that. (Anastasi & Urbina, 1997), stated that validity provides a direct check on how well the test fulfills its function. The determination of validity usually requires independent, external criteria of whatever the test is designed to measure.

In a similar perspective, Ukwuije (1996) asserted that "a test that has high validity for one purpose may have moderate validity for another and negligible validity for a third"(p.l08). This assertion supported the view that there is no hard and fast rule for deciding what is meant by high validity, moderate validity or low validity. Ukwuije further stressed that skills in making such judgment came only through training and experience in dealing with test. The expertise in making judgment lies with the psychometrics. Onunkwo (2005) and Ukwuije (1996) provided four main types of validity as;

❖ Face validity meaning a superficial examination of the instrument,
❖ Content validity showed how well the instrument measures the subject matter or content.
❖ Criterion-related validity indicated how well the instrument predicts values or measures future performance. It occurs in two forms; predictive and concurrent validity.
❖ Construct validity indicated that the instrument measures performance related to a popular, construct or psychological quality.

Reliability, as earlier pointed out, is another indispensable quality of a good test or instrument. Onunkwo (2002) maintained that reliability is the degree to which measurements are free from random influence. That is, reliable instrument should not be susceptible to unrealistic influences. This suggests that such test should show similar outcome anywhere anytime being administered and scored. Onunkwo said that reliability coefficients can be obtained by several methods. Each type has somewhat different meaning. These include:

❖ Alternate form reliability method measuring coefficient of equivalent or temporal stability of an instrument depending on how the two tests were administered.
❖ Test Retest approach is administered to the same group of students on two different occasions which aims at measuring coefficient of stability.
❖ Split half, Kuder-Richardson (either 20 or 21), Cronbach's Alpha are

distinctly different techniques in measuring coefficient of internal consistencies.

The degree to which a test can be successfully employed by classroom teachers and administrators without an undue expenditure of time, energy and money is referred to as usability. This is another relevant psychometric property a good instrument should possess. Usability is the practicality of the test or instrument. Onunkwo (2002) highlighted the practical consideration that determine the usability of an instrument as economy, ease of administration, duration of instrument, ease of scoring and ease of interpretation. Similarly, Ubolum et al., (2019) added that for a test to have the property of employability (usability), among other characteristics should have practical considerations such as availability of equivalent form of test, simplicity of instruction, etc. Therefore, for a test to be considered good it has to measure what it claims to measure (validity), measure it consistently (reliability) and with minimum expenditure of time, energy and money (usability). These three psychometric properties of test are most instructive against the College Entrance Examination Questions (CEEQ) which was prepared purposely to screen candidates into the College.

ENTRY GRADE AND STUDENTS' ACADEMIC PERFORMANCE

Academic success is no doubt the main focus of all academic activities. Academic is concerned with studying especially at college or university level. Success is defined as when one achieves what he/she wants or intends. This implies to the study that academic success denotes achievement in the course or at the end of a study at a college or university level by a student. Academic success can as well means performance or achievement. That is to say academic achievement refers to grade in report cards used at the end of a period indicating to student their performance in various academic subjects.

To some authors academic achievement is the outcome of education-the extent to which a student, teacher or institution has achieved their educational goal. That is to say, academic performance in educational institutions as a success measured by how well a student meets standards set out by the institution. This definition points to the student being awarded in character and in learning at the end of the program of study.

Available literatures argued that there is no general agreement on how academic achievement is best tested or which aspects are most important, that is, procedural knowledge (skill) or declarative knowledge (facts). This opinion can be interpreted that there is no

fast and hard rule about measurement of students' academic achievement or success. A student can be measured by either examination or continuous assessment or both. The performance of student is translated as Cumulative Grade Point Average (CGPA) or Simple Average depending on the type of program and institution of study. Nevertheless, entry grade such as SSCE (WAEC/NECO), UME, PUME, Entrance, etc. are used as preadmission criteria in the higher institution. For the Bayelsa State College of Health Technology, SSCE, Entrance and Probation Examination are used. Do these entry grades predict the student's success? Many varied findings on the relationship of the various entry qualifications in higher institutions have been advocated by various researchers. Empirical studies reported very low significant relationship between the University and Tertiary Matriculation Examination (UTME) scores and CGPA value at all levels. SSCE as an entry grade showed much reliability to predict academic success than UTME (Olawaiye & Oluwaseun, 2014). Similarly, a positive but a low relationship between CGPA and other admission qualifications such as SSCE and UTME was observed (Ajogbeje & Borisade, 2013).

The relationship between entry grade and graduate performance has not been consistent depending on the specific indicators used for success in graduate or under graduate education as well as type of program. They further stated that in cases where statistical significant correlation is found, the correlation is a weak one, that is, between 0.24 – 0.38 (Alias & Zain, 2006.). A low correlation coefficient (0.1751) between CGPA and UME results, moderate correlation (0.6740) between CGPA and National Certificate in Education (NCE) results and also moderate correlation (0.4120) between CGPA and SSCE were reported. This later finding between SSCE and CGPA was in line with finding of WAEC which identified a positive and significant relationship between candidates' performance in the SSCE and academic performance in the university undergraduate level, however, the writer argued that there is a very low correlation between SSCE and academic performance of university undergraduates (Queensoap, Arogo, Memory, Ogbari, & James, 2017).

This is a clear indication that works on relationship between entry qualification and academic performance is revealing seemingly insoluble findings. Nevertheless, based on his findings recommended that, there is need to make, NCE, National Diploma (ND) and their equivalents the basic qualification for admission of candidates into undergraduates programs in Nigerian to complement the admission of candidates with good and genuine SSCE and UME results.

Adopting this recommendation may improve the quality of academic performance of students in Nigerian higher institutions (Gbore, 2013.).

Entry qualifications, previous academic performance and gender could predict academic performance of the students in the nursing diploma program (Ali, 2008.). The author further concluded that the academic factors considered in the admission criteria could predict the subsequent academic performance of the nursing students in the general nursing diploma program.

OVERVIEW OF PREDICTIVE VALIDITY

In science and statistics, validity is the extent to which a concept (Brains & Manhem, 2011), conclusion or measurement is well-founded and corresponds accurately to the real world. Validity of a measurement tool is considered to be the degree to which the tool measures what it supposed to measure. In psychometrics, validity has a particular application known as test validity which means "the degree to which evidence and theory support the interpretations of test scores" (American Educational Research Association, 1999). Meanwhile, in the area of scientific design and experimentation, validity refers to whether a study is able to scientifically answer the questions it is intended to answer. There are different ways in determining the validity of an instrument or test. The common types of validity that are used in validating an instrument or test include face-value validity, content validity, construct validity and predictive validity (Ayandokun, 2014.).

Amongst other types of validity, the main concern of this paper is predictive validity. Predictive validity refers, in simple term, to as the extent to which an instrument can predict future performance (Ayandokun, 2014). This denotes that predictive validity is described when any measurement predicts a relationship between what is measured and something else, predicting whether or not the other thing will happen in the future. In psychometrics, as earlier considered, predictive validity is the extent to which a score on a scale or test predicts scores on some criterion measure.

In a strict study of predictive validity, the test scores are collected first; then at some later time the criterion measure is collected. Predictive validity provides somewhat more useful data about test validity because it has greater fidelity to the real situation in which the test will be used. Most educational and employment tests are used to predict future performance, so predictive is regarded as essential in this area (Shuttleworth, 2009.).

PREDICTIVE VALIDITY AND SELECTION EXAMINATION

The most common use for predictive validity is inherent in the process of selection students for university, college and other higher institutions. Most institutions use high score to decide which students to accept or admit in an attempt to find the capable ones to run the programmes available (Shuttleworth, 2009). Quite literally, there have been hundreds of studies testing the predictive validity at this instance of using entrance score to predict future performance of students.

To achieve this, researcher takes the grades achieved after the first year of studies and compare with the entrance scores (Shuttleworth, 2009). A high correlation indicates that the selection procedure worked perfectly, a low correlation signifies that there is something wrong with the approach. Most of the studies showed that there is a strong correlation between the two, and the predictive validity of the method is high, although not perfect (Shuttleworth, 2009).

Another study (Ali, 2008), examines the predictive ability of the performance of medical students during the first trimester from their admission scores. Findings showed a significant relationship between admission test scores and subject test scores in MBBS Part 1 examination. This implies that there is a relationship between entry grades and academic performances. In a similar vein, it was established that High-School Grade Point Average (HSGPA) is consistently the best predictor not only of freshman grades in college, the outcome indicate most system employed in predictive validity studies, but of four-year outcome as well (Geiser & Santelices, 2007).

Again it was stated that several studies have found that high school grades are more accurately predicting academic achievement than any other factor. Similarly, it has been observed that secondary grades served as good predictors for academic performance. Secondary school grades proved to be an important selection criterion, although different views have been presented about their relationship in other literatures asserted that High School Grade Point Average predicted academic success (CGPA) of the Allied health group as a whole and should be used as part of the process of admission in higher education until such time that more predictive criteria are determined (Hoffman & Lowitzki, 2005). There exist, therefore, a connection between entry grade, whatever case it may be called, with students performance in their educational endeavor.

Nevertheless, some writers asserted that some criteria used for admission into the college or university did not serve the predictive purpose for which they were intended hence concludes that academic predictability is perhaps generally situational. They added that Educational research literature is replete with findings which indicate that academic achievement is apparently difficult to predict due to too many factors operating upon the learner. It was highlighted that there are extraneous factors that are responsible for the difficulty to predict academic success with entry grades. Such factor they presented as method of teaching, lecture hours, academic and residential environments (Hoffman & Lowitzki, 2005). Variables like learning preference, age, gender, and entry qualification are some factors that affect academic performance of students in higher institution however, more determinants of academic performance need to be investigated.

METHODOLOGY

This research work adopted a correlation research design. The design enabled researcher to investigate the possibility of relationship between college entrance score and students cumulative grade point average (CGPA) without influencing or manipulating any of the variables. 105 students were sampled through systematic random sampling technique. Records of entrance scores and their corresponding cumulative grade point average were obtained from the registry (exams and record department) of the College. These are classified and confidential records of students. The entrance scores and the cumulative grade point average of the students were obtained after certifying ethical condition of the college research ethical committee. Descriptive statistics (mean and standard deviation), correlation and regression statistics were employed to analyze data and test the null hypothesis at .05, alpha level of significance. Statistical Package for Social Sciences (SPSS) 20 was used as software to aid the analysis.

RESULTS

Research Question 1: To what extent does Entrance Examination Questions (CEEQ) of 2014/2015 academic session has predictive validity?

Table 1: Summary Model of Regression Analysis

Model	R	R Square	Adjusted R^2	Standard Error Estimates
1	.167	.028	.018	13.60

Table 1 above has indicated that R is .167, R^2 is .028, Adjusted R^2 is .018 while standard error of estimate is 13.60. Based on the R^2 (.028), it can be deduced that the coefficient of determination is 2.8% (.028 x 100). It implies therefore, the entrance examination scores can only predict student cumulative grade point average by 2.8% which is low.

Research Question 2: To what extent do candidates' entrance scores correlate with their cumulative grade point average after admission?

Table 2: Summary of Descriptive and Correlation Statistics

Variables	N	Mean	Std Dev.	Pearson r	*P val.*	Chosen α(1-tailed)	Decision
CGPA	105	6.59*	13.74				
Entrance Scores	105	15.39	2.69	.167	.044	.05	Reject H_0

*CGPA Value is influenced by Average Score from Pharm Tech

Table 2 showed number of respondents (N) as 105, mean and standard deviation for CGPA and Entrance score as 6.59±13.74 and 15.39±2.69 respectively. Table 2 also was observed showing a Pearson correlation coefficient between the predictor (Entrance score) and criterion (CGPA) variables as .167 with a *P value of .044 at .05, chosen alpha level of significance (1-tailed)*. Therefore, since *P value is less than .05, the null hypothesis of no significant relationship is rejected.* It means that there is a statistically significant relationship between the entrance scores and the corresponding CGPAs.

Research Hypothesis 1: Students' college entrance examination scores do not significantly predict their cumulative grade point average.

Table 3: Testing the significance of level of prediction of Entrance Scores on CGPA

Variables	B	Beta (β)	T	Sig.	A	Decision
Entrance Scores vs CGPA	.853	.167	1.718	.089	.05	Accept H_0

Table 3 has shown un-standardized regression coefficient (**B**) of .853, indicating that for every 1 unit increase in entrance score, there is an increase of .0853 in CGPA. The standardized regression coefficient (Beta or β) is .167. The β of .167 is not significant at .05 as *P value (Sig.)* is .089. Therefore, since the β = .089, p >.05, two tailed, the null hypothesis of Students' college entrance examination scores do not significantly predict their cumulative grade point average is not rejected. That is, the entrance scores were not able to predict the criterion variable (CGPA) significantly.

DISCUSSION

This present study aimed at assessing the predictive validity of the College Entrance Examination Questions (CEEQ) of 2014/2015 academic session at College of Health Technology, Otuogidi, Ogbia-Town. It was observed that 54% of the candidates who attempted the College Entrance Examination Questions score between 10-15 while 41% scored 16-20 marks. The paper was dichotomously scored with a maximum mark point of 25. This showed that many succeeded in the entrance examination. Consequently, their cumulative grade point average (CGPA) showed similar score profile where 46% obtained 3.00-3.59, relating a good performance.

The study observed that there is a significant relationship between the entrance scores and the CGPAs of the students, however this was a weak relationship (r = .167 r 16.7%). This finding was in line with Ali (2008) whose findings showed a significant relationship between admission test scores and subject test scores in MBBS Part 1 examination. This implies

that there is a relationship between entrance score and students' academic performances.

The relationship between entry grade and graduate performance has not been consistent depending on the specific indicators used for success in graduate or under graduate education as well as type of program. They further stated that in cases where statistical significant correlation is found, the correlation is a weak one, that is, between 0.24 – 0.38 (Alias & Zain, 2013). A low correlation coefficient (0.1751) between CGPA and UME results, moderate correlation (0.6740) between CGPA and National Certificate in Education (NCE) results and also moderate correlation (0.4120) between CGPA and SSCE were reported. These findings support the finding of this study because the correlation coefficient was .167 or 16.7% which of course was weak relationship.

Consequently, the study observed that the entrance score predicted the CGPAs to an extent of 2.8%. Does this prediction statistically significant? The study determined that there was no significance as $p = .089$ ($p > .05$). This implies that the CEEQ was not valid. Some studies had affirmed that entry grade, whatever it may be called, had high predictive validity (Shurttleworth, 2009; Geiser & Santelices, 2007; Hoffman & Lowitzki, 2005). It means therefore that the entrance score which is an entry grade for admission was low hence it has not measured what it was actually designed to measure.

CONCLUSION

Based on the far reaching findings determined at course of the study, the study held that CEEQ was not a valid test/examination paper. The items never measured what they were constructed to measure. A test used for admission is expected to predict the outcome of the student after admission. CEEQ showed a weak relationship, though positive, with students CGPAs and was able to predict with insignificant level of 2.8%. There is a need to look into how entrance examination questions are being set.

RECOMMENDATIONS

The study unequivocally proffered the following recommendations as drawn from the findings and conclusion of the study.

- ❖ College management should look forward to develop a standardized college entrance examination questions that will serve admission purposes.
- ❖ Alternatively, examination bodies such as NECO, WAEC, etc. could be consulted to assist in examining candidates for admission.
- ❖ Colleges of Health Technology in Nigeria should look forward to propose a Unified College of Health Technology Examination Board to take charge of conducting entrance into the Colleges.

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A STUDY ON SELECTING AND IMPLEMENTING ENTERPRISE RESOURCE PLANNING IN CURRENT DIGITAL TRANSFORMATION ERA

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ABSTRACT

The Marketing plays a pivotal role in the growth and development of a country irrespective of a country irrespective of size, population and the concepts are so interlinked that, in the absence of one, another virtually cannot survive. It is a historical fact that the development of marketing has always kept pace with the economic growth of the country. The objective of modern marketing is to make profits through satisfying consumer's needs and wants. Hence, the marketers must understand the real needs, wants, beliefs and attitudes of the consumers towards their products and services. ERP is the planning of the four enterprise resources - Man, Money, Materials, and Machines - to their best synergistic value. While earlier on, the manufacturing of the organizations had the most to gain by implementing these tenets, today, the whole gamut has expanded to also include non-manufacturing types of industries. Currently, aerospace, software and hardware organizations, manufacturing and pharmaceuticals, which are trying hard to hook up to customer-oriented domains. The present study completely depends upon the secondary data and resources available through various social websites in connection with ERP implementation in respective areas of the business.

INTRODUCTION

Using Information Technology (IT) does not mean setting up computers to manage jobs. It also does not mean getting streamlined, creating transparent departments and improving workflow. IT deployment is all this and much more. If one wants to choose a single word for defining the importance and relevance of IT to organizations, it is 'oneness.' Enterprise Resource Planning (ERP) is a definition for this great commonalty that IT tends to transform most business processes into. In the age of the turbulent global business environment, today's manufacturing organizations are complex 'systems' that require interaction between the various functions such as sales, marketing and distribution, manufacturing, materials, finance, and human resources. ERP is a way of dealing with certain pressing issues that have emerged in the age of global competition and stringent demands on the production and distribution systems. Integrated ERP solutions optimize resource utilization by providing up-to-the-minute information on demand for quick decision making. Industries that successfully implement ERP can lead to an increase in per capita productivity, quick response times, lower inventory levels, better customer orientation and sharing of information seamlessly across the enterprise and just-in-time management, all of which lead to higher customer satisfaction.

OBJECTIVES OF THE STUDY

- To study the various needs and requirements established due to the modernization and Technological advancements of ERP system.
- To access the need of implementation and establishment of an ERP System in the prospects organization by effective understanding of their challenges.
- To make suggestions in the key marketing strategies for improvement of their product visibility and scalability through ERP system.
- To find out the value exploration and how the company can explore the new value opportunity in terms of their new partnership with developed ERP system.

REVIEW OF LITERATURE

Review of Literature is one of the key elements for rese4arch to draw the problem hypothesis and outcomes. Young. B. Moon (2007) This article is a review of work published in various journals on the topics of Enterprise Resource Planning (ERP) between January 2000 and May

2006. A total of 313 articles from 79 journals are reviewed. The article intends to serve three goals. First, it will be useful to researchers who are interested in understanding what kinds of questions have been addressed in the area of ERP. Second, the article will be a useful resource for searching for research topics. Third, it will serve as a comprehensive bibliography of the articles published during the period. The literature is analyzed under six major themes and nine sub-themes. Mahmood ali and Liyor (2017) Enterprise resource planning (ERP) implementation brings with it a set of challenges. In order to gain a better understanding of these and they can be mitigated during the implementation process, the purpose of this paper is to use Esteves and Bohórquez (2007) classification based on ERP lifecycle framework, and content analysis to review the literature on ERP implementation in a structured format with a focus on larger enterprises, and provide a platform for practitioners to plan implementation with minimum possibility of failure.Angella De Lellis and Antoniio (2018) opined in their study the ERP system will enable the change management in the context of a growing company: the ABC enterprise. The first step of the proposed methodological framework involves the construction of the As-is process model, adopting the standard BPMN language. The model is based on an accurate analysis of the data concerning the resources and activities of the company being analyzed, in order to perform a computational simulation of its business processes. Clara S. Nisteche (2018) opined Enterprise collaboration systems (ECS) are evolving, heterogeneous and sociotechnical systems. They begin life as empty shells without content and their meaning and value unfold over time as users interact with and shape the system to their needs. This paper is part of our research to understand how ECS are being shaped and designed through use. In this paper, we examine coordination mechanisms (CM) as traces of design activity in ECS. Through a structured analysis of two ECS communities we identify key examples of user-designed coordination mechanisms and show how they are used to inscribe specific purposes into ECS communities. Our findings reveal preliminary insights into the way's users are using CM to shape ECS, thus designing them to meet their specific needs.

RESEARCH METHODOLOGY

Descriptive Research study is done for the study of implementation of ERP systems in India and understanding consumer buying behavior. In this most of the research to be conducted in the first phase is based on a descriptive approach since we aim to establish and outline existing models used for evaluating ERP-system investments. The later phases include explorative research elements, where secondary data is examined in order to develop understanding of the research area. During this phase we will also be able to more clearly define purpose as well as the limitations adopted during the descriptive research. The second part of this study will be prescriptive in nature, since this part focuses on constructing a method for identifying and measuring the cost and benefit characteristics of ERP-system investment for this we use an analytical approach for case analysis from secondary sources. Data Collection Methodology often called as Research methodology is a way to solve the research problem. It may be understood as the science of studying how research problems are done scientifically. It is the procedure using which researchers go about their work of describing, explaining and predicting phenomena, is called Methodology. Methods compromise the procedures used for generating, collecting, and evaluating data. Methods are the ways of obtaining information useful for assessing a possible explanation of a study or research problem. It is the data collected by means of a survey. The micro level analysis of customer perception towards an ERP System regarding awareness, value creation and understanding of investment nature was done. It is the data already existing, which has gone through some standard analysis. Under the secondary data, the company's annual reports, brochure, websites, newspapers, journals, stock market screeners, secondary platforms and internet were taken into consideration.

LIMITATIONS OF THE STUDY

- The present research is restricted to selected Social website connections and few potential customers only.
- The sample size taken is only 100 and as such is small, this is due to the constraints of time and limited reachability due to the current COVID scenario.
- Respondents might have responded with the actual feelings of facts while giving responses to the questionnaire.
- Time being a limiting factor was not enough to gather opinions from most of the respondents, who form part of the universal sample.
- Some respondents may have responded without prior understanding of the ERP Systems

DATA ANALYSIS

ERP software is one of largest expenditure of corporate information technology (IT) budgets. The core idea of implementing an ERP solution is to get tangible business benefits that would improve the performance of the organization and achieve certain business objectives. This includes inventory reduction, less time to market, reduce manufacturing

and order processing cycle times, etc. The fact that implementation of the world-class packages requires tremendous effort in enforcing change management

coupled with the inability of these firms to respond to that challenge have compounded the problems of establishment and implementation further.
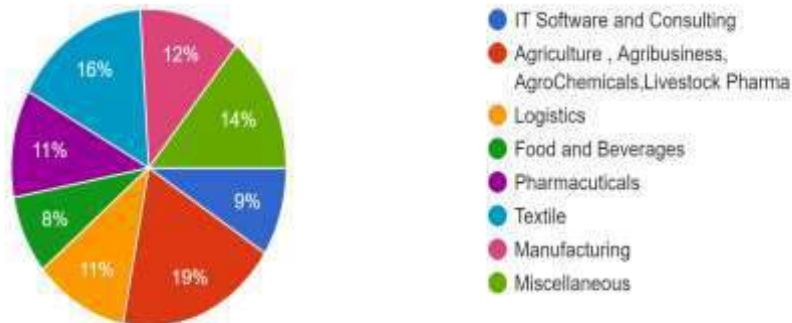

Location
99 responses
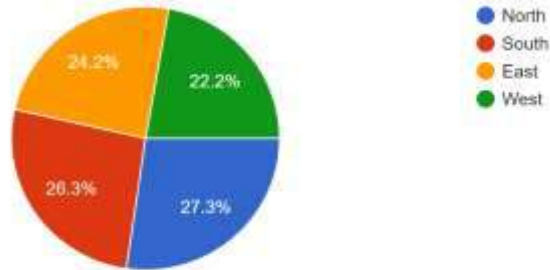
Although Geographically the concentration of organizations remained same with the 27.3% industries in the North, 26.3% in the South and 24.2% and 22.2% in the East and the West regions.

Major chunk of these Industries was in regions what can know be called as hotspots such as Delhi, Mumbai, Chennai, Bangalore, Hyderabad, Gujarat.

Industry Sector
100 responses

This states that although much diversity cannot determine in the classification among different

Industry Sectors, scope of implementation highly varies.

Annual Revenue

99 responses
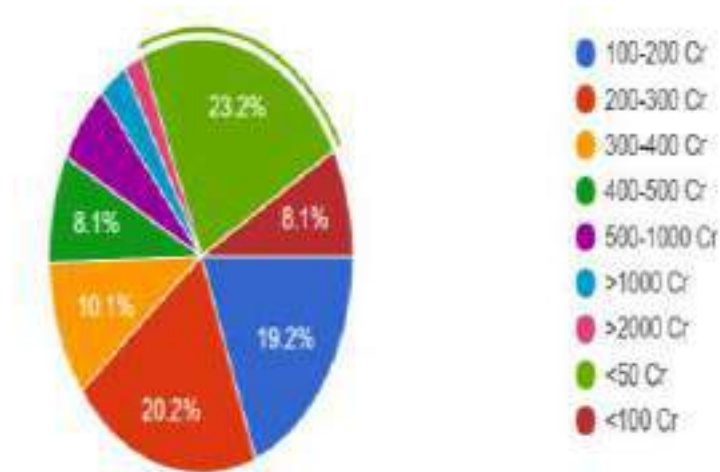
This led to targeting the customer base by classifying them in different revenue buckets such as above and positioning them as small, medium and large enterprises.

What is the Current Application Environment?

100 responses
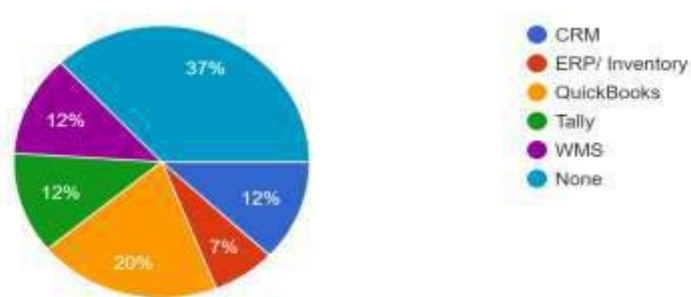
Through this analysis we can understand the possibility of scope of establishment of ERP Systems and analyze the drawbacks of existing application environment.

What is the main objectives of your current application environment?
100 responses
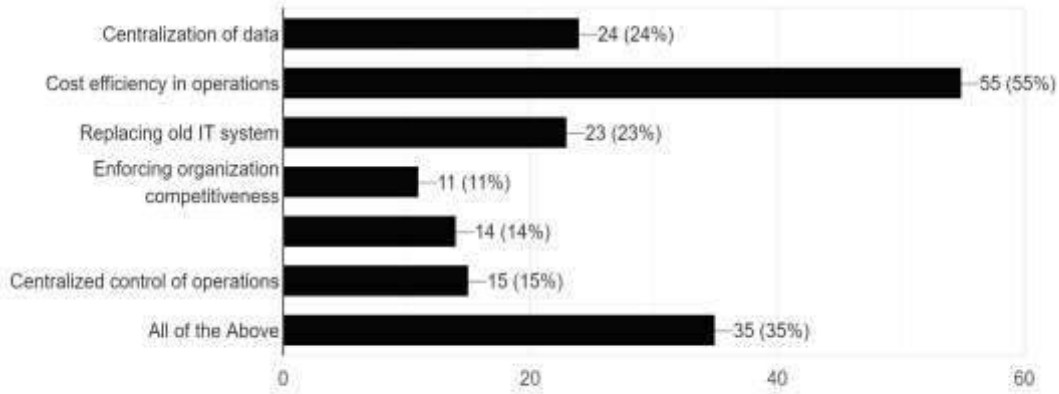
Hence Cost efficiency has become a key determining factor of implementation masking the forethought of future growth.

Do you feel that the objectives have been achieved in general?
100 responses
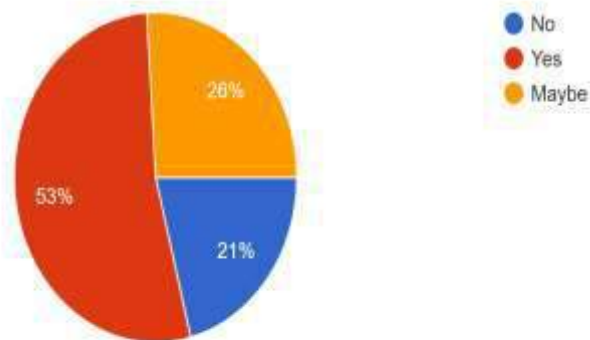
If Yes, in what amount have they been achieved (%)?
100 responses
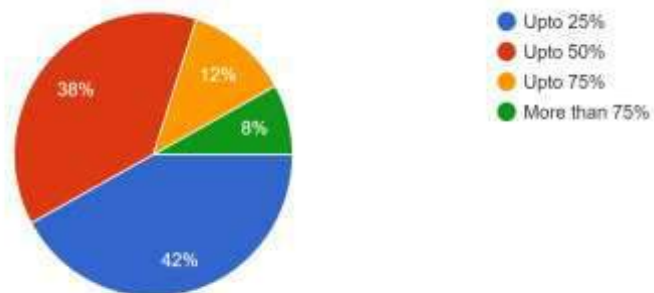
This states the lack of achievement of software and the need for implementation of a more centralized software.

Which ERP System are you familiar with or aware of?
100 responses
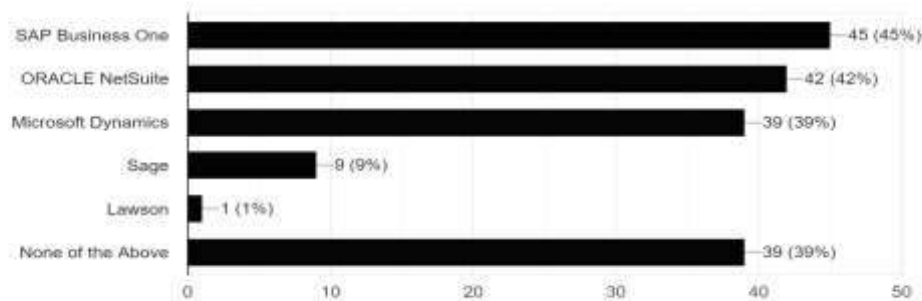
But this attribute has formed the base of my sales qualifier questionnaire as this research question determines the need to identify the prospects understanding of ERP Systems as it establishes the path sales.

Which ERP software are you likely to implement, based on the vendor?
100 responses
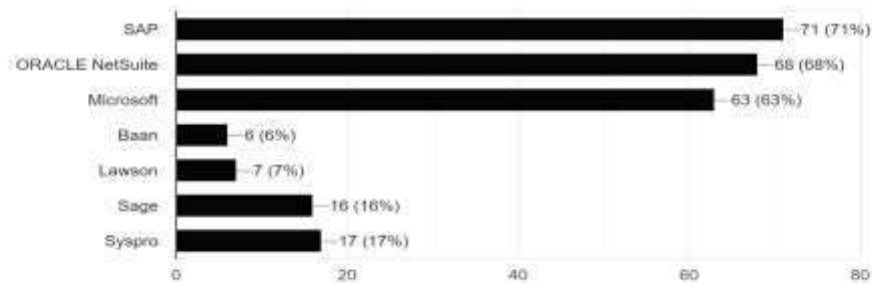
When we analyze the scale it can be seen that the vendor plays a major role in determining the sale of the ERP Systems, all the TIRE 1 systems with well-established vendors have been highly nominated by the organizations this shows the credibility and trust in the vendor systems and their implementation

How do you differentiate yourselves in your market space?
99 responses
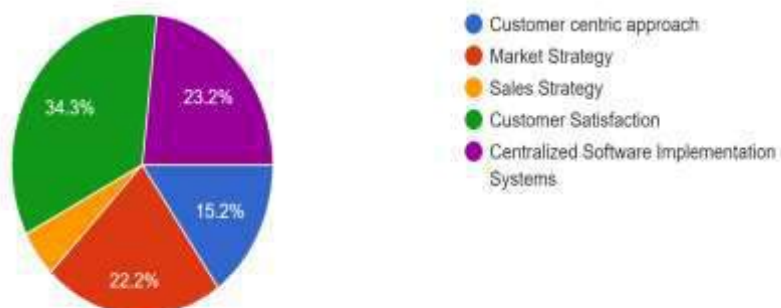
This not only differentiated them in the marketplace but made them emerge with highest revenue and least operational costs.

Where do you expect to drive growth and how?
100 responses
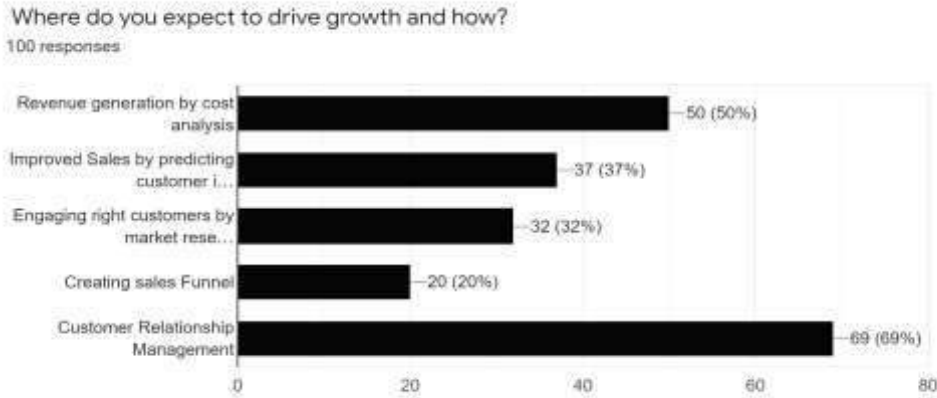
The results of the survey state that 69% of the population is CRM as a growth driver this shows that CRM is the most promising area that is expected to drive growth within and external to an organization.

What areas do you need to be excellent to succeed?
100 responses
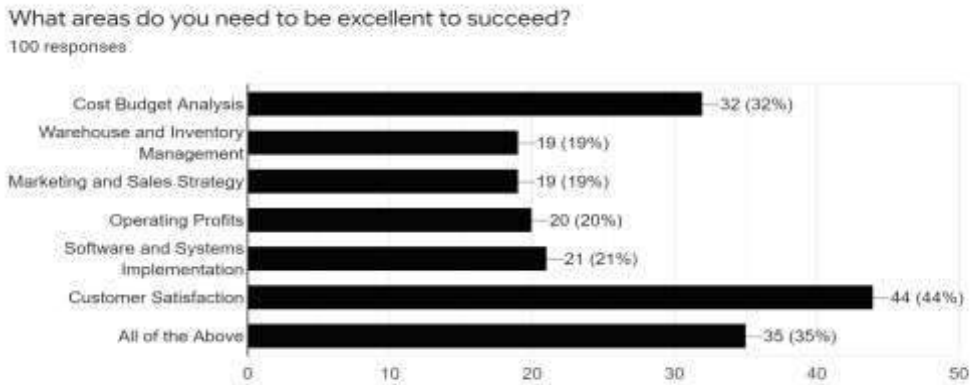
The main area of focus of organization lies in Customer satisfaction and cost benefit analysis in implementing software and systems thus determining the ROI of investment made.

What business processes have you addressed to increase efficiencies?
100 responses
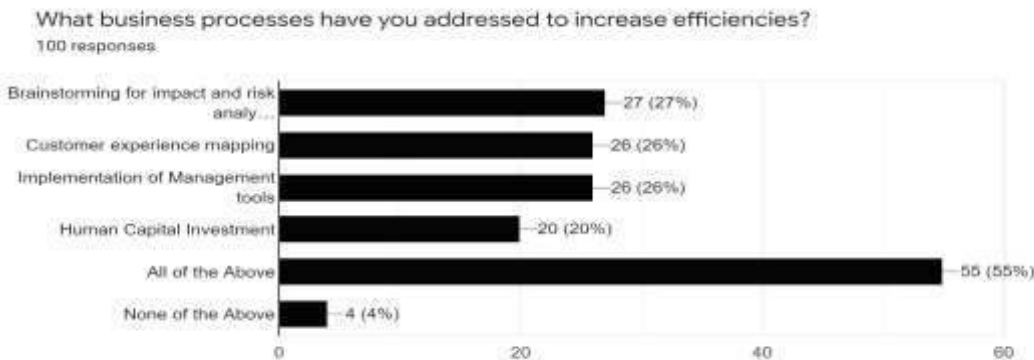
This helps to pitch the ERP system and establish why ERP system is a one stop destination to all business process.

What are you doing to create a better customer experience?
99 responses
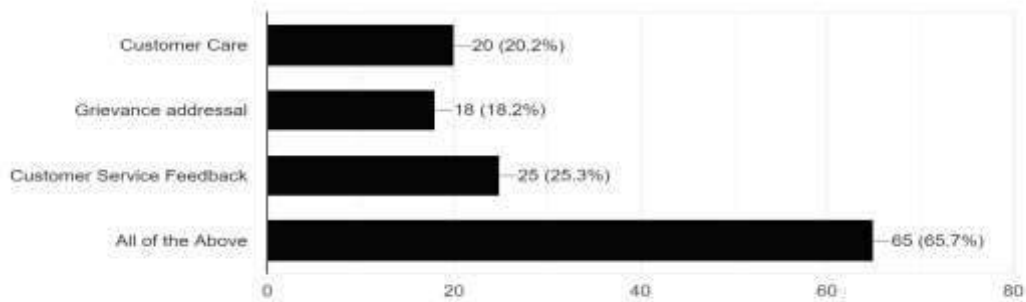
This data helped analyze the market demand need and necessity and formed the basis of sales strategy.

What are the major challenges do you see in ERP implementation?
100 responses
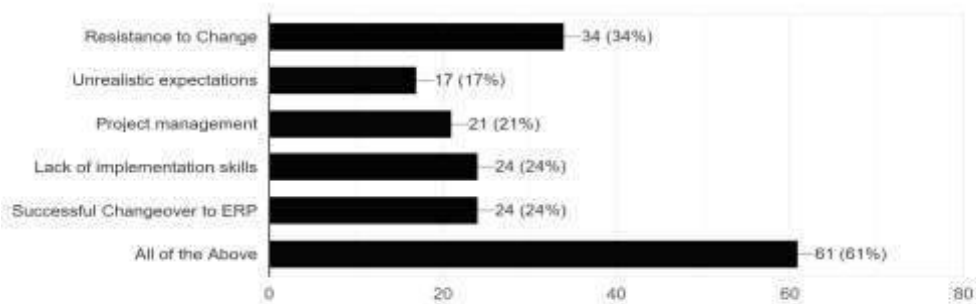
This determines the challenges faced by various organizations in implementing ERP Systems. The major challenges can be summarized as follows- Resistance to change, time overruns, cost overruns, unrealistic expectations, lack of implementation skills and unattributed cost accounting have proved to be key challenging aspects.

What according to you is highest benefit of ERP Implementation ?
100 responses
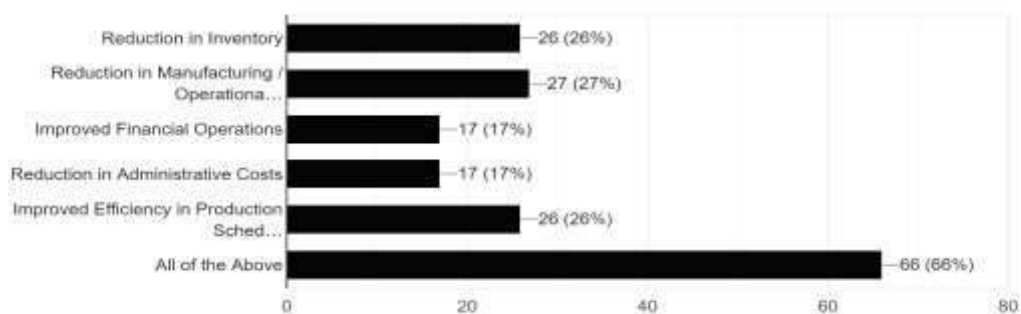
The analysis determines the benefits of ERP implementation, this creates an understanding in the minds of the customer enabling him to review his current application software and go for an upgrade if necessary.

What were the most Critical Factors enabling the successful ERP software implementation?
100 responses
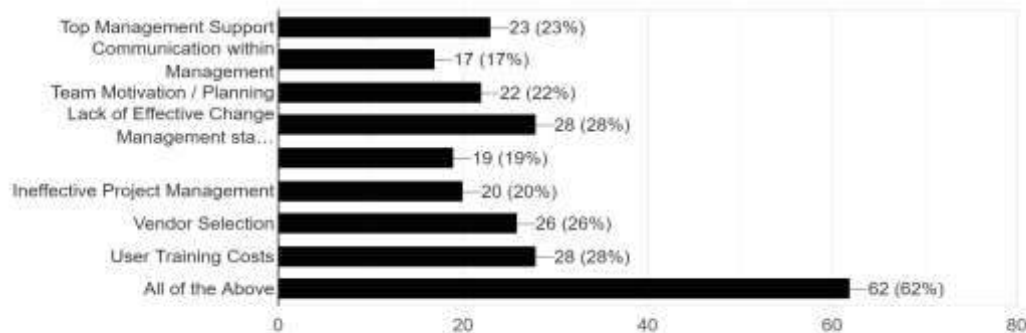
Thus, the three key issues that could determine the success of an ERP implementation and work towards delivering quicker, better ROI are functionality, technology, and implementation of solution overcoming the deterministic challenges. Not only this but the survey also helps us analyze the current and future market scenario of ERP software implementation.

MAJOR FINDINGS

- ERP systems have large-scale business involvement, internal and external process integration capabilities. They can assist in achieving the strategic competitive advantages. With a centralized database and built in data analysis capabilities, ERP systems provide informational benefits to management decision making.
- As the different parts of the organization relate to each other, people have faster access to information and require less time to do their tasks. This helps to improve the time and resources for decision-making.
- As all the departments and the functions in the organization are integrated and linked to one single database, data needs to be entered only once into the system. It can then be accessed by different departments according to their needs.
- Developing software in-house requires a great amount of investment, experienced professionals and tremendous amount of time. The payback from the in-house system takes an equally longer time.
- As ERP software packages are developed by vendors who have the required expertise, they are basically off the shelf packages that companies pick up that require minor customizations as per company requirements, and so they don't involve an in-depth development like the in-house software.

- The ERP system helps companies to do away with the erroneous ways of carrying out the different business functions and introduces business best practices.
- Most of the problems get resolved as the vendors who develop ERP software packages, take the best ideas from all their customers and incorporate them into their products.
- ERP Systems are already developed to suit the general businesses. But as every company has a slightly different way of operating, only minor changes may be needed to customize the system to suit the company's business requirements.
- Once the information is entered into the single database, everyone in the organization has access to the information and sees the same computer screen.
- In the paper-based system, the order moved from basket to basket around the organization, and often caused delays, errors in processing due to repeated entries by the different departments or got lost. With the ERP system, the order process moves quickly through the organization.
- Sudden and fast changes are bound to increase the scope of ERP in enterprise operations. ERP in its initial phase was back office function orientation and later spread its wings to all the operations in the enterprise.
- Enterprise Resource Planning software has a constant necessity for a restructuring in the technical aspects. The future of the business that has already implemented and deployed ERP remains a big question mark.
- One of the most important determinants of the ERP market in India is finance. Some bigger companies still hesitate to invest in ERP due to the exorbitant costs. It is indeed encouraging to find that a vast majority of

them have realized its benefits and have determined to go for it.

SUGGESTIONS

- A pragmatic approach should be used to implement the ERP system in an evolutionary manner. This means that the entire implementation moves in cycles from the basic to the sophisticated, where the basic features of all the modules are implemented first, and the more sophisticated features are implemented in incremental steps.

- The fundamental mistake committed by an Indian organization is that they view Enterprise Resource planning as an IT solution alone and not as a management tool. Therefore, there is little involvement of the Enterprise Resource Planning and end users during the decision-making process. This lack of end-user involvement results in many breaks in the implementation stages causing frustration, time delays, and unanticipated costs. Hence, it is suggested that it is best to understand the environment and implement the ERP in various verticals such as warehousing, CRM, inventory management and post sales follow up in order to retarget and retain the customer.

- Customize and implement more tailor-made approaches as this would reduce the cost and create a feasible model and increased establishment opportunities among various organizations.

CONCLUSION

In the past, most Indian organizations grew by managing the environment, rather than focusing on their internal efficiencies. With the entry of most efficient foreign players in many of the markets, Indian industry needs to change the way it conducts business to remain competitive. Now, more than ever, Indian manufacturing organizations need to implement ERP systems to improve their efficiency and effectiveness in the marketplace. An Indian economy has reached a level of maturity that demands advanced technology. Many Indian firms already have realized the need for ERP solutions, and the industry related market growth should match the expansion of the sector. India is developing its infrastructure; ERP manpower requirements and the Indian mindset is changing with the times. While the Indian agriculture sector has not yet automated, and there is little potential need for agriculture-based ERP in the foreseeable future, the service sector offers a largely untapped potential. ERP is an important tool to achieve competitive advantage. If an Indian organization is to survive and grow in the global economy, then the ERP is an effective tool

that can integrate the organization, provide faster information for decision making, and cut costs to increase efficiency. The survey not only helped in my market research but it helped me, in segmenting targeting and positioning of the market on a whole and this helped me devise effective sales strategy not only this it also created a base for my sales qualifier questionnaire, which in turn helped me generate effective lead database.

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A STUDY ON CREATING INCLUSIVE WORKFORCE THROUGH MANAGEMENT/EXECUTIVE DEVELOPMENT PROGRAMMES WITH REFERENCE TO SELECTED COMPANIES AT BANGALORE

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ABSTRACT

Employee performance is key for the success of any organisation. Employer and employee must have a clear vision related with what kind of work to extracted from whom and what kind of performance to be provided in executing the responsibilities both are the important source of areas for development of the organisation. The organisations need to consider important issues like Continuous technological changes, The increasing removal of trade barriers, The consequent globalisation, The volatility of customer demand within existing markets. These continuous changes have challenged organizations to learn how to manage businesses in the context of these continuous unpredictable changes, to learn how to confront these changes quickly and successfully. It is argued that, for an organization to achieve its objectives and goals. The organisation is also needing to consider the important role of its people, measures to improve competency, skill and training. The need to compete from the inside out has made organization aim to increase the power of their people-related processes to build and sustain competitive advantage as the ultimate organizational objective, thus, outperforming competitors. This paper concentrates at the issues and challenges while conducting the Management Development Programmes in Public and Private sector Organisations based on the primary information sources of employee opinion and perceptions towards the organising and conducting of training programmes like Management/Executive Development Programmes related with Management/Executive Development programmes. The data was collected through questionnaires which distributed to 450 employees selected by the stratified sampling. The study only confined to only Public and private Sector Companies situated in around Bangalore city.

INTRODUCTION

The action of teaching a person a skill or type of behaviour can be termed as "training". The simplest definition of the training in the traditional theory is "the acquisition of knowledge and skills for presently known tasks". We can also define training as "an action that serves to help increase upward mobility within the organization to adjust workers to the technological changes affecting the workplace and often simply to introduce people to the world of work at the entry level". This constitutes a basic concept in human resource development. It is concerned with developing a skill to a desired standard by instruction and practise. It is a highly useful tool that can bring an employee into a position where they can do their job correctly, effectively and responsibly. "The organised procedure by which people learn Knowledge or Skill for a definite purpose is "training". This refers to Teaching and Learning activities carried on for the primary purpose of helping members of an organisation acquire and apply the Knowledge, Skill, Abilities, Attitudes and Making the level of performance better needed for job and organization. This can also be defined "as an act of increasing the skills of an employee for doing a particular job". This is a continuous process designed to meet the training needs of present and future of an individual through increasing knowledge and improving skills which improves employees' performance and increase productivity at work.

In this connection Management/Executive Development Programmes playing a vital role in executing the responsibilities within the organisation.

OBJECTIVES OF THE STUDY

The objective of the study the impact of Management Development programmes conducting in the Organisations.

- To study the working conditions and feasibility for conducting the

Management/Executive Development programmes in organisations.

- To examine and understand the nature of Management/Executive Development programmes undergoing in the organisations.
- To understand the perception and opinion of the employees on Management/Executive Development programmes.
- To study the impact of the organised Management/Executive Development programmes in Various Public and Private Sector organisations.
- To suggest measures for effective Management/Executive Development programmes designing and executing within the organisations.

RESEARCH METHODOLOGY

Research in common parlance refers to a search for knowledge. Once can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. The Advanced Learner's Dictionary of Current English lays down the meaning of research as "a careful investigation or inquiry specially through search for new facts in any branch of knowledge. The research methodology is an approach concerned with the methods or techniques used for data generation and collection when carrying research. Traditionally, research methodologies are broadly classified into Qualitative and Quantitative. For the purpose of the study the overall sample respondents is drawn from various levels of executives from the different organisations.

Designation	No. of Respondents	Percent
General Managers	22	10.47
Managers	90	42.85
Executives	88	41.90
Others	10	4.75
Total	210	100

Number Of Respondents

Different methods are adopted for investigation of the different aspects relating to the sample, which includes primary and secondary data. The researcher has personally visited the and administered the schedule to the Management employees and collected first-hand information through personal interviews. Secondary data were also collected through various documented feedback sessions on Job Satisfaction, previous internal survey reports, the number of training programs conducted on implementation and effective Job process and percentage of participation in the process.

Limitations of the study:

As questionnaire is used as Research Tool, it has some limitations for this study. They are:

- During the collection of information, it was found that officials were rather hesitant and ambivalent in providing the desired

information and sometimes officials tolerated to discuss in some cases.

- This study being a case analysis of Different companies, some of the applications may not apply equally for all organisations.
- The file keeping and record maintenance was not systematic. Even the data published in the annual reports has not been systematically analysed to help in understanding different aspects of study.
- Employees were hard pressed for time in view of the job demands and rigorous work schedule.
- Questionnaire cannot fully capture emotional responses. There might be some chances for ignoring or overruling the required areas of information for the study.
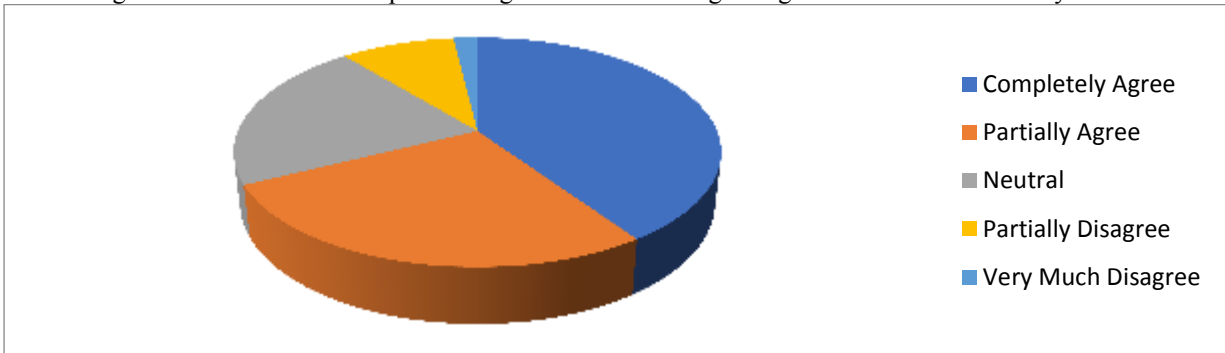
DATA ANALYSIS

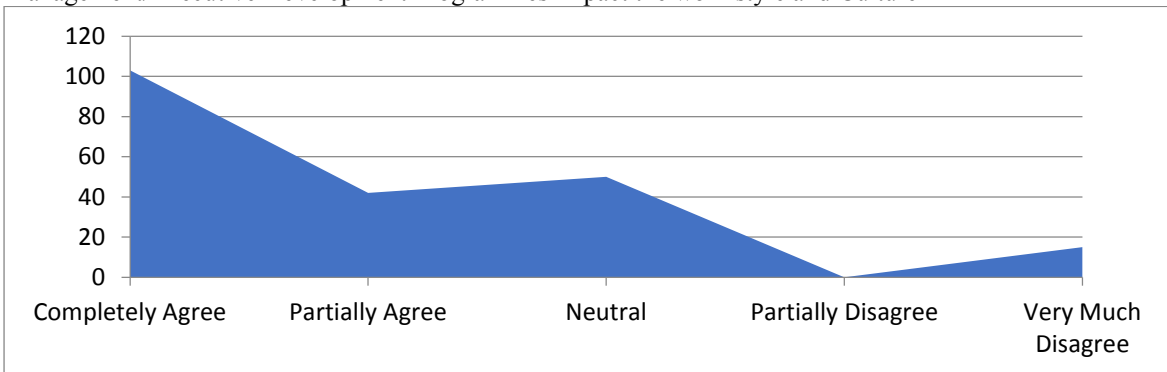Organisations regularly conducting the Training Programmes.
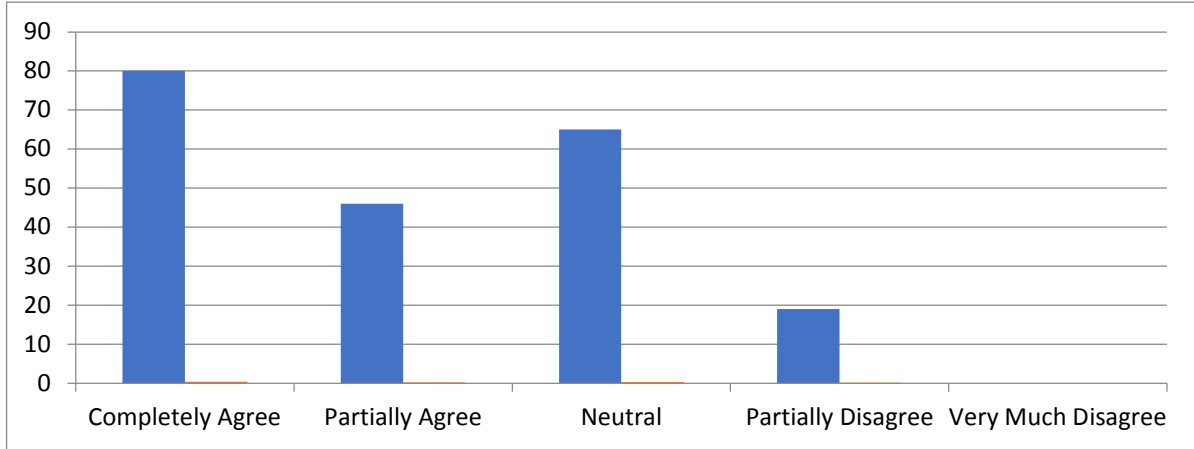
Most of the respondents agreed that organisations regularly conducting the Training the programmes within the organisations.

The Management/Executive Development Programmes conducting in organisations are satisfactory

Most of the employees are satisfied with the Management/Executive Development programmes organising within the organisations.
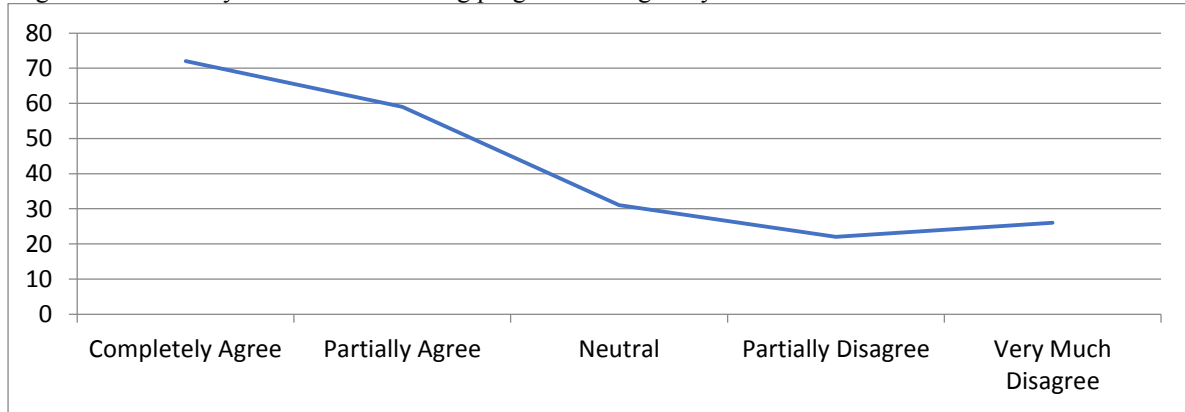
Management/Executive Development Programmes impact the work style and Culture

Most of the employees opined that the Executive programmes conduct in the organisations will impact the work style and procedure.

Organization identify the needs for training programmes regularly

"Organization identifies the need for training regularly". Most of the respondents opined that the above statement is true

Management/Executive Development programmes on Emotional Balance, stress relieving counselling highly effective
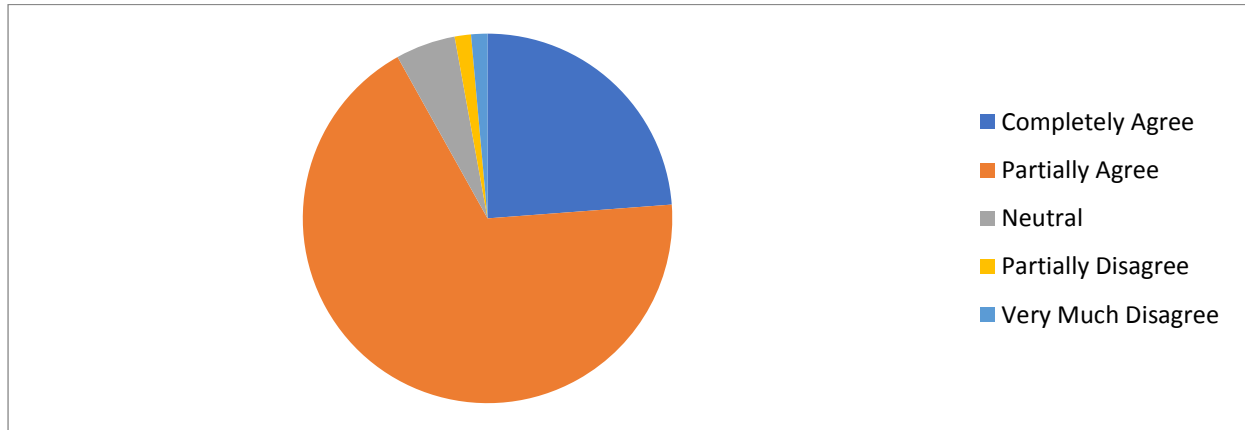
Most of the respondents expressed the positive opinion on the effectiveness of stress relieving and counselling programs.

Management/Executive Development programmes enhance the Opportunity to work on interesting projects given by organisations
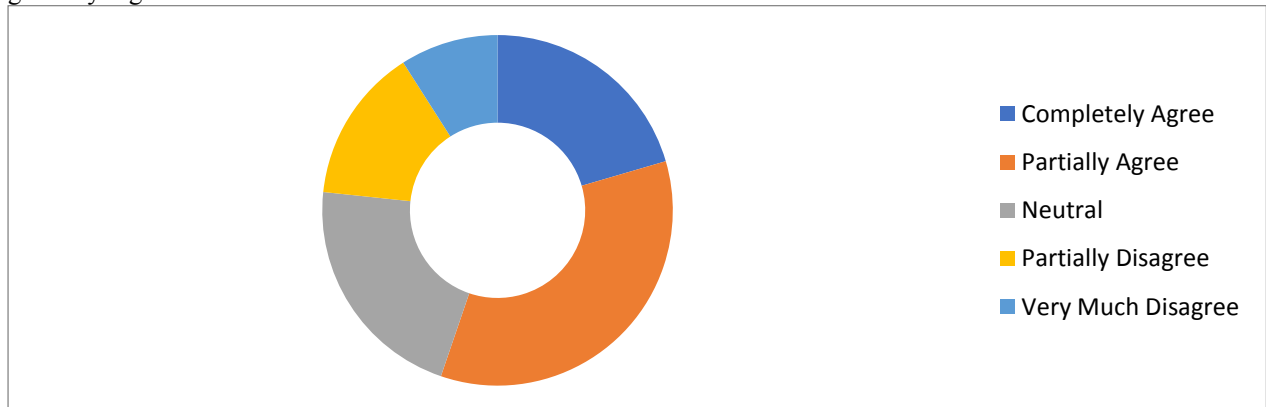
Table reveals the overall opinion of the respondents on the opportunity to work on interesting projects with help of the effective Management/Executive Development programmes provided by the organisations.

Management/Executive has created an open and comfortable work environment to participate in various Management/Executive Development programmes voluntarily by employees
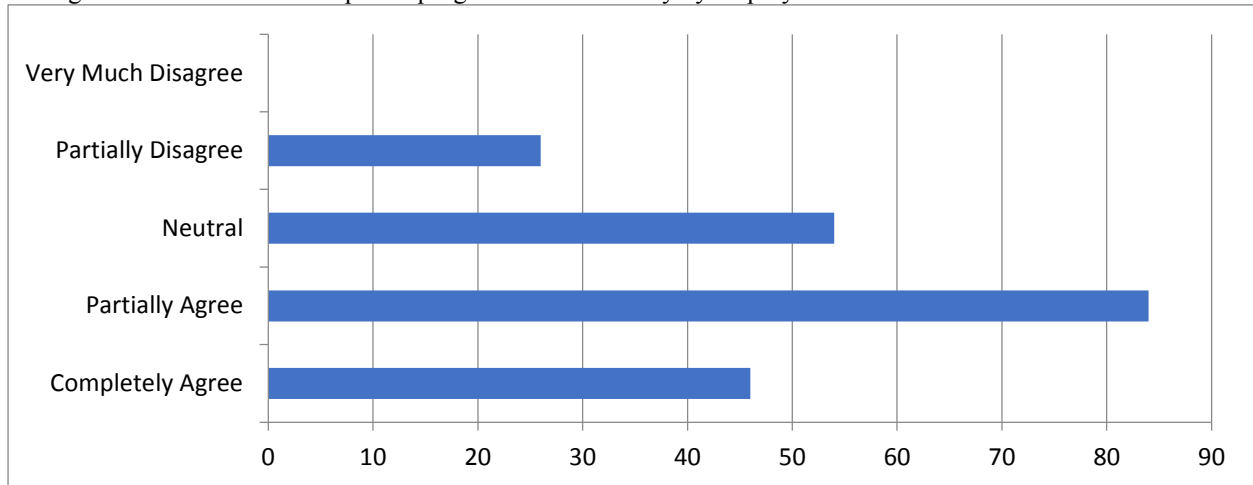
The table discloses that the overall opinion of the respondents on the statement "Management has created an open and comfortable work environment" where the employee voluntarily can participate in various training programmes for effective performance and career development.

Management/Executive Development programmes disturbs the routine and daily work environment and later it enhances the work burden for employees
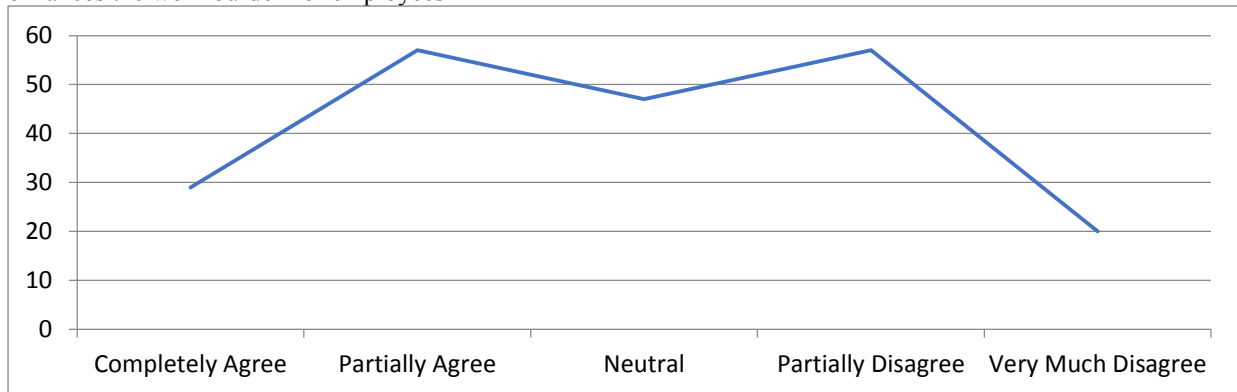

Table reveals the overall opinion of the respondents on the disturbance of the Management/Executive Development programmes for daily and routine work environment, moderate opinion provided by the emp0loyees in this connection.

Management/Executive Development programmes enhances the chances of the promotions in the organisations
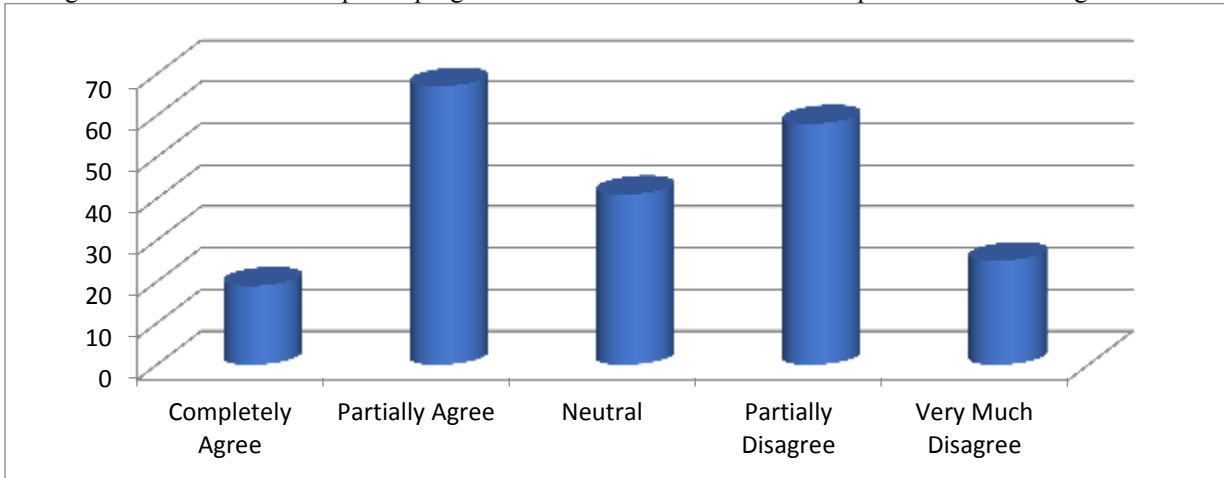

Table indicates the perceptions of the respondents about the statement that promotion chances can be enhanced with help of the Management/Executive Development programmes in the organisations. Here also the moderate opinion was provided by the employees.

Performance appraisal system followed by the organizations are satisfactory
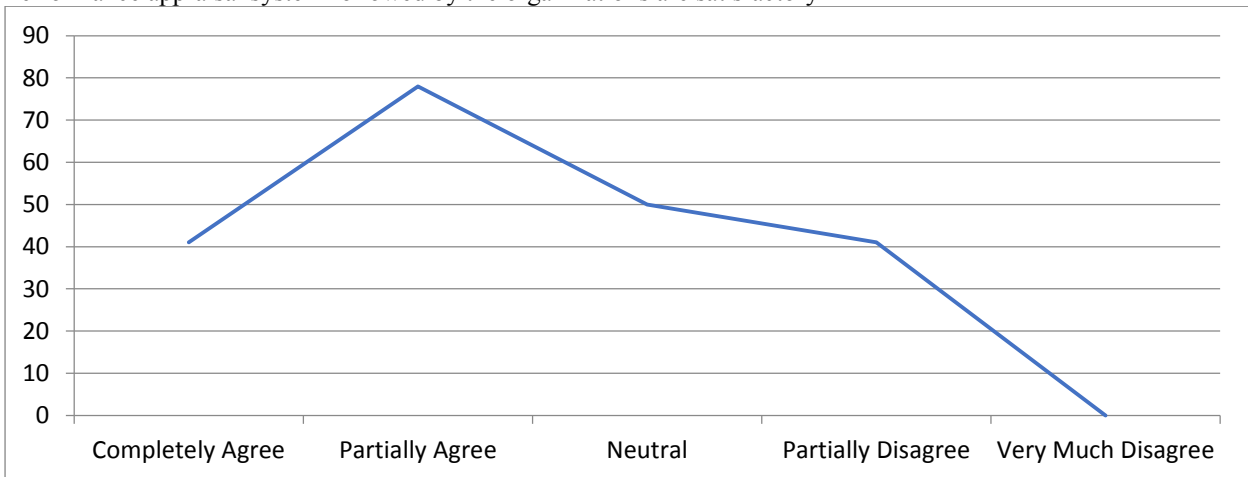

Table depicts that the overall opinion of the respondents on the statement "Performance appraisal system followed by the organization is satisfactory". It is observed from the analysis that, on an average of the respondents have positively responded with the said statement.

Regular meetings are held for designing and executing the Management/Executive Development programmes
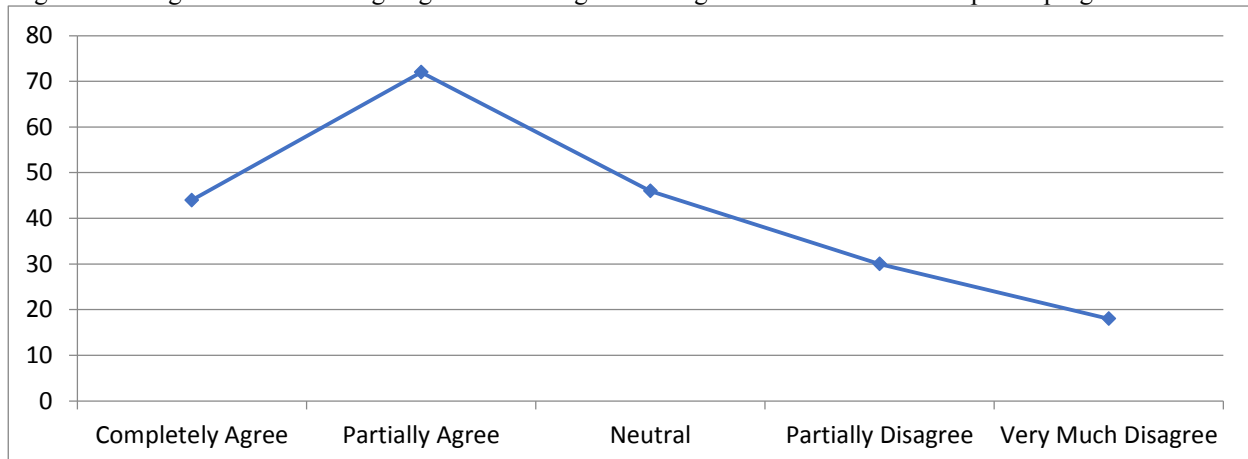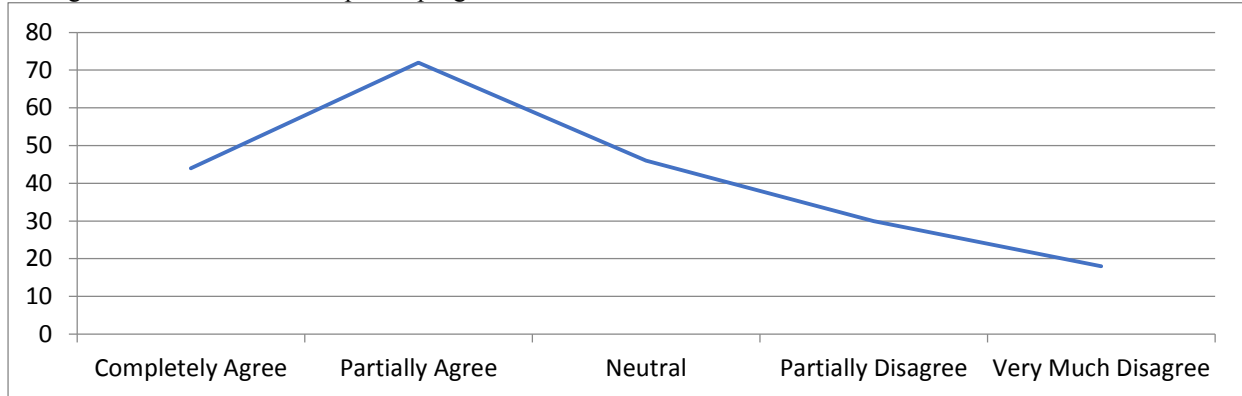
Table depicts that the overall opinion of the respondents on the statement "Regular meetings are held; it was observed from the analysis that a moderate opinion was provided by the employees.

Meetings are used by the members to solve the problems encounter during the conducting the Management/Executive Development programmes

The table indicates the perception of the respondents about the statement that Meetings are used to solve the problems encounter during the Management/Executive Development programmes most of the employees provided moderate opinion.

Problems identified during the Management/Executive Development programmes attend and sort out immediately.
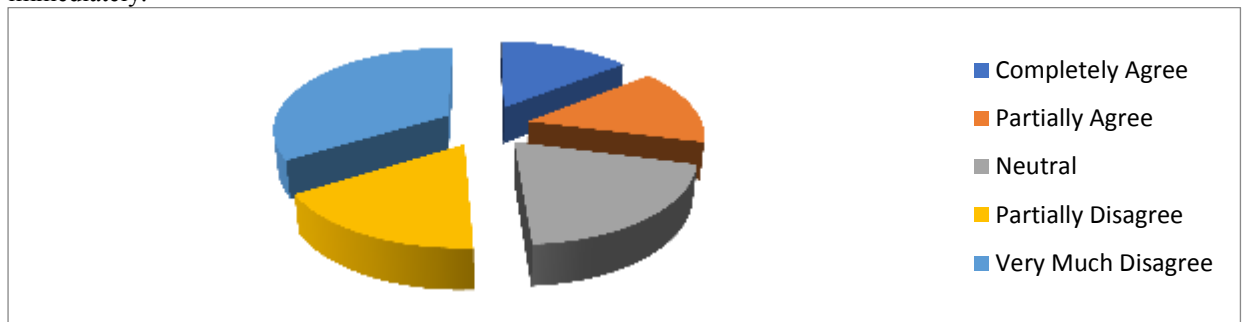
Employees opined very negative opinion in connection with sort out and attending the problems arise during the training programmes

Management/Executive Development programmes will enhance the scope of innovation at work
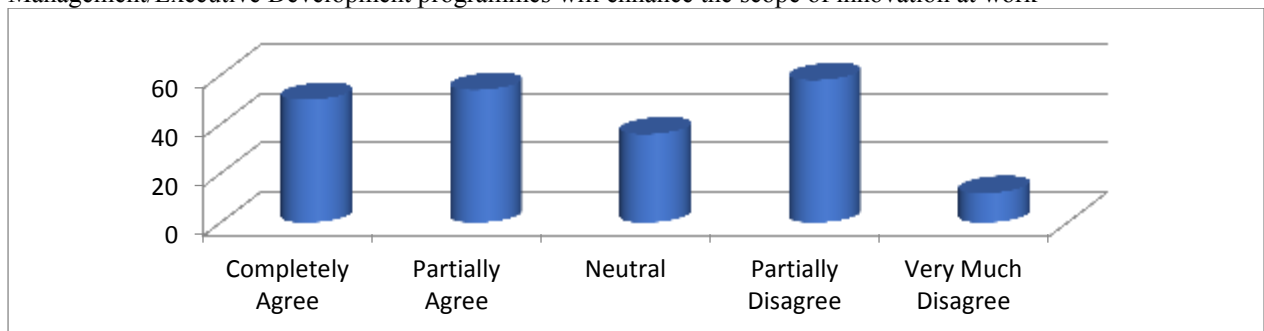
Very moderate opinion with equal perception was provided by the employees in connection with Management/Executive Development programmes will enhance the scope of the innovation.

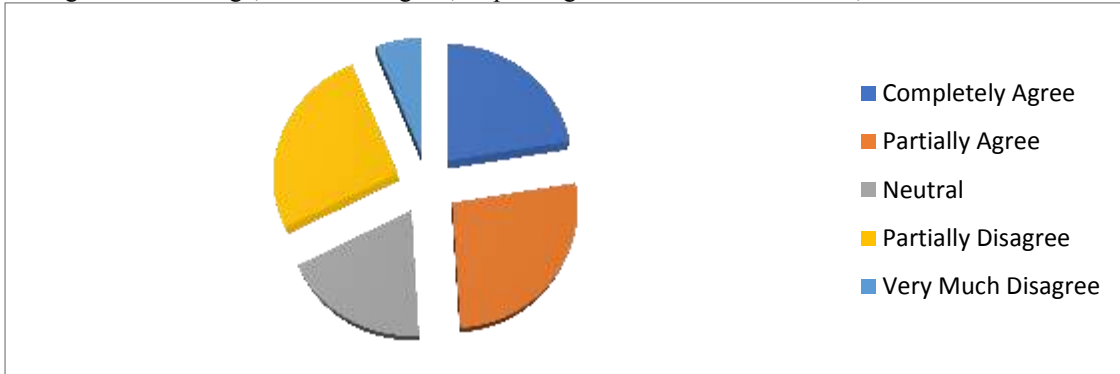Organization sponsors employee's participation in Management Development programmes like Team working Management of change, Business English, Improving communication skills etc.,

The above table indicates that the Organisations deputes and organise the various training programmes in different areas like Team working Management of change, Business English, Improving communication skills etc.,

Management/Executive Development programmes motivate for work environment.
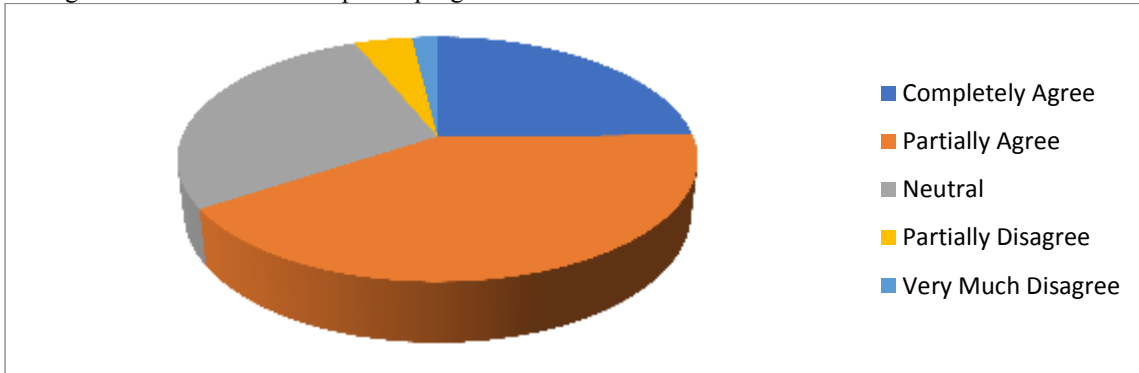
Respondents partially agree that the Management Development programmes motivate the work environment.

Management/Executive Development programmes are dominated by male employees
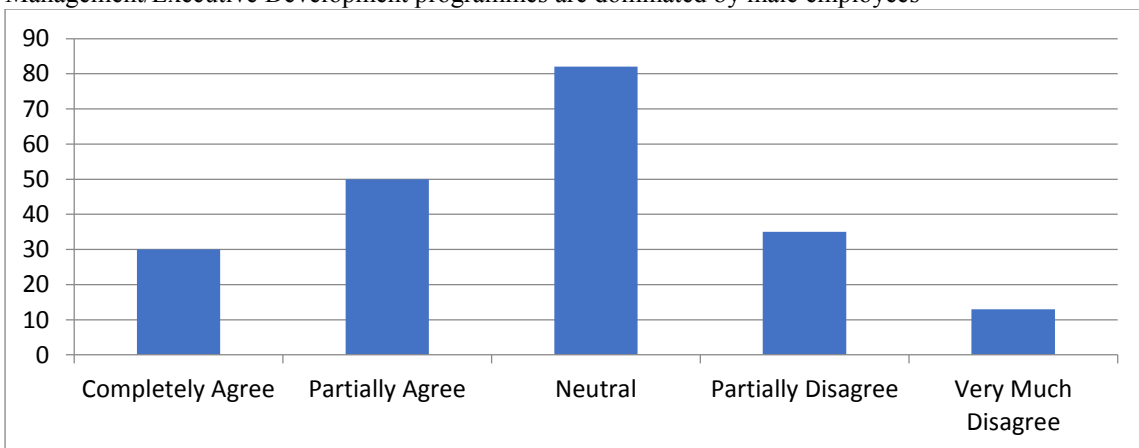
Employees partially agree that Management Development programmes dominate by male members but at most of the members opined that such kind of things won't happen all employees will have equal chances and equally participate in the training programmes.

Findings and Suggestions

After a detailed and in-depth interpretation and analysis of the data the percentages and statistical tests were administered to interpret the opinions of the respondents on relevant statements. The research study throws up a few opportunity areas effectiveness

of Management/Executive Development Programmes.

MAJOR FINDINGS

- Most of the respondents agreed that organisations regularly conducting the Training the programmes within the organisations.
- Most of the employees are satisfied with the Management/Executive Development programmes organising within the organisations.
- Employees partially agree that Management/Executive Development programmes dominate by male members but at most of the members opined that such kind of things won't happen all employees will have equal chances and equally participate in the training programmes.
- Respondents partially agree that the Management/Executive Development programmes motivate the work environment.
- Very moderate opinion with equal perception was provided by the employees in connection with Management/Executive Development programmes will enhance the scope of the innovation.
- The table indicates the perception of the respondents about the statement that Meetings are used to solve the problems encounter during the Management/Executive Development programmes most of the employees provided moderate opinion.
- Overall opinion of the respondents on the statement "Regular meetings are held; it was observed from the analysis that a moderate opinion was provided by the employees.
- overall opinion of the respondents on the disturbance of the Management/Executive Development programmes for daily and routine work environment, moderate opinion provided by the emp0loyees in this connection.
- overall opinion of the respondents on the statement "Management has created an open and comfortable work environment" where the employee voluntarily can participate in various training programmes for effective performance and career development.
- overall opinion of the respondents on the opportunity to work on interesting projects with help of the effective Management/Executive Development programmes provided by the organisations.

SUGGESTIONS

- More Management/Executive Development programmes to be conducted in the area of the Emotional Intelligence, Stress management, Communication skills.
- Management should look forward the equal part5icpation of the all employees in various Management/Executive Development programmes to enhance the personal and organisational capabilities and development.
- Employees must be given the programme guide and objectives before of each Management/Executive Development programme which can improve the understanding skills about the organised programmes.
- Management should depute the employees to various Management/Executive Development programmes organised by external agencies for effective understanding the general tendency of work culture and personality development for better organisational development.

CONCLUSION

Investigated by several disciplines such as psychology, sociology, economics and management sciences, job satisfaction, Job enrichment, Job analysis, Job enhancement, Job roles in this current study, which helped to understand the needs for better Management/Executive Development programmes. This is mainly since many experts believe that job satisfaction trends can affect labour market behaviour and influence work productivity, work effort, employee absenteeism and staff turnover. Moreover, Management/Executive Development programmes are considered a strong predictor of overall individual well-being, as well as a good predictor of intentions or decisions of employees to do and give better performance in an organisation. The civilized pattern of life system needs the support of viable economic resources and that can be brought by more than one earning in every family. Job satisfaction may seem to be an intuitive concept that is easily understood, but the diversity of recent research on job satisfaction, also indicated in the national contributions to this comparative analytical report, still raises conceptual and methodological debates. Although this may highlight the topical interest of this issue, it also calls for further and more in-depth research into Management/Executive Development programmes, Performance and job satisfaction.

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A STUDY ON ISSUES AND CHALLENGES OF FEMALE EMPLOYEES WITH REFERENCE TO SEXUAL HARASSMENT AT WORKPLACE

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ABSTRACT
Employee satisfaction is essential to ensure higher revenues for the organization. No amount of trainings or motivation would help, unless and until individuals develop a feeling of attachment and loyalty towards their organization. Satisfied employees willingly help their fellow workers and cooperate with the organization even during emergency situations. Such employees do not think of leaving their jobs during crisis but work hard together as a single unit to overcome challenges and come out of the situation as soon as possible. Satisfied employees strive as a unit in achieving the organizations goals and objectives. They take pride in representing their respective organizations and work hard to ensure higher revenues for the organization. Several factors play an important role in Job Satisfaction of the employees and sometimes it might be differed to male and female employees like in adverse situations of Sexual harassment in the organisation. The present Study also concentrated on the coordination and cooperation among the female employees and at the same tine from male employees to eradicate the said issue and the problem in workplace. A Sample of 50 female employees selected on stratified random basis and survey was conducted as well to identify the main and core issues about the problem.

INTRODUCTION

A few years ago, the #MeToo movement took the world by storm. The movement was instrumental in breaking the time old taboo of victimhood and motivating women around the world to raise voice against unwanted sexual advances. The shared stories of subjugation faced by women, around the world, in a patriarchal, male dominated society formed the basis of this movement. It provided a platform for victims to speak out openly about their ordeals, which in turn helped in increasing awareness about sexual harassment, particularly at workplace. Sexual harassment at workplace is a universal problem in the world whether it be a developed nation or a developing nation like our country India or an underdeveloped nation, atrocities and cruelties against women is common everywhere. In 1997, the Hon'ble Supreme Court of India, in Vishaka and Others Vs. State of Rajasthan and Others1("Vishaka Judgment") acknowledged the gravity of sexual harassment of the working women at the workplaces and laid down guidelines making it mandatory for employers to prevent the commission of acts of sexual harassment and to provide the procedures for the resolution, settlement or prosecution of acts of sexual harassment. The guidelines issued by the Hon'ble Supreme Court were treated as law declared by the Hon'ble Supreme Court under Article 141

of the Constitution of India. It was held by the Hon'ble Supreme Court that the guidelines framed by the Supreme Court would be strictly observed in all workplaces for the prevention and enforcement of the right to gender equality of the working women.

With the passage of time, it was felt that guidelines and norms are not sufficient to deal with the incidents of sexual harassment of women at workplaces and a strong piece of legislation is the need of the hour and accordingly the Act was enacted in 2013. The hospitality industry consists of broad category of fields within the service industry that includes lodging, restaurants, event planning, theme parks, transportation, cruise line, and additional fields within the tourism industry. The hospitality industry is a several billion-dollar industries that mostly depends on the availability of leisure time and disposable income. A hospitality unit such as maintains, direct operations (servers, housekeepers, porters, kitchen workers, bartenders, etc.) Management, marketing and human resources. Hospitality industry covers a wide range of organizations offering food service and accommodation. The industry is divided into sectors according to the skill sets required for the work involved. Sectors include accommodation food and beverage, meeting and events, gaming, entertainment and recreation, tourism service, and visitor information. A hotel is an established that provides lodging paid on a short-term basis. The provision of basic accommodation, in times past, consisting only of a room with a bed, a cupboard, a small table and washstand has largely been replaced by rooms with modern facilities, including en-suite bathrooms and air conditioning or climate control. Additional common features found in hotel rooms are a telephone, an alarm clock, a television, a safe, a mini bar with snack foods, drinks, and facilities for making tea and coffee. Luxury features include bathrobes and slippers, a pillow menu, twin-sink vanities, and Jacuzzi bathtubs. Larger hotels may provide additional guest facilities such as a swimming pool, fitness centre, business centre, childcare, conference facilities and social function services. Sexual harassment of women is a global phenomenon prevalent both in developed as well as in developing countries. Cutting across religion, culture, race, caste, class and geographical boundaries it has spread like virus in the society. It, being offensive to human dignity, human rights and gender equality, has emerged as a fundamental crisis the world over. It is a complex issue involving women, their perceptions and behaviour, and the social norms of the society which emerges from gender discriminatory attitudes and is a complex interplay of gender, power and sexuality

OBJECTIVES OF THE STUDY

- To study and recognize the job satisfaction level among the employees in Hospitality sector at Vishakhapatnam

- To identify the common factors and problems facing by women employees in work area which is impacting the low satisfaction, High stress, and other levels of the employees in Hotel Industry.

- To study the employee's perception towards the problem when it encounters and reactive behaviour of women employees.

- To provide suggestions for the eradication of Sexual harassment by roots and improvement in employee satisfactions levels and hence eventually contribute in the growth of Hotel, Hospitality Industries and organisations.

REVIEW OF LITERATURE

A review of Literature is very important area of any research to understand the opinion and hypothesis of the issue and the problem. In this connection various articles and books were studied to identify the gaps of the studies and formulate the questionnaire. Bullock (1952) defined job satisfaction as an attitude, which results from balancing and summation of many specific likes dislikes experienced in connection with the job. Smith (1955) defined to job satisfaction as the employee's judgment of how well his job on whole is satisfying his various needs. Locke (1969) defines job satisfaction as the pleasurable or positive emotional state revolving from the appraisal of one's job or job experience. According to Vroom, "job satisfaction is the reaction of the workers against the role they play in their work." Blum and Naylor defined it as "a general attitude of the workers constituted by their approach towards the wages, working conditions, control, promotion related with job, social relations in the work, recognition of talent and some similar variables personal characteristics, and group relations apart from the work life". As per Mc comic and Tiffin "Job satisfaction is the total of the sentiments related with the job conducted. If the worker perceives that is/her values are realized with in the job, she/he improvises a positive attitude towards his/her job and acquires job satisfaction". Bikemaker, J. L. And Lacy, W. B. (1987), [38] ''Job Values, Rewards, And Work Conditions As Factors In Job Satisfaction Among Men And Women" Gender differences in job satisfaction are explored utilizing data from the National Opinion Research Centre (NORC) General Social Surveys, 1974–1982. Theoretically, differences in job satisfaction are accounted for by job rewards, job values,

work conditions, and individual attributes. Hodson, R. (1989), [39] ''Gender Differences in Job Satisfaction''. This study analyses gender differences in job satisfaction among full-time workers. Why do women report equal or greater job satisfaction than men despite objectively inferior jobs? Analysis reveals few differences between men and women in the determinants of job satisfaction when considering job characteristics, family responsibilities, and personal expectations. Vijayanthimala, K.; Bharati Kumari, K (1997), [44] "Women with multiple roles: perception of psychological factors and marital satisfaction opined in recent years, with the increased pace of urbanization and modernization, Indian women of all social classes have entered professional occupations. While the entry of unmarried women into professional occupations may be relatively less problematic, the case of married working women who have multiple roles to fulfil is different. Susan M. Donohue, John S. Heywood, (2004) [57] "Job satisfaction and gender: an expanded specification from the NLSY", this study Estimates the determinants of job satisfaction for younger US workers. While age representative data from both the USA and Britain routinely show women reporting greater job satisfaction, this is not true for the younger US cohort in National Longitudinal Survey of Youth sample. Finds no gender satisfaction gap but does find that the job satisfaction of women is less sensitive to both actual and comparison earnings than that of men. Gash, V., Mertens, A. And Gordo, L. R. (2012), [80] ''The Influence Of Changing Hours Of Work On Women's Life Satisfaction'' this research study tests this assumption by measuring the impact of changes in working hours on life satisfaction in two countries (the UK and Germany using the German Socio-Economic Panel and the British Household Panel Survey). Researchers found decreases in working hours bring about positive and significant improvement on well-being for women.

RESEARCH METHODOLOGY

Questionnaire it is the most used and very dependable source of collecting primary data. It is structured list of questions designed to elicit the desired information from the respondents. These are difficult to design and often require many modifications before an acceptable questionnaire is produced. Questionnaires need to be comprehensive and crisp at the same time in order to get the desired information. In case the informants are largely uneducated and non-responsive data cannot be collected by the mailed questionnaire method. In such cases, schedule method is used to collect data. The Sample for the study was obtained from the various hotels situated in around and Visakhapatnam with help of stratified sample

basis maybe it is also one of the reasons some extent the outcomes and results may not be suitable to other places and industries. Here the questionnaires are sent through the enumerators to collect information. Enumerators are persons appointed by the investigator for the purpose. They directly meet the informants with the questionnaire. The present study conducted through schedules and questionnaires and the data was analysed with help of graphical presentations and explanations.

LIMITATIONS OF THE STUDY

- Due to confidentiality of some information   accurate and detailed information was not received from the Hotel members.
- Some of the replies of the respondents may be biased.
- Due to limitation of the time the research could not be made more detailed.
- The sample size was limited due as the employees were very busy during the working hours.
- Some were reluctant to answer some question thinking that might affect their job negatively.
- The suggestions given may not be applicable to the entire Hospitality Industry

DATA ANALYSIS

Does Management consider women employees needs and comforts while planning the work schedule?
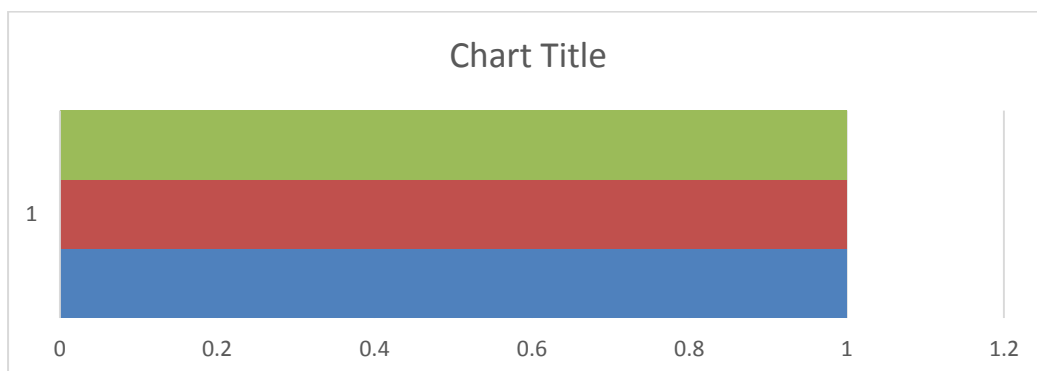
Does the management respond quickly women related issue?
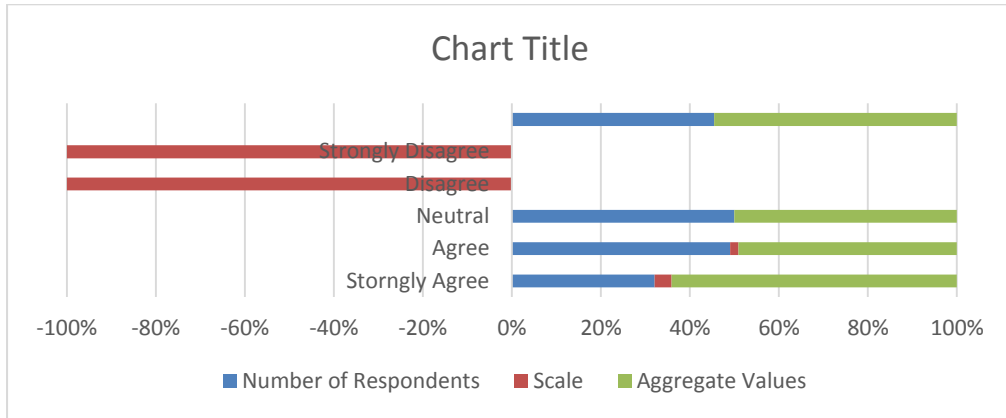
Does Management is open to your ideas and suggestions related with Women employees problems and challenges?
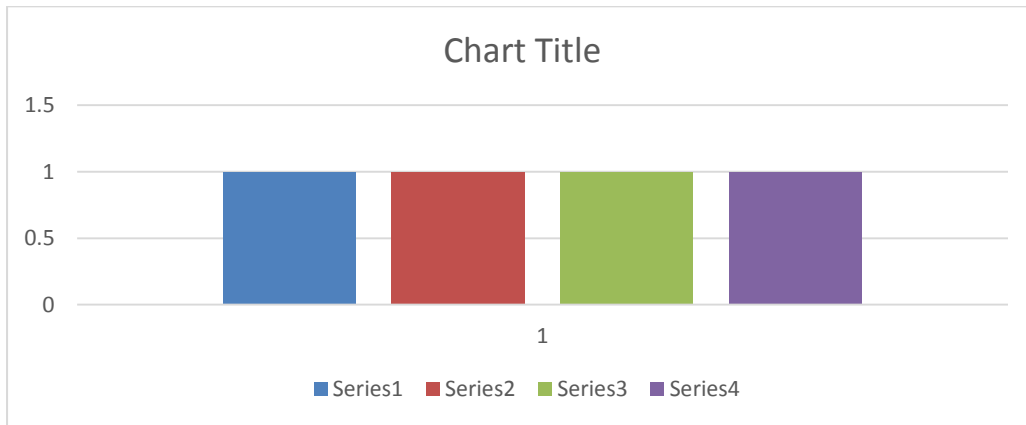
Do you get adequate support and cooperation from Male employees in dealing with Women related and Sexual Harassment issue and challenges?
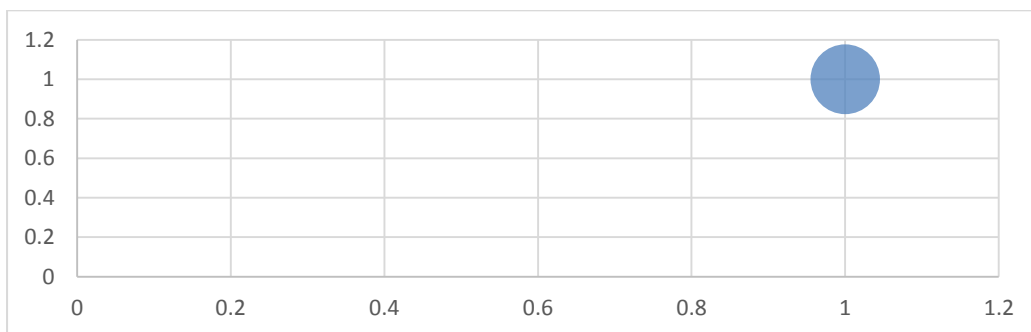
Are you aware of your rights and privileges as per norms of the Government of India and Supreme Court Guidelines regarding with Sexual Harassment?
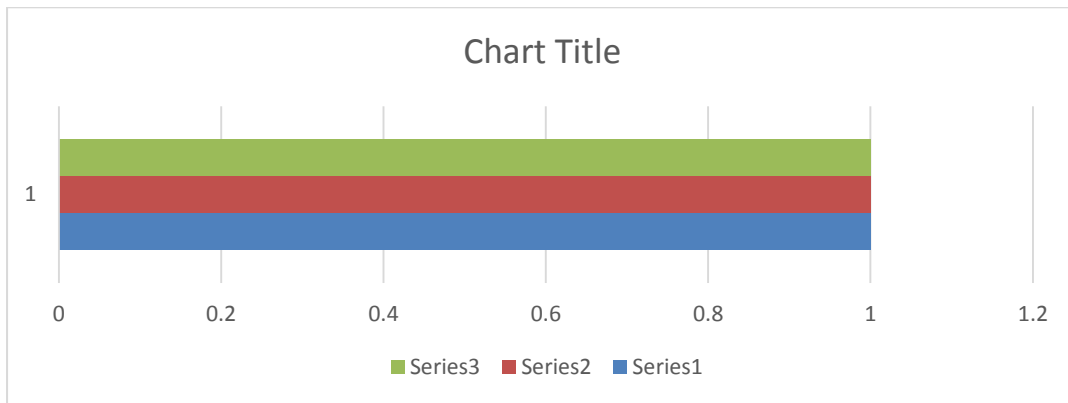
Women employees share among themselves, their internal and external experiences related with Sexual harassment?
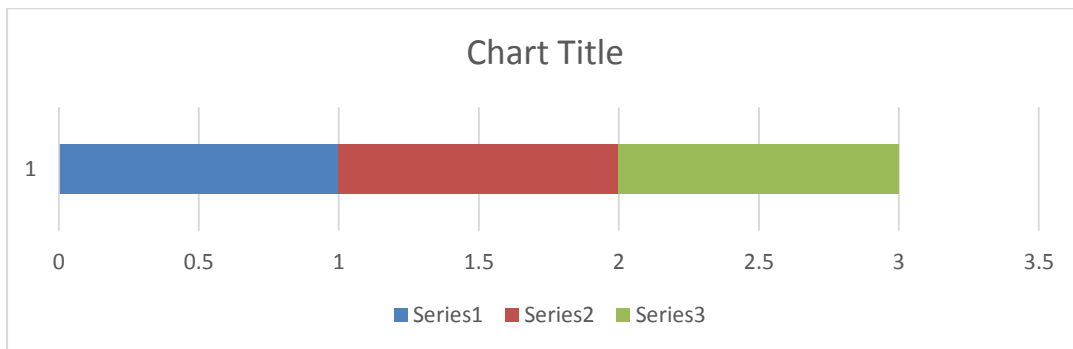
Women employees get equal recognition for their hard work?
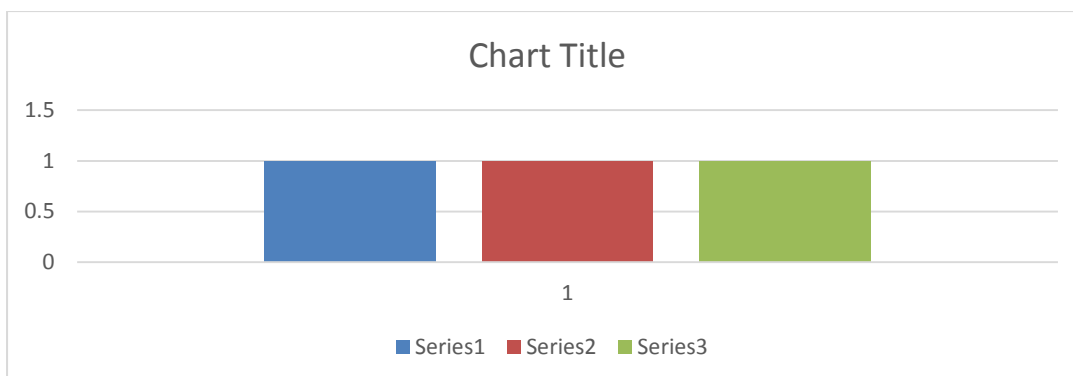
Are you Happy with work environment provided with issue related with Sexual Harassment?
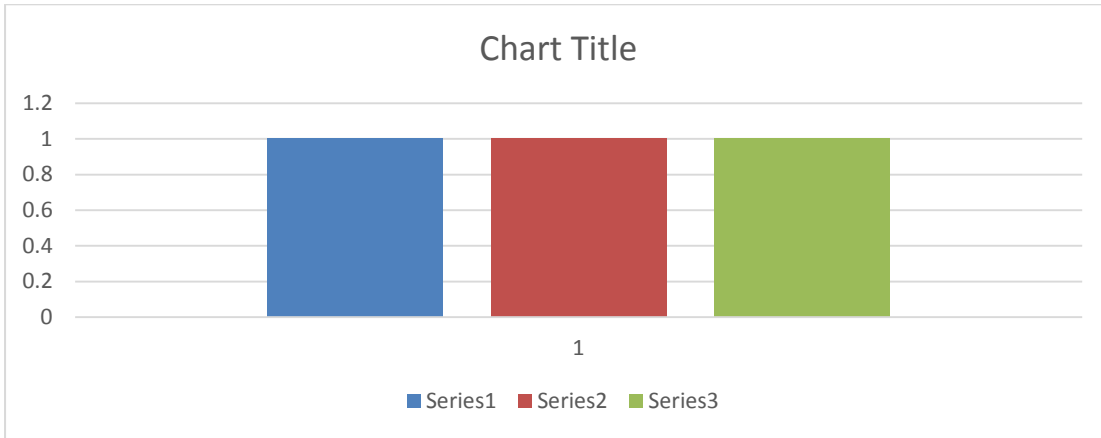
Management seriously willing to put a great deal of effort beyond what is normally expected to handle Sexual Harassment issues and challenges?
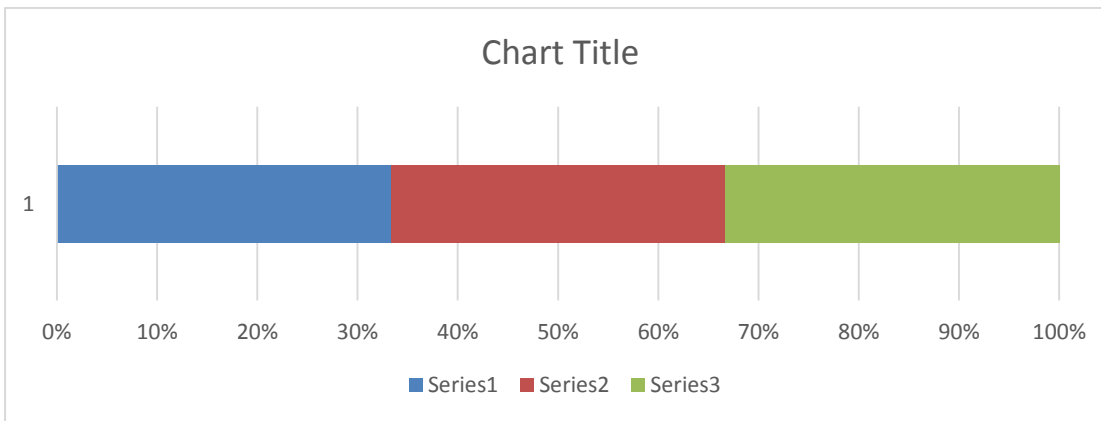
Often, I find it difficult to agree with the Management's policies on Sexual Harassment issues?
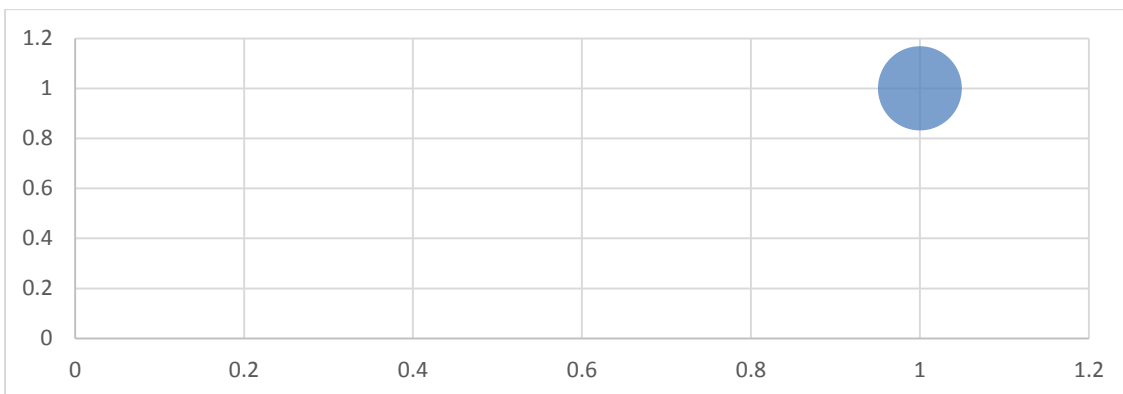
No Discrimination among the gender in payment of Wages and Remunerations?
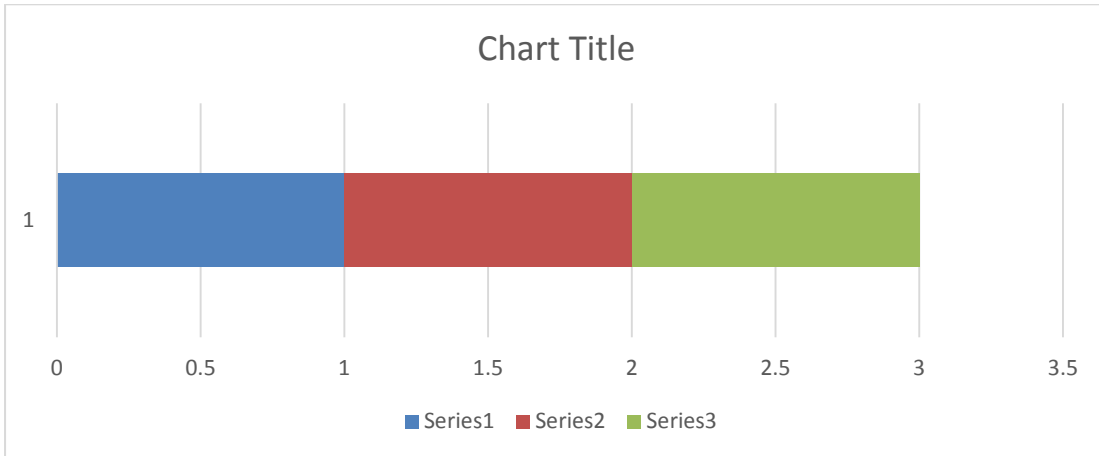
Healthy and Harmonious relations are there with Male colleagues?
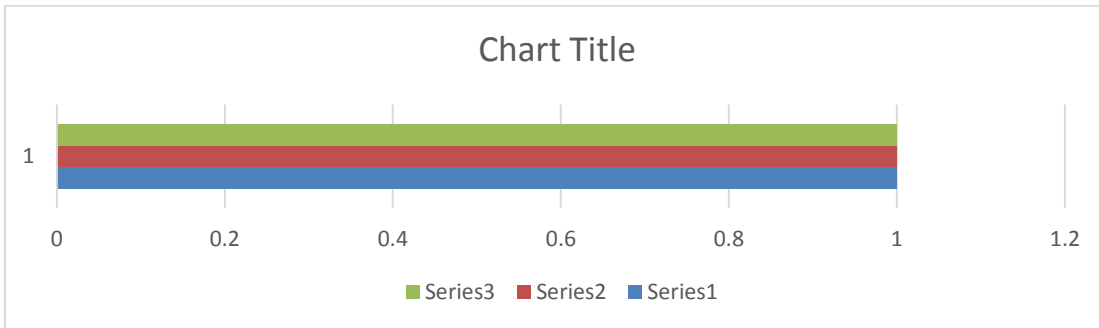
In relation with Sexual Harassment often training and Awareness workshops used to be conducted for both the male and female employees?
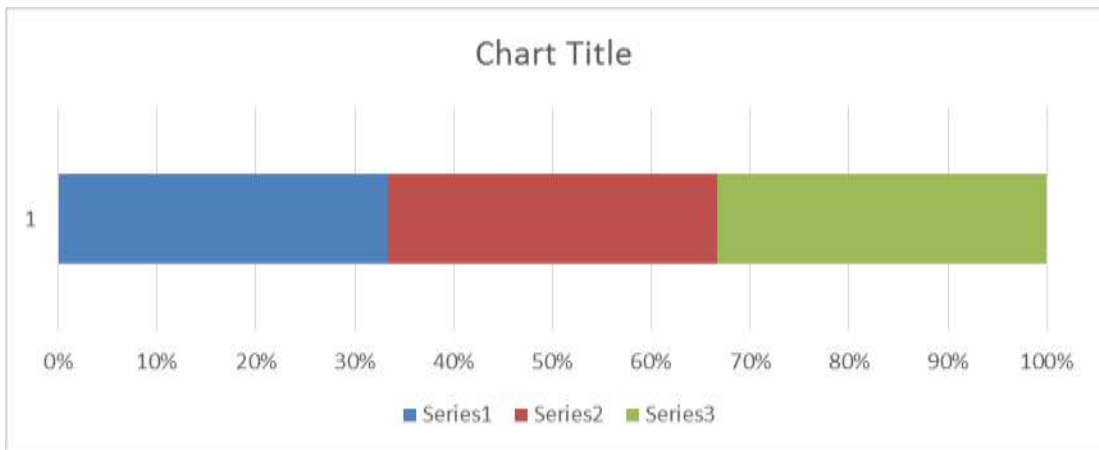
Often HR Department send messages, updates and communication regarding with Sexual Harassment in general awareness point of view?

The HR department helps women employees to solve their issues related with Sexual Harassment which are in their scope?

Policies related with Sexual Harassment displays in workplace for creating an awareness among the employees.

FINDINGS

In this study of the project on "Job Satisfaction in NVVB" the following points have been noted and found to be existing:

- From the survey it is found that most of the Female employees believe that their managers consider employees needs while planning work schedules.

- Most of the women employees believe that their internal issues are been quickly addressed by the management.

- Majority of the Female employees believe that their ideas and suggestions are valued, and they are given an opportunity to present them.

- The figures from the analysis show that maximum number of Female employees believes that they get adequate support from their seniors and superiors at work.

- Moderate Female employees believe that the hotel's Sexual harassment policies are for their benefit.

- Most of the female employees positively respond about the interactions and relationships among colleagues.

- Moderate female employees are satisfied with the information they receive about Sexual harassment policies from the HR department.

- Moderate female employees believe that HR department is effectively updating them about new policies and changes related with Sexual harassment.

- Moderate of female employees are happy with the efficiency of the HR department in solving their queries, issues and challenges with Sexual harassment.

SUGGESTIONS

- The hotel needs to take up some initiative in order to earn their employee's loyalty and to build a sense of ownership among the staff.

- Though there are a lot of employee engagement activities happening in organisations like food festivals, inter-department competitions, fun Fridays, festival celebrations etc. employees have a mixed opinion about these activities. If the respective in-charge can include some interesting elements in these activities, there will surely be an improvement in the feeing of the   employees about their workplace and work environment.

- A good number of female employees are not very happy with the work environment available. This can be worked on by including more training and awareness programs.

CONCLUSION

Legally, workplace sexual harassment can no longer be dismissed as some moral transgression. The Vaisakha Guidelines raised that bar, when for the first time it recognized "each incident of sexual harassment" as a violation of the fundamental right to equality. That notion has found its way into the Act, which promotes the right of women as citizens to a workplace free of sexual harassment. Complaints Committees at all workplaces are now charged with the role to ensure that the right remains intact, through a fair, informed, user-friendly process of redress. Prioritising prevention and establishing a redress mechanism, which comprises of 50 per cent women, a woman chair and an external third-party expert, is India's innovative model in responding to working women's experience of sexual harassment. Assuming adequate changes follow, in both law and practice to meet global benchmarks, that model can evolve into an exemplary best practice. To get there, workplaces in India today, must rise to the requirement of promoting gender equality.

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EFFECT OF MICROFINANCE BANKS ON THE FINANCIAL PERFORMANCE OF SMALL SCALE ENTERPRISE IN MUBI

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ABSTRACT
The study assessed the effect of microfinance banks on the financial performance of small scale enterprise in Mubi. The sample of the study was limited to 107 small scale enterprises operators in Mubi. The instrument used for collecting data from the respondents is the questionnaire. The data gathered from the respondents was analyzed using simple percentage statistics. The finding shows that to a large extent SSE do not have access to microfinance banks for financing activities. This is because only a few microfinance banks operate in the area therefore SSE low patronizing for financing their activities in bank. The study therefore, recommends that the government should of more microfinance banks in the study area so as to make finance more readily available to SSE.
KEYWORDS: *Banks, effect, financial, microfinance, performance and small scale enterprise*

INTRODUCTION

The modern society cannot exist without business as it contributes to improvement in the standard of living, utilization of resources, production of goods and services, employment opportunities and economic growth. Small scale enterprises which are the most common types of businesses are the engines for growth and development of any society or nation, particularly, developing nations. This is because of the fact that they have become major sources of employment for the unemployed, wealth creation, provision of varieties of goods and services and improvement of Gross Domestic Product (GDP) and Gross National Product (GNP) for developing economies of the world. It is also becoming an instrument for ensuring peaceful coexistence among societies (Ekpudu, Posu & Olabisi, 2014).

The criteria for defining the size of a business differ from country to country, with many countries having programs of business rate reduction and financial subsidy for SMEs. According to European Commission, small-scale enterprise or business is one with less than 50 employees and turnover of less than €10 million Euros while medium scale business is one with less than 250 number of employees and turnover of less €50 million Euros (European Commission, 2016). Small and Medium scale enterprises play a critical role in sustainable economic development of many nations, because it has been identified as a catalyst for economic growth and development in both emerging and developed economies of the world (Normah, 2011).

In Nigeria, Alege and Ogunrinola (2008), documented that a UNDP-sponsored microcredit programme on small scale enterprise development found that variables such as pre-loan training and entrepreneur level of education impact significantly on small scale enterprise development. Bekele and Zekele (2008), also investigated long term survival of small scale enterprise financed by microfinance institution the study showed that small scale enterprises that did not participate in such schemes regularly were more likely to fail in comparison with those that participated regularly.

The importance of microfinance institutions in the reduction of poverty and development of a nation cannot be overemphasized. It is a tool employed as a means of getting capital to small businesses that find it difficult to survive and grow beyond their capacity. Microfinance services are thus vital in the lives of the rural poor because most of the income earners either small or medium scale entrepreneurs in rural areas mostly lack the necessary financial services and support (Abdulmumini, 2012).

Small scale enterprise are less capital intensive and have the flexibility to respond quickly to fluctuating demands of the market due to their size and innovativeness (Obokoh, 2011). In addition, the small scale enterprise sector also serves as incubator for new ideas and testing ground for new technologies (Oyefuga, Siyanbola, Afolabi, Dada & Egbetokun, 2011). Despite the critical role of small scale enterprises in the economies of developing countries, they are plagued by small capital base, worsened by the high cost and difficulty to obtain funding from commercial banks (Obokoh, 2011; Ngehnevu & Nembo, 2010; Sriram & Mersha, 2010). It has been observed that commercial banks

traditionally prefer to lend to large enterprises which are adjudged credit worthy in most countries in Africa. The commercial banks often avoid doing lending to small enterprises because of small scale enterprises associated cost and relative high risk of operation (Aryeetey, 2008).

This lack of access to credit to formal financial institutions necessitated the reforms in community banking that precipitated the licensing and establishment of microfinance institutions in Nigeria by the government through the Central Bank of Nigeria (CBN). In 2005, the CBN commenced the process of reforms in the community banking sector. The latter resulted in the licensing of microfinance banks (Microfinance banks), to replace community banks, with the goal of making microfinance banks more effective in granting credit to small scale enterprises in order to develop this sector. Thus, private sector operators were statutorily empowered by the provisions of section 33 subsection (1) (b) of the CBN Act 7 of 2007 to operate Microfinance banks in place of the community banks in Nigeria (CBN, 2008).

The CBN objective for the reform process that ushered the microfinance banks was to make it vehicles for social-economic growth and rural transformation through the provision of credit to small scale enterprises. The intent was to reduce the burden of high interest rates and other financial charges hitherto charged by banks under normal bank lending, as well as to provide financial, advisory, technical and managerial supports to small scale enterprises operators. The significant role expected of microfinance banks made the CBN to adopt it as the main source of funding for small scale enterprise in Nigeria, especially those in the manufacturing sector. Manufacturing small scale enterprise have a long gestation period, thus, the need for more accessible and cheap sources of finance especially long-term at affordable interest rates is a necessity (Abereijo & Fayomi, 2013).

Notwithstanding these efforts by the CBN, many manufacturing small scale enterprises are still shutting down operations due to liquidity problems and other related environmental business factors (Obokoh, 2011). Recent studies in Nigeria and elsewhere confirmed some of the major causes of poor performance and the development of manufacturing Small scale enterprise in Nigeria to include financial constraint and lack of social supports (Oyefuga, Siyanbola, Afolabi, Dada & Egbetokun, 2011). It is against this background that this study examines the effect of microfinance banks on the financial performance of small scale enterprises in Mubi metropolis of Adamawa State.

A number of small scale businesses lack access to financial services from formal financial institutions (banks). In Nigeria, one of the greatest obstacles that small scale enterprises have to grapple with is access to funds from banks which have occasioned the low development of business in the economy (Olowe, Moradeyo & Babalola, 2013). In Nigeria, one of the greatest obstacles that small scale enterprises have to grapple with is access to funds from banks which have occasioned the low development of business in the economy (Olowe, 2013). The role of finance to the growth and performance of small scale enterprises cannot be overemphasized. The introduction of microfinance banks as the main source of financing small scale enterprises and the provision of other advisory services to business owners in Nigeria was meant to spur the performance, growth and development of small scale enterprises in the country. This current study therefore examines the effect of microfinance institutions on the financial performance of small scale enterprises in Mubi metropolis. The study formulated the following questions to serve as a guide:

i.   What is the extent to which small scale enterprises have access to microfinance banks as source of financing activities?
ii.   What is the impact of microfinance banks on financing on the financial performance of small scale enterprises?
iii.   What are the challenges militating against small scale enterprises access to microfinance banks financing?

The study test the following null hupothesis:

H_0 :   Microfinance bank financing does not have a significant effect on the financial peformance of small scale enterprises.

LITERATURE REVIEW
Concept of Microfinance Bank

Microfinance is the act of providing a whole range of financial services such as deposits, loans, payment services, money transfers, and insurance to poor and low-income households and, their microenterprises. Microfinance is the practice of offering small and short-term loans to entrepreneurs who otherwise would not have access to capital to begin a small business or other income generating activities (Oyedokun, 2015). Microfinance is defined as the provision of thrift, credit and other financial services and products in very small amounts to the poor to enable them to raise their income levels and improve their standard of living (Eluhaiwe, 2016).

Microfinance banking could be categorized mainly into two sources namely: informal sources of microfinance and formal sources of microfinance. While it could be very easy to trace the origin of the formal sources of microfinance in Nigeria, the origin of the informal sources of Microfinance is only traceable to the practices among ethnic nationalities without any known precise date (Adeoye & Emmanuel, 2015).

Consultative Group to Assist the Poor (2012), defined microfinance as the supply of loans, savings and other basic financial services to the poor. These owners of micro and small enterprises require a diverse range of financial instrument to meet working capital requirement, build assets, stabilized consumption and shield themselves against risk. Financial services include working capital loans, consumer credit, savings, pensions, insurance and money transfer services. In practice, microfinance is much more than disburser rent management and collection of little bits of loan. It is rather refers to flexible process and structured to suit credit need and cash flow pattern of small business.

Microfinance is not charity despite its appellation as poverty lending. Primarily micro finance seek to create access to credit for the poor who ordinarily are locked out of financial services in the formal financial market by reasons of their poverty, that is, lack of command over assets. It therefore places obligation on the borrowers for proper utilization and complete repayment of the borrowed amount even at commercial interest rates (CBN, 2013).

Microfinance is not new in Africa. In other societies and history we come across schemes and social arrangements which enable people to pull their resources for onward distribution to cooperatives and needy individuals. Ready examples include adashe and variants of esusu. Nigerian microfinance institutions have also integrated the best practices of traditional scheme into operational procedures (Ehigiamusoe, 2016).

Concept of Small Scale Enterprises

The criteria for defining the size of a business differ from country to country, with many countries having programs of business rate reduction and financial subsidy for Small scale enterprise. According to European Commission, small-scale enterprise or business is one with less than 50 employees and turnover of less than €10 million Euros while medium scale business is one with less than 250 numbers of employees and turnover of less €50 million Euros (European Commission, 2016). Small scale enterprise have no doubt been indeed recognized as the main engine of economic growth and development, a major variable for promoting the private sector, development and partnership. Various governments, development agencies and experts as well as multilateral institutions do appreciate this fact such that they positively respond to any occasion and situations, which could permit they contributing to or creating opportunities for promoting the lot of Small scale enterprise. The Small Scale Enterprise sub-sector not only contributes significantly to improved living standards but they also bring about the substantial local capital formation and achieve high levels of productivity and capability. Employment or

job opportunity wise, small scale enterprise account for well over half of the total share of employment, sales and value added in most countries (Basil, 2014).

Small Scale Enterprise Access to Micro Finance Banks

According to Navajas, Conning, and Gonzalez-Vega (2013), the main objective of microcredit is to improve the welfare of the poor through better access to small loans that are not offered by the formal financial institutions. Small scale enterprise access to finance is primarily a demand and supply function with, typically, research (Watson and Wilson, 2002; North, Ullah, and Baldock, 2011), on the demand-side focusing on understanding how characteristics of Small scale enterprise or their ownermanagers may be discerned in order to explain patterns of available and accessible finance.

In terms of the characteristics and structure of most Small scale enterprise, studies (DeYoung, Gron, Torna, & Winton, 2012; Mac and Bhaird, 2013), appear to indicate that risk diversification of asset composition also impacts upon Small scale enterprise access to finance. According to Nissanke (2001), the portfolio structure of most sub-Saharan Small scale enterprise is constrained, under-developed and insufficiently diversified; the implication being that losses in one business activity cannot necessarily be offset against gains in another activity. Manufacturing Small scale enterprise are also more likely to be in need of more accessible and cheap(er) sources of finance for a longer period than other types of Small scale enterprise (Chakrabarty & Bass, 2013).

Another finding from such studies is the existence of a pecking order within Small scale enterprise. Pecking order theory proposes that cost associated with the funding of institutions will increase with asymmetric information (Watson & Wilson; 2002). In effect, pecking order theory suggests that Small scale enterprise will prioritise their sources of finance in the following hierarchical order: (1) internal sources of finance will be sought first. If such funding cannot be sourced or is sourced but, is, then, depleted, (2) debt will be taken on and when or if it becomes impractical to finance the institution using debt, (3) equity will be issued, usually as the last resort.

Nikolaos, Robin and Emmanouil (2013), study on Greek small businesses is in line with the pecking order theory. It was found that firms rely heavily on own funds due to reluctance making use of new external equity (venture capital, business angels, etc.). However, firms indicated preference for long-term debt equity in the absence of own funds if pressed to seek external funding which has a lot of limiting factor in accessing the long-term debt finance. Most of the Greek firms due to their size are

unaware of state grants and co-financed programs because of informational gap of the existence of such programs. On the supply side of Small Scale Enterprise access to finance, scholars (Chimucheka and Rungani, 2011), appear to be interested in understanding how resource provision for Small scale enterprise may be enhanced through financial market efficiency. Here, the level of accessible finance for Small scale enterprise remains a function of how willing a financier is to lend, although it is also dependent on the actual demand for credit finance (Mach & Wolken, 2012).

Chimucheka and Rungani (2011) found that about 28% of Small scale enterprise have never applied for loans from banks. Generally, studies show that Small scale enterprise continue to prefer internal equity as a source of funding (Mac an Bhaird and Lucey, 2010; McCann, 2011; BIS, 2012; Xiang, Worthington, and Higgs, 2014), however, if unavailable or inadequate, most Small scale enterprise would seek external funding for their business activities. This is usually in the form of bank borrowing (Beck, Demirgüç-Kunt, & Singer, 2008). Studies by Demirguc-Kunt, Maksimovic, Beck, and Laeven, (2006), identify equity and debt as the two main sources of external finance for Small scale enterprise. However, the often lack of external equity on the supply side has meant that many Small scale enterprise depend on loans and overdrafts (from banks) and credit from their suppliers for financing. However, our understanding of the discourse is that an over-reliance on bank borrowing has left Small scale enterprise particularly vulnerable to contraction of private credit (Udell, 2009; Ullah, North, and Baldock, 2011). In response, governments have sought to increase Small Scale Enterprise access to finance by promoting a less conservative and riskaverse outlook among lenders (Quartey, 2003).

Despite the valuable contribution of microfinance banking to Small Scale Enterprise development, in reality, research (Sodokin and Donou-Adonsou, 2010), is inconclusive on the actual contribution of microfinance to Small scale enterprise development and survival, thus, setting the scene for this study.

Impact of Microfinance Bank on the Financial Performance of Small Scale Enterprises

The primary purpose of establishing microfinance banks in Nigeria was poverty alleviation through the provision of financial services to the poor. By providing these services, the microfinance banks can contribute to the wellbeing of the economy through the following ways as cited in Asor, Essien and Ndiyo, (2016); i. Enhancement of savings and investment opportunities, they mobilize local savings into productive activities, thereby contributing to the growth of the economy. ii. Improve income distribution of the Nigerian population iii. They encourage rural industrialization thereby reducing rural-urban migration. iv. They encourage entrepreneurship behaviour among the youth by providing them with financial services which would allow them to engage in economic activities and become self-reliant. By doing this, microfinance banks help tackle the problem of poverty and unemployment.

The idea of creating Micro Finance Institutions (MFIs) is to provide an easy accessibility of Small scale enterprise to finance/ fund particularly those which cannot access formal bank loans. Microfinance banks serve as a means to empower the poor and provide a valuable tool to assist the economic development process. Kolawole (2013), is of opinion that the promotion of microenterprises in developing countries is justified because of their abilities to foster economic development.

The evolution of microfinance in the 1970's is to break the barricade to access capitals by low-income individuals for development purposes. To say that microfinance empowers the entrepreneurial spirit that exists among the small-scale entrepreneurs worldwide is not an exaggeration. Microfinance has the ability to strengthen microfinance enterprises and encourage best practices among operators of small and medium-scale enterprise (Adeusi, 2015). The CBN (2004) as cited in Asor, Essien and Ndiyo, (2016), noticed that microfinance institutions grew as a result of the failure of the formal financial institutions to provide financial services to the poor. Microfinance institutions can be grouped into formal and informal institutions. The former consists of banks, while the latter include cooperative societies, self-help groups etc. Several microfinance programmes and institutions have been established by both governmental and non-governmental agencies, to promote economic growth and development in the country by increasing and improving the productive capacity and living standard of the poor.

According to Abiola (2017), this is because it plays a vital role in the financial intermediation process and also in the lives of the low income earners who constitute over 70 per cent of the Nigerian population. Some of these important roles include:
a. Credit Delivery
b. Boosting Small Scale Enterprises/Agriculture:
c. Employment Generation:
d. Improvement in Skill Acquisition:
f. Facilitates Poverty Alleviation:

Challenges of Small Scale Enterprises in Accessing Microfinance Banks Financing

Iganiga, (2016) reports that, to achieve sustainability and growth, microfinance institutions and authorities most devises strategies to effectively address the six challenges of microfinance which includes: High operating cost repayment problems, inadequate experience staff, lack of financing facilities, client apathy and drop-out because pro-poor microfinance MFIs lose up to 20% of their client base annually and Internal control challenges as a result of large transactions informal challenges.

The development of Small scale enterprise requires combine efforts on the part of government institutions. In this regard, issues related to tax, information and availability of social infrastructure needs to be addressed to facilitate the development of Small scale enterprise. In as much as national policies play an important role in the development of Small scale enterprise, targeted inventions are much more effective to bring about a rapid changing the growth of Small scale enterprise' support services at the firm level. These are important mechanisms that will ensure the efficient allocation of resources by Small scale enterprise to enable them to grow and expand their operations in order to create a robust and dynamic private sector (Iganiga, 2016).

Olowe (2013) identified some of challenges facing Microfinance banks in disbursing loans to Small scale enterprise in Nigeria as follow;

i. **High Operating Cost**: Small Units of services pose the challenges of high operating cost, several loan applications to be processed, numerous accounts to be managed and monitored, while repayment and collections are be made from several locations especially in rural communities.

ii. **Repayment Problem**: Loan default is a major threat to microfinance banks' sustainability; it is the deadly "virus" which afflicts the operation of the banks. It demoralizes staff and deprives other beneficiaries of further valuable services.

iii. **Inadequate Experienced Credit Staff**: Micro financing is more than dispensing loans. Microfinance banks require experienced and skilled personnel. As a young and growing industry, there is a dearth of experienced staff in planning, product development and effective engagement with clients.

iv. **Problem of illiteracy**: Most of their customers are illiterate which affects record keeping and decision-making ability of borrowers and consequently affects their relationship with the banks.

EMPIRICAL REVIEW

Nikolaos, Robin and Emmanouil, (2017) study on Greek small businesses is in line with the pecking order theory. It was found that firms rely heavily on own funds due to reluctance making use of new external equity (venture capital, business angels, etc.). However, firms indicated preference for long-term debt equity in the absence of own funds if pressed to seek external funding which has a lot of limiting factor in accessing the long-term debt finance. Most of the Greek firms due to their size are unaware of state grants and co-financed programs because of informational gap of the existence of such programs.

In Nigeria, Alege and Ogunrinola (2008) carried out a study to ascertain the impact of a UNDP-sponsored microcredit programme on Small Scale Enterprise development. They found that variables such as pre-loan training and entrepreneur level of education impact significantly on Small Scale Enterprise development. Bekele and Zekele (2008) also investigated long term survival of Small scale enterprise financed by microfinance institution and decided that enterprise that did not participate in such schemes regularly are more likely to fail in comparison with businesses that participated regularly. In another study to examine the impact of microfinance on rural farmers in Malawi, Aguilar (2006) reported that farmers who borrow from microfinance institutions were no better off than those who did not borrow. A study by Hannafey (2013) however, pointed that new small scale enterprise face significant resource pressure. Thus, the liability of newness may lead new Small scale enterprise towards more individualist ethical postures. Investors risk perception may be `influenced by the extent to which they perceive that they can trust the entrepreneur or entrepreneurial team.

THEORETICAL FRAMEWORK
Pecking Order Theory

The pecking order theory is one that was developed by Myers Sanders in 1984. It implies that the financing requirements of firms (usually small scale enterprise) are catered for in a hierarchical order. The initial source of funds is internally generated. As the amount of funds required is increased, the next source is via the use of debt. Further increase in the need of funds leads to sourcing for external equity. Thus there tends to be a negative relationship between profitability and external borrowing by small firms. This further implies that the debt equity mix of a firm should be heavily dependent on the hierarchical financing decisions over time. This theory thus maintains that businesses organizations always prefer to use internal funds. If it is not available, the organization will prefer to use debt as an external source of fund

before it considers equity financing. Therefore, by simply examining a firm's debt equity mix, one can have a general understanding on the health of that organization. When managers issue new shares, the public believe that the managers have concluded that the firm is valued more than its actual worth and as such they want to quickly utilize the opportunity. This leads to the investors valuing these new stocks lower than before. The theory also implies that older firms should have more funds available to promote growth since they have had more opportunities to accumulate internally generated funds i.e retained earnings.

Financial Growth Theory
This theory was developed by Berger and Udell (1998). According to them, as a business matures over the years, its financial obligations and financing options metamorphose having more information available to the public. According to them, firms that are smaller, younger and possess more ambiguous information must depend on initial internal funding, trade credit, or a type of financing called angel finance. (Angel finance is one that occurs when an individual or organization provides a limited amount of financial backing for a start up business with more favourable repayment plan). As the firm grows, it qualifies for acquiring both venture capital and midterm loans as sources of both intermediate equity and intermediate debt respectively. Further aging of the firm makes it to become bigger and less informationally murky. This thus qualifies the firm to have access to both public equity and long term loans as sources of both long term equity and long term debt respectively.

Bank Capital Channel Theory
This model implies that the lending behaviour of banks to Small scale enterprise is heavily dependent on capital adequacy requirement. Obamuyi (2007) showed that a change in interest rate can influence banks lending to Small scale enterprise through bank's capital. This implies that increasing the value of interest rates raises the cost of banks' external funding, but reduces banks' profits and capital. The tendency is for the banks to reduce their supply of loans if the capital constraint becomes binding. On the other hand, the banks could also become more willing to lend during situations when the interest rate is favourable.

The Life Cycle Model
This model was developed by Weston and Brigham (1981). According to them, accelerated growth of a small firm could lead to the firm lacking capital. This was because, most of the time, small firms are created with just internal funds from the owners. As the firm grows, the amount of owners' equity is no longer capable of sustaining it and the firm would have to resort to external sources of funds in order to survive. Thus, accelerated growth could result in illiquidity and thus the firm would have a decision to make between reducing its growth rate or becoming illiquid and sourcing for external funds. Therefore Weston and Brigham (1981) concluded by showing that Small scale enterprise that grow in size are very likely to have an increase in its debt structure.

Contract Theory
According to Wikipedia (2015), this theory was first formally treated by Kenneth Arrow. It studies how economic actors construct contractual arrangements in the presence of asymmetric information. Information asymmetry arises when one of two parties engaged in a business transaction happens to have more or different information than the other. In such a situation, one party does not have adequate information about the other party resulting in inaccurate decision making. This circumstance leads to a potential adverse selection and moral hazard problems in the credit market.

Adverse selection is a problem arising from asymmetric information which occurs prior to the transaction actually occurring. Here a lender may decide not to lend money even though the borrower has the ability to make loan repayments as expected, just because he does not have enough information about the borrower to aid in his decision making.

For the purpose of this research work, the study will dwelled only pecking order theory, the reason for chosen this theory is because this theory explain in details how small scale enterprises will be giving access to loans based on their financial capabilities and requirements, it implies that the financing requirements of firms (usually small scale enterprise) are catered for in a hierarchical order. The initial source of funds is internally generated. As the amount of funds required is increased, the next source is via the use of debt. Further increase in the need of funds leads to sourcing for external equity. These ideas go in cognizance with subject matter under study; this is why the research finds it worthy to adopt this theory.

METHODOLOGY
For the purpose of this study, the researcher made use of survey research design. This method is appropriate because the opinions of operators of small and medium scale enterprises are required in the treatment of the problem at hand. Therefore, questionnaire was administered to elicit opinion on the subject matter. The population of this study includes all medium and small scale businesses in Mubi North and Mubi South LGA. The sample size of this study is 107 small scale enterprises operators in Mubi. The purposive sampling technique was used to arrive at the sample size. Data for the study was

collected from primary source, which involves the use of questionnaire. The secondary information collected for the purpose of this study includes: publications, reports, newspapers, and expert opinion on seminar presented etc were used for literature review. The researcher made use of questionnaire as the tool for collecting data. The researcher adopted the closed-ended type of questionnaires here questions were asked and respondents expected to select from the various options given. The questionnaire was designed on five points likert scale ranging from strongly agree(5), Agree(4), Undecided(3) Disagree (2), Strongly disagree(1). The questionnaires were administered personally by the researcher and were collected back after some days. Descriptive statistics was employed in analyzing the data collected through the questionnaires. Also the chi-square statistics was used to test the formulated research hypothesis.

ANALYSIS AND RESULTS
Test of Hypothesis
The study formulated hypothesis states that

H_0 : Microfinance bank financing does not have any significant effect on the financial peformance of small scale enterprises.

The chi-square statistics was used to taste the research hypothesis.

Table 4.9 Result of Chi-Square Statistics

	Gender of respondents	Microfinance lending is not sufficient for Small scale enterprise in the study area
Chi-Square	22.773[a]	55.010[b]
Df	1	4
Asymp. Sig.	.000	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 48.5. b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 19.4.

Source: Researcher's Computation using SPSS, 2020

Decision: The chi-square calculated statistics is 55.010. Since the P-value of 0.000 is less than the selected 5% level of significance, the null hypothesis is rejected. Hence, it is concludes that microfinance bank financing have a significant effect on the financial peformance of small scale enterprise.

Findings
The following findings emerged from the data analysis.
i. To a large extent SSE do not have access to microfinance banks for financing activities. This is because only a few microfinance banks operate in the area therefore SSE low patronize for financing their activities in bank.
ii. Microfinance banks financing has a significance effect on the performance of SSCE.
iii. There are several challenges that confront SSE access to microfinance banks financing but poor record keeping is the most important factor militating access.

CONCLUSION
The study reached the following specific conclusions;

i. To a large extent SSE do not have access to microfinance banks for financing activities. This is because only a few microfinance banks operate in the area therefore SSE low patronize for financing their activities in bank.
ii. Microfinance banks financing has a significance effect on the performance of SSCE.
iii. There are several challenges that confront SSE access to microfinance banks financing but poor record keeping is the most important factor militating access.

RECOMMENDATIONS
Based on the findings and conclusion, the study proffers the following recommendations:
i. The government should of more microfinance banks in the study area so as to make finance more readily available to SSE.
ii. To ensure greater effect of microfinance banks finance on the financial performance of SSE the size of loan should be increase with more favourable terms of credit facility.
iii. The government should organize seminars and workshops on record keeping practices

for SSEs so as to improve their record keeping which is an important consideration by microfinance banks granting finance to SSE.

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TECHNOLOGY OF PHOSPHORITE AND GLAUCONITE-BASED PHOSPHORITE FERTILIZERS IN KARAKALPAKSTAN

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ANNOTATION

In order to develop a simplified technology for obtaining phosphorus fertilizers, the process of chemical activation of Khojakul phosphorite flour with mineral fertilizers, which are the main standard fertilizers in agricultural production, was studied. Decomposition of glauconite with nitric, sulfuric and phosphoric acids was carried out. The process of decomposition of glauconite with acid is normal, but after 1.5-3 hours it decreases sharply. The acid has a debilitating effect on glauconite.

KEYWORDS: *Phosphorite, glauconite, activate, nitric, sulfuric and phosphoric acids, pH, complex compound fertilizer.*

INTRODUCTION

Substantiation of the following scientific solutions for the development of technologies for the production of complex fertilizers in the field of chemical processing of agronomic ores - phosphorite, bentonite, glauconite, vermiculite and other natural minerals in the world today, including determination of optimal conditions of chemical activation of local phosphorite and glauconite with mineral acids or their salts; it is necessary to develop a rational technology for the production of new types of activated complex compound fertilizers based on local agro-ores and mineral salts.

Certain results in the development of mineral fertilizers, including phosphate and calcium oxide ammonium nitrate, ammophos, suprefos-NS, simple and enriched superphosphate, PS-Agro, ammophosphate, potassium chloride, potassium nitrate, ammonium and potassium sulfate on the basis of processing of local raw materials, are achieved.

G. Shobolov [2], D. Gerus [1] noted that bentonite sludge is a cheap natural raw material, has a special significance in world science with its physical and chemical properties. The components of bentonite are mainly small mineral montmorillonite, which determines its physicochemical properties.

Due to the abundance and cheapness of available unconventional mineral raw materials, it is highly effective in replacing some of the deficient minerals in agriculture and being used as a supplement. [3; 4].

The aim of the study is to develop a rational technology for the production of complex fertilizers by chemical activation of Karakalpak low-grade phosphorite and glauconites with mineral acids and their salts, as well as organic matter.

RESEARCH METHODS

The composition of Karakalpak glauconite and various types of phosphorites, their physicochemical

and mechanical properties, physicochemical studies were conducted in experiments.

In order to develop a simplified technology for obtaining phosphorus fertilizers, the process of chemical activation of Khojakul phosphorite flour with mineral fertilizers, which are the main standard fertilizers in agricultural production, was studied. The process of activation of phosphate raw materials is mainly the process of activation of phosphorite flour to determine the effectiveness of mineral fertilizers, taking into account the soil moisture, its duration ammonium nitrate (34.4% N), ammonium sulfate (21.0% N) 2-20% , ammonium chloride (26.0% N), urea (46.0% N), potassium chloride (60.0% K_2O) and urea nitrate (33.97% N) mineral fertilizers (MF) and phosphate flour (FF), as well as sulfuric acid, sulfuric acid solution of ammonium sulfate and nitric acid and nitric acid solution of ammonium nitrate, solutions are prepared by vigorous mixing of the components for 30 minutes. After the interaction of the components, the suspensions were dried in a thermostat at 105ºC and various forms of nitrogen and phosphorus in the product composition were analyzed.

RESEARCH RESULTS

Studies have shown that a number of mineral salts are effective for activating phosphorites: urea nitrate> ammonium sulfate> mono-ammonium phosphate> ammonium nitrate> ammonium chloride> potassium chloride> urea.

A simplified technological system for obtaining slow-acting complex fertilizers at minimum humidity in the presence of a solution that binds a mixture of phosphorite flour and mineral fertilizers used in the auger mixer was proposed. Agrochemical tests have shown that the obtained fertilizers are not inferior to existing fertilizers in terms of their effectiveness.

It is necessary to obtain complex mixed fertilizers on the basis of Karakalpak agro-ores. Karakalpak agronomic ores - low-grade slag phosphorites, glauconite sands, bentonites, etc. can be an environmentally friendly and effective unconventional fertilizer.

Studies of glauconites have shown that they contain essential components such as potassium, aluminum, iron, magnesium, calcium, phosphorus, and more than 15-20 microelements. Currently, the soils of Karakalpakstan are in great need of macro and micro elements, so including them with glauconite sand in the soil (glauconite - 35-40%, quartz - 33-55%, feldspar - 6.4-6.9%, phosphorite – 0.7-0.9%, iron hydroxide - 3.5-4.0%, gypsum - 0.4-0.5% micas - 0.2-0.3; calcite - 0.1-0.2%) will increase the productivity and quality of agricultural crops.

The processes of decomposition of glauconite with nitric, sulfuric and phosphoric acids were studied in order to search for the possibility of converting the nutrient components of glauconite into plant-assimilated form. The process of decomposition of glauconite with acid is normal, but after 1.5-3 hours it decreases sharply. The acid has a debilitating effect on glauconite. However, no SiO_2 precipitation is observed during the decomposition of Kirantau glauconite with nitric acid, as the conversion of SiO_2 to the colloidal state is minimized. In this regard, nitric acid acts as a coagulator and dehydrator on amorphous SiO_2. Because the role of acids in the interaction with glauconite leads to the formation of SiO_2 membranes of various natures, which have a weakening effect of the acid on glauconite, forming a dense vitreous shell of SiO_2, which makes it difficult for the acid to enter the mineral, as well as reaction products explained by reverse diffusion.

Acid-activated glauconite (glauconite: acid = 1:0.5) to obtain a complex compound fertilizer was neutralized with Khojakul phosphorite flour (FF) in a ratio of phosphorite: glauconite = 1:(0.25-1) and granulated in the presence of an ammonium sulfate bonded solution. Depending on the ratio of components, complex compound fertilizers have the following composition (weight.%): 1) in the activation of glauconite with nitric acid - in the form of nitrogen and calcium nitrate - 0.82-2.15; P_2O_5 - 14.44-9.59; 32.20-34.52% of it in the form of assimilation; K_2O - 0.42-1.13; CaO - 26.70-17.74; N_2O - 1.5-1.6 and micro elements; 2) in the activation of sulfuric acid - in the form of nitrogen ammonium sulfate - 0.01; $P_2O_{5gen.}$ - 14,44-9,09; $P_2O_{5assim.}$ - 2.62-3.28; K_2O - 0.42-1.05; CaO - 26.70-16.74; N_2O - 1.5-1.6 and micro elements; 3) in the activation of phosphoric acid - in the form of nitrogen ammonium sulfate - 0.01; $P_2O_{5gen.}$ - 15.78-13.73; $P_2O_{5assim.}$ - 5.99-6.93; K_2O - 0.42-1.18; CaO - 14.83-18.54; N_2O - 3.55-1.86 and micro elements.

In addition, the composition and properties of complex fertilizers obtained by mixing Kirantau mechanically activated glauconite sand with a ratio of 1: (0.25-1) with the content of ammophos sludge (pH = 3.5-4.2) and (weight.%): SiO_2-67.92, Al_2O_3-9.43, Fe_2O_3+FeO -7.99, CaO -0.73, MgO -0.43, Na_2O-2.80, K_2O -3.20, CO_3-7.78, P_2O_5-0.78, kjy-6.,14 and micro elements (Si, Mn, B, Cu, Co, Mo, etc.) were studied. An increase in the pH of fertilizers was found due to the interaction of free acid of sludge with the components of glauconite.

Glauconitized ammophos fertilizer - glaucophos is not hygroscopic in terms of physical and mechanical properties and meets the requirements of agriculture. The results of the study were tested on an enlarged experimental device of the Institute of General and Inorganic Chemistry. The results of agrochemical tests conducted at the Research Institute of Cotton Breeding, Seed

Production and Agrotechnology and the Karakalpak Agricultural Research Institute show that "Glaukofos" has high agrochemical efficiency.

Phosphorite component for the development of fertilizer technology, which contains large amounts of glauconite and has good agrochemical and commercial properties - the composition and properties of granulated complex compound fertilizer in the presence of a binder solution consisting of ground ammophos or a mixture of Karakalpakstan slag phosphorite and glauconite were studied. Saturated solutions of ammonium sulfate or ammonium sulfate nitrate or ammonium phosphate in the amount of 1-15% (in dry matter) relative to the mass of the ready fertilizer were used as a binder solution.

Phosphorus component in complex compound fertilizers: glauconite by weight ratio 1: 0.25-1. In granulation and agricultural use, the process of activation of phosphorite and glauconite nutrient components takes place, that is, they become assimilated for plants.

CONCLUSION

With an increase in acidity from 20 to 60% of stoichiometry, the rate of decomposition of phosphate raw materials increases. Decomposition of nitric acid at a rate of 40% and above leads to a deterioration of its commercial properties due to an increase in the amount of groscopic salt calcium nitrate in the product. To improve its commercial properties, the decomposition of phosphorite was carried out in a nitric acid solution of ammonium nitrate obtained by dissolving ammonium nitrate in nitric acid, with a decomposition coefficient of phosphate raw material 1.22 times higher than that of nitric acid.

Conditions for composting of cattle and poultry manure together with phosphorite were determined. At the same time, as the duration of composting of organic fertilizers with phosphorite flour increases, the rate of conversion of the non-absorbable form of P_2O_5 to the assimilated form increases. When the weight ratio of manure to phosphorite is 1:0.12, $P_2O_{5assim.}$ is obtained during composting for one month. The relative rate was 26.5% and after 3 months - 48.6%. After three months of composting, poultry manure-based compost contains 1.3-1.4 times more $P_2O_{5assim.}$.

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SWAMI VIVEKANANDA: AS A SOCIAL REFORMER

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ABSTRACT

Swami Vivekananda was the pioneer of the 19th century renaissance by religious revolution in India. He was one of the foremost leaders who were very much concerned about the poor and subjugated persons of the society. Vivekananda realized that there is need of reformation in society. Vivekananda wanted to revive the lost confidence of the common people in society. He visited extensively within the country to understand their problem. He wanted to eliminate all the social evils of the society which are major obstacles for the mankind. These social evils are poverty in general, untouchability, illiteracy, intolerance, religious superstitions etc. He always pleaded for the fraternity, humanity and harmony. He realized that the ultimate goal can be achieved through self-development of human values, not only by laws. In this short discourse, I would like to highlight Vivekanada's philosophical realization towards the mankind and his ideo of Rerormation.
KEYWORDS-*Reformation, Untouchability, Self-realization, Harmony, Humanism, Brahman, Narayana, Brotherhood.*

INTRODUCTION

The movement of Renaissance and reformation started before the freedom movement in India. The movement was flourished under the patronage of the great Indian leaders like Raja Rammohan Roy, Ishwar Chandra Vidyasagar, Swami Vivekananda, Rabindranath Tagore, Mahatma Gandhi and other persons. Their expressions and views were also verified in the context of the movement. They wanted to revive the social values which were greatly declined during this period which were held in high esteem, previously. The decline of social values was due to some retarding factors like caste system, oppressions by dominant authorities, social prohibition and lack of confidence. Vivekananda wanted to revive the lost confidence of the common people in society. He wanted to serve for the society through dedicating himself to the betterment of the society. He wanted to find the existence of God within the sorrows of the common people.

Vivekananda was the first leader who thought about the subdued section of the society. Vivekananda realized the virtue of reformation of the society. Reformation is constructive and novel in nature rather than destructive. It contains patient, sympathetic and hopeful attitude of the common people. He clearly distinguished between constructive and destructive ideas of reformation. Destructive reformation only affects the surface of the thing. Though some initial gains can be achieved through it, ultimately the evil and abuse appropriates the gains in the long run. He believed that everyone should go down to the root of the thing, which he calls 'radical reform'. He also opined that the solution of the problem is a vast process. It goes through the process of creation and construction and time is the only solution of this natural process.

Among these, Vivekananda accepts the method of construction which is based on two concepts. In one way he tried to remove the sorrows by spreading the sense of love to the down-trodden people of the society. In other way he tried to improve the cultural sense of the human beings. He realized that the ultimate social goal can be achieved through self-development of human values, not only by laws. These two views are inter-related to each other. In this context he cited the reference to civilization where he tried to explain that the ultimate development of the society depends upon the well-being of the people.

He visited extensively within the country to understand their problem. He believed that the main cause of Indian downfall was the neglect exploitation of the poor. He wanted to eliminate all the social evils of the society which are major obstacles for the mankind. These social evils are poverty in general,

untouchability, illiteracy, intolerance, religious superstitions etc. He always pleaded for the harmony and good relationship. Swami Vivekananda dedicated himself to society; his aim was to serve to the common people. He said, through education, we should gradually reach the idea of universal brotherhood. Swami Vivekananda expressed forcing over exploitation of rights and uplift of women and other backward people. He wanted a independent social reform with the help of Western concepts and technology. He believes that all evils may be conquered by love which is real, living force of mankind.

That time India had been undergoing an extreme anarchy, the social condition was getting contaminated with poverty, exploitation, oppression, rich-poor discrimination. Vivekananda took place at that time. He took all the initiatives in order to eliminate this anarchy from the society. The origin of his religious and spiritual thoughts was human welfare. He had used humanism as his weapon in order to merge work with life. He demonstrated the path from darkness to light. According to him, the idealism of humanity is bestowed in sacrifice and service. The principle of humanity is entrusted in the well-being of all and this should be the way out for getting the initiations towards humanism. The main perspective of his life was to serve for mankind.

Vivekananda is the first socialist of India. But we like to add that he is the first socialist of the world having a spiritual orientation. Practical Vedanta teaches us that socialism is not enough to bring a nation into one whole unless it is rooted in spiritual commitments. Vivekananda says that Truth is eternal and nobody can lay any special claim to it. All theories or theologies, ratiocinations or metaphysical speculations may be illuminating in their own way. But all these have little importance, if they fail to touch the heart, the inner feelings of man, the reality.[1]

As mentioned in the 'Advaitavedanta' that life if nothing but the 'Brahman'. According to Sri Ramakrishna, life is only the part of 'Brahman' and the manifestation of the physical existence of 'Brahman'. "Yatra Jeeva Tatra Shiva", that is, to serve for life is to serve for God. He perceived the existence of God in every matter, in every life. In his philosophy of humanity, Vivekananda had exploited the Sri Ramakrishna's conception of service to mankind. He preached the views of Sri Ramakrishna all over the world. 'Brahman' is existing in every living things, hence, to serve for life is to serve for the 'Brahman'.

Sri Chaitanyadeva thought about kindness towards every organism. Sri Ramakrishna induced Vivekananda not to believe in kindness but to serve for life with the belief of serving to 'Lord Shiva'. Vivekananda acquired the philosophy of life from Lord Sri Ramakrishnadeva, the divine. He realized the need

of wisdom as well as that of love, affection and sympathy for social reformation. Nothing is larger than human. It is mandatory to admire human irrespective of richness and poverty, in order to live a veritable life. This admiration can be made meaningful through love and service. That is not only by means of self-realization, but also by amalgamating your own life with others' life. He refrained himself from eternal pleasures, and led an ordinary life. He was associated with the poor, the exploited and with the people of every tier of society that made him realize that the average part of the society is suppressed with adversity. But these very people are the backbone of the nation. He thought that the nation can't be built up unless they are awakened, until they are made our own. Vivekananda was saying, your life is for everyone, you are not born for yourself. Assign yourself towards serving the poor and exploited people.

Vivekananda always advised to extend our service for caring others, for the welfare of others. He advised to engage ourselves in extending our attachment with others. The origin of the thoughts of equality and unity belongs to love, respect and compassion to others. We all are equal and we all are the manifestations of the one and only 'Parama Brahma'. Loving others is to loving yourself. No difference between 'me' and 'others' was detected in the aspect of Vivekananda. Vivekananda used to find 'Narayana' everywhere in his inner sense andelevated invocation and even in all kinds of people like cobbler, sweeper etc. If this 'Narayana' in guise of human is not loved, then there is no way for ascension. Those are not humans who do not weep for humans, who cannot love humans, who try to draw a boundary line of intangibility. The absolute idealism of human life is to feel the existence of 'Shiva' (that is God) in humans. When Vivekananda was in abroad then he came across with the scientific justifications of comprehensive human welfare. On the other hand he was shocked with the poor and miserable condition of his fellow countrymen. As a result, he founded 'The Ramakrishna Math and Ramakrishna Mission' when he came back to India.

The perspective of this religious association was to promote true righteousness and social welfare. The aim was to rejuvenate the idealism of equality in human welfare, amity, and brotherhood. He realized that the base of righteousness is the act towards mankind. The ultimate idealism of Vivekananda was selfless service to all.

Vivekananda was the real social reformer. He emerged in order to reform the society, and not to distort it. He used to find God in human beings; he worshipped only human beings as his God. The poor, tortured and starved people were the ultimate God to him; humanity was the ultimate righteousness to him.

He observed religion as the source of human welfare. It can only be expressed in honesty and in spiritual purity.

He was ready to quit everything in order to establish humanity. He says that ''We are all human beings; but some are men, and some are women, Here is black man, there is a white man; but all are men, all belings to one humanity, Various are our faces; I see no two alike, yet we are all human. Where is this one humanity? I find a man or a woman, either dark or fair; and among all these faces I know that there is an abstract humanity which is common to all. I may find it when I try to grasp it, to sense it, and to actualize it, yet I know for certain that it is there. If I amsure of anything, it of this humanity which is common to us all. It is through this generalized entry that I see you as a man or a woman.''[2]

He believed that serving others is to serve self. He used to say that we should be grateful to those who have provided us the opportunity to serve them. He also believed that one can be transformed to have the deity power by means of continuous selfless service, and this way the world full with spite would become a heaven. He used to say that wearing the saffron colour can hardly be the condition of becoming a saint. Saints are those in general who have quit all the eternal pleasures by dedicating themselves into spiritual pursuit. This type of saints has detached themselves from their families and has got isolated themselves from the society also. But Vivekananda thinks that a saint should have detachment from his family but he should have to be associated with the society simultaneously. Providing service to the society is the prerequisite according to him. A saint should devote himself in extending his service towards human welfare. He spread the flavor of love and brotherhood to the entire mankind. He had overcome the borderline of narrowness in order to stand beside the people.

Swami Vivekananda had the firm conviction that India is full of endless spiritual potentialities and that these potentialities could not be actualized if man does not know himself, does not grow fearlessly having faith in his own actions and his service to his fellow beings, because all are one and within all dwells the same supreme spirit which is above all conflicts.[3]

CONCLUSION

Vivekananda is the first one who could find God in humans by serving them. On the other hand mankind also got the inspiration to live from his vicinity. According to him, human being is the creation of the one and only almighty. He also believed that charity begins at home, that is, by extending service to his fellow countrymen; one can extend his service to the people of all over the world. His dream was to build his nation by such citizens who would learn the lesson of sacrifice and would extend service to mankind. He desired to present a philosophy of life to mankind that would consist of love-integration-sacrifice-enthusiasm and determination. He desired to serve people with the help of this philosophy of life irrespective of race-caste-religion. This philosophy of life of Vivekananda has the capability to pioneer the right way to the confused people of the country and to show the path towards peace. He always chanted the conquest of humanity. Humanity and service are complimentary to each other according to him. The summit of humanity can only be reached by means of service. Preaching of humanity and caring and its extension needs to be spread from one nation to another. These spiritual messages of Vivekananda should substantively stick our heart, be sought in everyone's voice and be manifested in our act.

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A COMPARATIVE STUDY OF SHERPA AND NEPALI LANGUAGE ON THE BASIS OF CASE

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ABSTRACT

Sherpa language spoken by Sherpas, the inhabitants of Himalayan region, falls on Tibeto-Burman language family. While comparing the case grammar of Sherpa language and Nepali language both have similarly types of case and case marker (Bibhakti). Sherpa Subjective case takes [ki] suffix as case marker and Nepali case takes [le]. Sherpa objective case takes [la] suffix as case marker and Nepali case takes [lai]. Instrumental case takes [ki/gi] suffix as case marker in sherpa and Nepali case takes [le/ ba;ta]. Dative case take [la:] as case marker in Sherpa and Nepali case takes [lai]. Ablative case takes [tja:su] as case marker in Sherpa and Nepali case takes [ba:ta/ ɗekʰi]. Locative case takes [la:] as case marker in Sherpa and Nepali case takes [ma] and possessive case takes [ki] as case marker in Sherpa and Nepali case takes[ro/ no/ ko]. Sherpa language and Nepali language are similar on the basis of case grammar study. The sentence structure in Sherpa language is different from Nepali language. There is no gender system in this language. Verbs are not changed on the basis of number either.

SPECIAL WORDS: *Tibeto-Burman, Sambhota Script, Kham, tan, Linguistic Universal.*

INTRODUCTION

This is a comparative study of Sherpa and Nepali language on the basis of case system with their marker. Case is the relation of nouns with the verb. It is the semantic role of noun phrase in sentences (Yadav and Regmi, 2058: 202). Chomsky talked about linguistic universal in his standard theory. According to Chomsky all the languages of words are similar in their deep level though they are different in surface level (Bandhu, 2066: 179). The case of Sherpa and Nepali language have been studied on the basis of this theory. 'Case' is defined as the grammatical category of nominal group in a sentence (Sharma, 2071: 408). This is the thematic role of nouns with the other words, especially verbs. Case is the relation of nominal groups with verb, which is the core of the sentence. The study aims at studying case system of Nepali language and Sherpa language, spoken by the Sherpas of high Himalayan region. Sherpas are supposed to have come to Nepal from Kham of Tibet. Their Sherpa language falls on Tibeto-Burman language family. This language is written in 'Sambhota Script' (Sherpa, 2007: 1). Tibeto-Burma language family is the second largest language family after Indo-European language family on the basis of speakers in Nepali language of Tibeto-Burma family are spoken in many countries including Nepal. The main area where Sherpa language is spoken is Himalayan region of Solukhumbu district. Sherpas speakers are scattered in various districts of Mechi, Koshi, Sagarmatha, Bagmati and Janakpur zones. They reached in different countries for tourism, trade, hotel and other employment. Sherpa language has various regional dialects. Young (2000AD) has stated three regional dialects as Khumbu, Solu and Western. This language has its own structure and characteristics. So this is a full-fledged language. Constitution of Nepal guarantees every communities to get basic education in their mother tongue as per the language. The study is fulfil to consolidate this policy and to solve the problems that occur to Sherpa speaker while learning Nepali as language. This study is also helpful for the researcher who are interested in case system of Sherpa language.

The word 'Karak' (case) has been formed by joining suffix to the base [kri]. It has been derived from Sanskrit [Karsiti]. Case, in its direct sense, refers to the doer of the action, but technically 'case'

reforms to the interrelationship between various words in a sentence (Dahal, 2061: 51). In grammar case refers to the relation of verb (both finite and non-finite) with the other words. In a sentence these may be nouns, pronouns adjectives with the verbs case in the relation of these words with the verb. The relation of noun phrases with the verb is 'case' (Awasthi and Sharma, 2057: 223).

The nouns or pronouns that are linked with the verb is case. It is a grammatical category of noun or pronoun that show the relation with the verb. 'Bibhakti' in its literal sense refers to divider. It is a special type of suffix that is attached with other words to give different meanings. Chomsky (1981AD) views that no nouns can be found in sentences without case. So case is the relation of nouns with the verbs. Noun includes pronouns as well (Pokhrel, 2056: 107). Grammatical category 'case' refers to the role or function of nominal in a sentence. It is simple (non-changing) and complex (changeable) (Sharma and Luitel, 2060: 133). 'Bibhakti' is the suffix that is attached to the nouns which are directly related to the verbs.

OBJECTIVE

The objective of this study is to reach to the conclusion by comparing the case between Sherpa language and Nepali language.

METHODOLOGY OF THE STUDY

This study has been prepared with regional survey method and library work. It is prepared on qualitative framework. The researcher has selected to male and 10 female Sherpa language speakers from 10 household out of 10 households in Ambung V.D.C. and Jirikhimti V.D.C. of Terhathum district. He has adopted qualitative method for collecting data with the help of MP3 voice recording device as the researcher himself is Sherpa language speaker. Data collection was made with questionnaire and interview. The informants were selected by purposive sampling (CrossWell, 2015: 206). Different articles on Sherpa language, library study are the secondary sources of data. The data has been compared with the case of Nepali language. Descriptive method has been adopted for the analysis and interpretation. Case is the grammatical category of nominal group that show relation with the verb in both the languages. It is the relation of nouns with the other words, especially with the verb (Sharma, 2054: 270).

Case in Sherpa language and Nepali language with their marker (bibhakti) has been shown as follows:

Case	Case marker Indicators	
	Sherpa	**Nepali**
Subjective	[ki]	[le]
Objective	[la:]	[lai]
Instrumental/agent	[ki:/gi:]	[le/ba:ta]
Dative	[la:]	[laI]
Ablative	[tja:su]	[ba:ta/ðekʰ:]
Possessive	[ki:]	[ra/na/ko]
Locative	[la:]	[ma:]

The above table shows that Sherpa language and Nepali language are similar in their case and their markers.

SUBJECTIVE CASE

Subjective case is the relation of noun or pronoun that indicates doer of the doer of the verb (Awasthi and Sharma, 2053: 230). Subject is the noun that refers to the doer of the action. Every verb needs subject. None of the works are hold without subject.

Some of the example of subjective case in Sherpa language.

Sherpa Language	Nepali Language	English Language
/Pasangki so sung/	/pasaŋle kʰajo/	Pasang ate.
Pasangtibaki sosung	/Pasaŋharule kʰae/	The Pasangs ate.
/ŋjaki tó somi/	/maile va:t kʰaě/	I ate rice.
/ŋibaki tó somi/	/hamile va:t kʰajəu/	We ate rice.
/Kʰjorongki tsʰungma lobu/	/taile ga:i heris/	You looked at the cow.
/Kʰjorong tibaki tsʰuŋma lobuza/	/timiharule ga:i hereko/	You...ve looked at the cow.
/tigi laka kjasuŋ/	/tjasle kam garjo/	He worked.
/titibaki lu laŋsuŋ/	/tiniharule git gae/	They sung song.
/tigi laka kja suŋ/	/jasle kam garo/	He worked
/ditibaki laka kja suŋ/	/tiniharule kam gare/	They worked.

Above examples show that Sherpa language takes [Ki] as a case marker and Nepali language takes [le] as case marker. Sherpa language takes [gi] as case marker in 3rd person singular. Even if the two language differ in 3rd person singular they are similar in other persons as [Ki] in Sherpa language and [le] in Nepali language.

OBJECTIVE CASE

Generally, objective case is the result of the action. The effect or result of the action by the doer is the object. This is considered as resultant object (Neupane, 2051: 277). The examples of objective case in Sherpa language and Nepali language are as follows

Sherpa Language	Nepali Language	English Language
/Kʰjorongki ŋala ŋiŋze kiju/	/taile malai maya gartsʰas/	You love me.
/ŋitsa setela ŋiŋze loŋgju/	/niðra sabailai pja;ro la:gtsʰa/	All like a sleep.
/puʒjungki ŋala kataŋsuŋ/	/tshorale malai bolajo/	The son called me.
/njaki dalʒla θaŋsuŋ/	/maile saθilai ɗekʰĕ/	I saw a friend.
/papaki mamala tiigal/	/bubale a:malai lanu vəjo/	Father took mother.
/numa tibaki ŋəla somuŋ binsuŋ/	/bəhiniharule məlai topi ɗI℮/	Sisters gave me a cap.

Objective case takes [lai] as case marker in Nepali language and [la:] in Sherpa language. Above examples in both the languages objective case seems similar.

INSTRUMENTAL CASE

Instrumental case is the role of the noun that has been used as tool to complete the action. To complete the action of the verbs, subject uses some tools, that tool is the instrumental case (Lamsal, 2066: 135).

The examples of instrumental case in Sherpa language and Nepali language are given bellow:

Sherpa Language	Nepali Language	English Language
/njaki kʰurpaki sja tseti/	/maile kʰukurile ma:su/ kate/	I cut meat with a machete knife.
/ti lakamki sarul setkju u/	/tjo laurale sarpa martsʰa/	That stick kills a snake.
/kʰjoroŋki mjabaki khase setju/	/taile bandukle mirga maris/	You killed a dear with the gun.
/ŋa goki laga kirmi/	/ma buddhile kam gərtsʰu/	I work with intelligence.
/ŋa toktsiki siŋ Komi/	/ma koɗalale bari khəntsu/	I dig the field with a spade.

In Sherpa language instrumental case has been indicated by [ki] and in Nepali language by [le]. Both Sherpa language and Nepali language has similar structure of instrumental case.

DATIVE CASE

Dative case is the role of noun in a construction that shows the purpose of the action. In Panani grammar also it has been identified as the purpose of the verb. Each and every work is done with some purpose. Instrumental case refers to the purpose of the verb in a sentence (Awasthi and Sharma, 2053: 95).

The examples of Sherpa language and Nepali language are shown here.

Sherpa Language	Nepali Language	English Language
/ŋa kʰjorongla kitab termi/	/ma timilai kitab ɗintsʰu/	I give you a book.
/ŋa rala litsi termi/	/ma ba:khralai makəi ɗintsʰu/	I give maize to the goat.
/ŋaki ɗalzala θosuŋ/	/maile saθilai ɗ℮kh℮/	I saw a friend.
/ŋa kʰibala taŋ termi/	/ma timiharulai pəisa ɗintsʰu/	I give you money.
/ŋa mesila so termi/	/ma vaisilai gʰãs ɗintsʰu/	I give grass to the buffalo.
/ŋa tala litsi termi/	/ma gʰodalai makəi ɗintsʰu/	I give maize to the horse.

In Sherpa language [la:] is the case marker of dative case and in Nepali [lai] is the case marker. These two languages seem similar in dative case as well.

ABLATIVE CASE

Ablative case is the relation of verb with the subject or object indicating separation, orientation,

duration, spread and continuity from the fixed entity (Neupane, 2051: 281). Dative case shows the

separation of nouns. It shows the separation after the action takes place.

Examples of ablative case from Sherpa language are given below:

Sherpa Language	Nepali Language	English Language
/puzung khaŋba tjasu huŋgju/	/tsʰoro gharbata autsʰa/	The son comes from home.
/pum kʰettjasu hwasuŋ/	/tsʰori khetbata ai/	The daughter came from field.
/ŋja lakpa tja:su firsuŋ/	/matsʰa hatbata uphrijo/	The fish jumped off the hand.
/pumtiwa hartja:su hwasuŋ/	/tsʰoriharu bazarbata aꞒ/	Daughters came from the market.
/Pasaŋ naninŋ tja:su rambu gal/	/pasaŋ pohar đekhi motajo/	Pasang has got fatter since last year.
/ŋiba hambur tja:su hwabuza/	/hami Kathmandubata aꞒka hãu/	We have come from Kathmandu.

In Nepali language [ðekhi:] and [ba:ta] suffixes are attached to the noun to indicate ablative case and [tja:su:] suffix is attached to the nouns of Sherpa language to indicate ablative case.

POSSESSIVE CASE

Possessive case shows the possession or ownership of noun (Awasthi and Sharma, 2053: 93). Possessive case indicates the relation of person. Place

or thing with the other person, place or thing in a sentence. Possessive case refers to the possession or reference of the noun. Although traditional grammarian considered of as case, this does not show the relation with the verb and therefore, it is not case. Examples of possession in Sherpa language are as follows:

Sherpa Language	Nepali Language	English Language
/kʰjorongki min kəŋ hin/	/ti mro nam keho/	What is your name?
/khjorongki kʰamba kani hin/	/timro gʰar kaha ho/	Where is your house.
/kʰjorongki kaŋbala kaŋ gal/	/tero khutama ke bʰəjo/	What happened to your leg?
/Nurbuki puzjung lakpa hin/	/Nurbuko tsʰora lakpa ho/	Nurbu's son is Lakpa.

In Nepali language [ro], [no] and [kj] is used to indicate possession and Sherpa language case marker used as a [ki]. Nepali language used more case marker in possession case but Sherpa used only [ki].

LOCATIVE CASE

Some examples of locative case from Sherpa language are given below:

All the actions take place in some location and time. The place or time on which the event takes place is locative case. Location is the case that shows the place or base of subject and object (Adhikari, 2068: 253).

Sherpa Language	Nepali Language	English Language
/đongbula tseziŋma đesuŋ/	/rukhma tˢəra basjo/	A bird sat on a tree.
/đola bu hwa:e/	/dhuŋama kira tsʰa/	There is an insect on the stone.
/đaŋ khjoroŋ khangbala hwae/	/hizo timi gʰarəim θijəu/	You were at home yesterday.
/ŋa kʰetla la:ka kirmi/	/ma kʰetma kam gartsʰu/	I work on the farm.
/pumatiwa skulla hi loi /	/tshoriharu skulma padtsʰan/	The daughters study in school.
/Pembaki zholala kitab zjaksuŋ/	/pembale zholama kitab ra:kʰjo/	Pemba put books in the bag.

Locative case is indicated as [ma:] suffix in Nepali language and [la:] in Sherpa language.

CONCLUSION

While comparing the case grammar of Sherpa language and Nepali language they bear similar types of case indicators. Sherpa language takes [ki:] suffix as case marker in the 1st, 2nd and 3rd

person singular takes [gi:] and Nepal language takes [le] suffix as cae marker in subjective case. Objective case takes [la:] as case marker in Sherpa and Nepali takes [lai]. Instrumental case takes [ki:] as case marker in Sherpa and Nepali takes [le/ba:ta]. Dative case takes [la:] as case marker in Sherpa and Nepali takes [lai]. Ablative case takes [tja:su:] as case marker in Sherpa and Nepali language takes

[ba:ta/ɗekʰi]. Possessive case takes [ki:] as case marker in Sherpa language and Nepali takes [ro/ no/ ko] and locative case takes [la:] as case marker in Sherpa and Nepali takes [ma]. Bothe Nepali and Sherpa languages use similar case markers, but Sherpa language does not show congruity on the basis of gender, which Nepali language does. There is no change in verb form on the basis of number in Sherpa language. The meaning is distinguished on the basis of tone intonation in Sherpa language.

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TERTIARY EDUCATION TRUST FUND POLICY ON RESEARCH AND PUBLICATIONS, AND ACADEMIC STAFF TRAINING AND DEVELOPMENT IN SOUTH EAST, NIGE`RIAN: ASSISSMENT

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ABSTRACT

The aim of this study is to ascertain the extent TETFund as an intervention agency has gone in providing supplementary support to the pubic tertiary educational institutions with the purpose of rehabilitation, restoration, and consolidation of tertiary Education in Nigeria. The purpose of this study was to assess the Tertiary Education Trust Fund policy implementation for universities improvement in the South – East of Nigeria. The study was guided by two research questions and two hypotheses. The researchers adopted descriptive survey design for the study. The population of the study is 765 staff of the federal and state public universities in South- East, Nigeria. There was no sampling since the number of Heads of Departments, Deans of Faculties, and TETFund Committees of the Universities was manageable, the entire population was studied. Assessment of TETFund Policy Implementations for Universities improvement questionnaire was used as instrument for data collection. The researcher also used a checklist to really ascertain the authenticity of the data provided by the respondents. Data were analyzed using Mean and Standard Deviation to answer the research questions and ANOVA was used to test the hypotheses at 0.05 level of significance. The findings from the results revealed that the extent Tertiary Education Trust Fund's policy on sponsorship of research and publications in the South-East, Nigeria has been implemented is low and there is no significant difference between the mean ratings of the respondents. The study also revealed that the extent TETFund has implemented policy on sponsorship of academic staff training and development has been implemented for universities improvement in the South-East, Nigeria is high, and there is significant difference in the mean ratings of the HODs, Deans of faculties, and TETFund committee members of the universities in the South-East on the result.The researcher made some recommendations which include: that TETFund Board of trustees should step up in the provision of funds for sponsorship of collaborative research and publications of book manuscript written by both staff and students; secondly, Board of trustees of TETFund should ensure speedy release of funds for academic staff trainings and development to the beneficiaries to avoid unnecessary delays in the training programmes.
KEY WORDS: *Policy, Implementations, Universities Improvement, Teaching and Learning*

INTRODUCTION

Tertiary education plays a key role in economic social and physical development of any nation. This is particularly the case in today's globalised, information and knowledge-based economics. Ojedele and Fadokun (2009) explained that no country can expect to successfully integrate into and benefit from the 21st country economy without a well-trained educated work force. The federal republic of Nigeria (FRN) (2013) see tertiary education as the education given after post basic education in institutions such as universities and inter university centers. FRN (2013) goes on to outline the goals of tertiary education as contributing to national development through high level relevant manpower training, providing accessible and affordable quality learning opportunities in formal and informal education in response to the needs and interest of all Nigerians; provide high quality career counseling and lifelong learning programmes that prepare students with the knowledge and skills for self reliance and the world of work; reduce skill shortage through the production of

skilled manpower relevant to the needs of the labour market; promote and encourage scholarships and community service; forge and cement national unity, and promote national and international understanding and interaction.

Idogbo (2011) in addition points out that in Nigeria today and in several other African countries, the problem which higher education must seek to address should include: combating high level poverty, hunger and famine, combating drought and desert encroachment, addressing the increasing rate of HIV/AIDS pandemic and other sexually transmitted diseases, addressing the prevailing economic meltdown, addressing pronounce fraud in the systems, eradicating high level corrupt practices among the leaders. Others according to Idogho include: combating the rising incidents of campus activities that frequently lend to death of students and crippling academic lives, addressing poor quality of graduates from several tertiary institutions leading to them being discriminated against in the international labour market, and addressing poor rating of Nigeria tertiary institutions in terms of ranking among tertiary institutions across the global, which is largely function of poor quality research, teaching and learning in these universities.

It could be said that from Nigerian independence till 1980's, higher institutions in the country seemed to have pursued to tackle these challenges with vigor, until 1980's and beyond when the decay of all tiers of education system in the nation became glaring. In terms of pure academic researches, Nigeria educational system, most especially in the south east currently seems to lack pure academic researches which ought to have been answers or solutions to the numerous problems faced by the society. The consequences of this could be seen in the constant outbreak of diseases, social vices, religious fanaticism, electoral fraud, tribal conflicts, terrorist attacks, and kidnapping which has ravaged the zone. Mortality rate seems to be very high in every strata of the society- the rich, the poor, the middle class, the infants, youths, women, adults without any serious causes.

In the area of academic staff training and development, most academic staff of Nigeria universities never had the opportunity for further development and training. Hence, there was lack of provision and maintenance of qualified academic staff. A lot of academic staff had remained complaisant in the previously acquired qualifications and might have continued to teach with such for many years perhaps due to their inability to finance such trainings considering the meager salary and biting economy

which the south-east university academia suffer most due to large number of families total dependence copled with other encumbrances.

As a measure to correct this not, the federal government of Nigeria in 2011 promulgated an act called tertiary education trust fund Act. It is an intervention agency set up to provide supplementary support to all levels of public tertiary institutions, with the objectives of using funding alongside project management for the rehabilitation, restoration and consolidation of tertiary education in Nigeria. Section 2(1) of the act provides that the federal Inland Revenue services (FIRS) assesses and collects 2% tax of the assessable profit of all the companies in Nigerian on behalf of TETfund. Section 7 subjections 1 (a)-(e) provides TETfund specific objectives as the provision and maintenance of:

Essential physical infrastructure for teaching and Learning; instructional materials and equipment, Research and productions; academic staff training and

development and any other need which in the opinion

Of the board of trustees is Critical and essential for the improvement and maintenance of standards in the higher educational institutions (TETfund 2014,p.4)

Provision and maintenance of research and productions entails providing and maintaining sponsorship for individuals, institutional, commissioned, students and collaborative researches in the universities; while provision and maintenance of academic staff training and development entails providing sponsorships for academic staff acquisition of higher degrees nationally and internationally; provision and maintenance of sponsorship for academic staff professional conferences, workshop and seminars

Research and Publications

Bako in Yusuf (2012) defines research as a systematic search and investigation for increasing the sum of knowledge; and research development as the search and application of this knowledge for the development of new and improved products, services and industrial processes of capital development. In other words, research is the process of creating new knowledge or new, insights on knowledge or unlocking knowledge. Ibidapoobe in Yusuf (2012). According to Yusuf, Research in the universities may take the form of:

a. **Individual research**: this is initiated and conducted by an individual researcher or a team of researchers who may seek funding from the University Board of Research or from alternative funding agencies, including international

organizations, Non-Governmental Organizations (NGO's) and the private sector.

b. **Institutional research**: This is initiated and supervised by the institution or a unit of the institution (faculty, department etc) and usually involves a team of researchers. Funding is internal, except where assistance is obtained from external sources.

c. **Commissioned or Contractual research**: This is carried out at the instance of an external body, which may be government or a government organ, the private sector, NGO's etc, which also funds the research. The sponsor has right of ownership of the research results.

d. **Collaborative research**: This is a joint research effort with common objectives or goals and involving the sharing of ideas, methodologies, facilities etc between individual researcher or research team, from same or different institutions, organizations, countries or regions of the world.

e. **Students Research**: This is an undergraduate or postgraduate research project undertaken by a student, supervised by the student's department, and the results of which are reported in student's thesis or dissertation. Student research is usually jointly funded between the student himself (or his sponsor) and his department.

Aberman, Schiffer, Johnson, and Oboh (2010) described three potential reasons why research policy linkages in Nigeria have been generally weak:

a. Lack of high-quality research, despite having one of the largest numbers of policy research institutions and think tanks in Africa.

b. Lack of interaction between policy makers and researchers, thereby limiting meaningful discussion on research findings and their suitability to policy-related problems, as well as limiting identification of policy areas requiring additional research.

c. Insufficient use of available research-based information in public policy making, creating disenchantment by policy researchers.

Academic Staff Training and Development

Academic Staff Training and Development or professional development according to Yemmy in Amadi (2013) is a process engaged in to enhance the knowledge, skills and attitudes of the teachers. To Amadi, this implies the responsibility to create, preserve, evaluate and transmit knowledge through continuing learning. Development programme, Amadi continued to say, have the ingredient of fostering and preserving the scholarly values, curiosity and integrity to nurture these values through inculcation.

To Guskey (2000), professional development refers to those processes and activities designed to enhance the professional knowledge, skill and attitudes of educators so that they might in turn, improve the learning of students. Guskey and Huberman, in Othman and Dahari (2011) opines that high quality professional development is considered extremely crucial to educational improvement. Professional development entails three main characteristics. Firstly, it is an intentional process based on a clear vision of purpose and planned goals. It has to begin with a clear statement of worthwhile purpose and goals which can be calibrated and tracked. Secondly, it is an ongoing process, simply because of the dynamic nature of education and the continuous expansion of knowledge. Consequently, educators need to engage in continuous learning throughout the entire span of their professional career. Thirdly, it is a systematic process which incorporates changes over an extended period of time and at all levels of the organization, (Othman & Dahari, 2011).

South East Nigeria currently has ten public universities with large intake of students each year. The quest for education by the citizenry leaves much for one to worry about. Do these universities have the carrying capacities proportionate to their yearly intake? Do these institutions have the quantity and quality of academic staff to implement the National University Commission (NUC) Lecturer-student Radio policy? Are there available to staff and students quality research reference materials for proper academic works? It is against this background that the researcher decides to embark upon this study on tertiary education trust fund policy on research and production, and academic staff training and development in south east, Nigeria: assessment.

PROBLEM STATEMENT

Despite TETfund intervention and policy of rehabilitation, restoration and consolidation and huge amount of fund supposedly being pumped into these universities, researches in the south east universities seem to have degenerated greatly. Academic staff trainings and developments embarked upon in other universities have to suffered serious set-backs as people abandon trainings due to lack of finance to up-set accumulated school fees. These are serious issues of concern to the universities improvement.

This may be the reason while even in the whole country, poverty, insecurity, kidnapping, fraud in all sphere, tribal cashes and terrorism skills strives and away on the increase to an alarming rate.

RESEARCH QUESTIONS

Two research questions were formulated to guide the study.
1. To what extent has tertiary education trust fund policy in sponsorship of research and publication been implemented for universities improvement in the south east?
2. To what extent has tertiary education trust fund policy on sponsorship of academic staff training and development been implemented for universities improvement in the south-east, Nigeria?

HYPOTHESIS

Two hypotheses were also formulated to test the significance of any outcome extent the research questions will give:
1. There is no significant difference between the mean ratings of HOD'S, Deans of faculties and TETfund committee members of the universities on the extent TETfund committee members of the universities on the extent TETfund has implemented policy on the sponsorship of research and production for universities improvement in the south east, Nigeria.
2. There is no significant difference between the mean ratings of HOD'S. Deans of faculties, and TETfund committee members of the universities on the extent TETfund has implemented policy on the sponsorship of academic staff training and development for universities improvement the south east, Nigeria.

METHOD

The study adopted descriptive survey design and focused on the South-East region of Nigeria due to the zones excessive love for education and constant claim by the people for government marginalization in terms of distribution of essential amenities. 765 HODs, Deans of faculties, and TETFund committee members of the ten public universities in the area were used for the study and as such there was no sampling. Researcher developed validated instrument called: assessment of TETFund policy implementation for universities improvement (ATPIU) with three sections was used to collect data. The reliability of the instrument was carried out using Cronbach alpha which yielded a reliabilty coefficient of 0.93. A checklist was also developed to cross check the authenticity of the data collected by the questionnaire which also yielded a reliabilty coefficient of 0.81 using inter-rater and kappa coefficient. Data was analysed using analysis of variance (ANOVA) Statistics.

RESULT AND DISCUSSIONS

Research and Publications

The extent to which Tertiary Education Trust Fund's policy on the sponsorship of research and production is being implemented in the South-East, Nigeria is low and there is no significant difference in the mean ratings of the opinions respondents on the result.

The result of the analysis depicts that TETFund provisions of sponsorship on the following types of research is high: Individual research and publications, institutional research and publication commissioned research, students' research and publications as well as annual research journals and publications. However, sponsorship on the following types of research appears: low collaborative research and publications, books and manuscripts written by staff and students. This however indicates that the extent to which TETFund sponsors research and publications in the universities in South-East is low. This finding also proves that there is no significant difference in the opinions of the respondents in the result which also indicates that generally in the South-East, Nigeria the extent of TETFund provision of fund for the sponsorship of research and publications is low. However this finding disagrees with the findings of Darinho (2000) in an empirical study on the role of TETFund in educational development of UNN where Darinho finds that TETFund has contributed in the provision of research and publications among others. The reason for this disagreement may be on the readiness of each institution to access the fund. Despite this still, in South East as a whole the extent is low. The reason for this result may be that universities in the South-East have not carried a high level of awareness to staff and students to write books and manuscripts to be sponsored. It may also be that the few written ones are not of quality and may have failed scrutiny; hence TETFund has little or nothing to sponsor.

Academic Staff training and development

Tertiary Education Trust Fund policy on the sponsorship of academic staff training and development is being implemented for universities improvement in the South-East, Nigeria to a high extent. However, there is a significant difference in the mean ratings of the respondents on this result.

The result is an indication that all aspects of academic staff training and development in South-East universities are high on the whole. The obtained grand mean of 20:8 is higher than the expected grand mean of 20. This shows that the extent to which TETFund

implemented its policy on the provisions of academic staff training and development in South-East universities is high. This finding agrees with Bogoro (2014) view that TETFund intervention on academic staff training and development in Africa is among the best in the world. To Bogoro (2014), no fewer than 10,363 members of the academic and non-academic staff of public institution in the country have been trained by TETFund between 2010 and 2014. The findings also agree with the findings of Ogundu and Nwokoye (2009) who opined that TETFund in its role in the university development in Nigeria has intervened and assisted in sponsoring 5,277 lectures for post graduate studies overseas in the last 3 years, out of this number, the study indicates that 1,204 have either started or completed their studies and are back home. In the same vein, the findings is in conjunction with the findings of Udu and Nkwede (2014) assert that TETFund interventions in Nigerian universities particularly Ebonyi state university have impacted positively on the human development of the institution.

The reason for this high agreement in the result may be due to high level of awareness created among the academic staff and the quest for further development of the individuals as well as enrichment of the faculty. Secondly, because of the biting economy, many who could not have afforded sponsorship of further training avail themselves of the opportunity provided by TETFund. In this case therefore accessing this fund becomes faster. However still, the finding also proved that there is significant difference in the mean rating on the opinions of the HODs, Deans of faculties, and TETFund committee memberson the result. The reason for this still may not be farfetched. Some university leaders may be ticking staff for TETFund sponsorship on the bases of cliqueship, familiarity and loyalty, and not on the bases of merit. In some institutions, some qualified staff may have applied for sponsorship but due to the fact that no one close to the authority can speak for them it is denied. Some leaders may as well be using it to victimize some staff through denial and unnecessary delays.

Educational Implications of the Findings

1. The extent to which Tertiary Education Trust Fund's policy on sponsorship of research and publications is being implemented for universities improvement in the South-East, Nigeria is low. This could imply that research and publications in these institutions are also low.
2. Tertiary Education Trust Fund's policy on sponsorship of academic staff training and development has been implemented for universities improvement in the South-East,

Nigeria to a high extent. This implies that TETFund has concentrated mainly on sponsorship of academic staff training and development with little emphasis on other areas

RECOMMENDATIONS

In the light of the findings of this study, the researcher therefore recommends as follows:-

1. Since the end product of research is its publication, TETFund Board of Trustees should step up in the provision of funds for the sponsorship of collaborative researches and publications of book manuscripts written by both staff and students, as this would go a long way in encouraging the students as well as the staff.
2. Some of the areas where TETFund has not done much according to the findings of this study could be traced to the inability of some institutions not accessing funds available to them either due to their inability to make a prompt retirement of the previously accessed funds, to this note therefore the researcher recommends that TETFund Board of Trustees should come up with definite datelines on retirement of accessed funds as well as sanctions for failure to access new funds.
3. Since the essence of setting up TETFund is for the improvement of the universities in Nigeria, from the findings of this study, since TETFund has not done much in implementing some of its policy objectives in the South-East of Nigeria, it therefore means that the universities in this area have not been improved. The researcher therefore recommends that the federal government should upon recommendation by TETFund discipline any individual who indulges in any activity tantamount to sabotaging government effort towards the improvement of the universities.

CONCLUSION

Constant training and retraining is the bane of further improvement. When the staffs of this universities are properly trained and periodically updated, quality researches which are solutions to the ravaging societal problems will be the nations celebrated virtues.

Limitations of the Study

The study made use of questionnaire for data collection. Though, the researcher had wanted to use

inspection and observation for data collection. The use of questionnaire may lead to inadequate responses. However, the respondents were well guided and directed. The checklist that was used with questionnaire helped to confirm that the questionnaire responses were real.

The institutions that were investigated were not all at the same level of development and need. Some have existed for decades while some are new. As a result the intervention of TETFund in the institutions may not be equal. The above stated challenges notwithstanding, the findings are very valid and reliable

SUGGESTIONS FOR FURTHER RESEARCHES

1. It is suggested that this work be repeated in other geo political zones in Nigeria
2. It is also suggested that a study be conducted on monitoring of TETFund projects in Nigeria.
3. The researcher still suggests that this study may be repeated using inspection and observation methods.

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FORMATION OF SPIRITUAL MATURE OF YOUTH AS A BASIS FOR BUILDING A CIVIL SOCIETY

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ABSTRACT
In this article philosophically explains the concepts of patriotism, spirituality, national pride and the ideal man. Spiritual perfection is directly related to a person's worldview, beliefs, psyche, norms of behavior, morality. On the basis of specific data, it was also scientifically researched that the formation of spiritual maturity in young people is the basis for building a civil society.
KEYWORDS: *person, society, civil society, spirituality, legal culture, education, family, globalization.*

INTRODUCTION
It is known that the formation of spiritual maturity in young people is one of the foundations of the formation of civil society. Today, the upbringing of a spiritually and physically harmoniously developed generation is an urgent task for us on a national scale. Consistent and decisive continuation of our work on the way to this noble goal is today at the center of our policy.

Educating young people in the spirit of patriotism and respect for our national values, protection from various ills and threats, increasing the effectiveness of propaganda work is one of the pressing problems of today.

The rapid development of Information Technology and globalization processes are setting new tasks in the areas of human factor, education, new pedagogical technology. In fact, more than a hundred years ago, the knowledge that a person received in the process of education was enough for his whole life. Because the exchange of Information, its update has been very slow. The development of Information Communication Technology has also led to the fact that educational programs become obsolete in the short term. Their creation should be in proportion to the newly formed professions and specialties. In conclusion, it is worth noting that the role of each parent in the integration of the idea of national independence into the

younger generation is also very important. It is necessary for parents to realize how important their children are in preschool education, their spiritual spiritual development, this period is an important stage of continuous education and upbringing. It will be desirable to achieve a consistent adaptation of the family to the system of educational institutions. It means that parents, providing direct education to the younger generation, are responsible for carrying out this urgent task in cooperation with all educational institutions (schools, lyceums, universities), which are considered the main focus of ideological education. Today, the management of the educational process, the enrichment of its content, the need for the use of new pedagogical technologies, in our opinion, is based on the following:
- To appreciate, glorify and serve independence to our national consciousness,
  to turn it into a belief is the sacred duty of every citizen;
- To ensure that the sense of patriotism and patriotism are absorbed in the
  blood of every student;
- To Educate young people in the spirit of love for the motherland, to grow
  national pride in them;
- Information and communication technologies, well mastered foreign languages, deeply mastered their specialty, personnel with

higher education can work in any country of the world today. But with his work in a foreign country, it is necessary to achieve loyalty to his homeland, native language, place of birth, nationality.

As you know, our people have always been distinguished by childhood and family. Of course, it has always been important to love a child, to educate him from an early age on the basis of education, morality, high spirituality, and devotion to his country. In many real-life examples, it has been observed that ignoring this problem can hinder not only family and neighbors, but also the development of the community and lead to negative consequences.

It is no exaggeration to say that today it is a great honor for our youth to understand the identity of their youth, to fight for the concept of the Motherland and its future. Only a person with a sense of patriotism can be a patriotic. As the first President Islam Karimov said: "The feeling of love to Motherland naturally arises in the human heart. That is, the more a person understands himself, the more he knows his ancestry, the more his love to Motherland takes root in his heart. The deeper this root, the stronger the love for one's Motherland"[1].

We all know that in order to prevent any disease in the human body, first of all, immunity is developed against it. For our children to be brought up in the spirit of love for the Motherland, our rich history, devotion to the sacred religion of our ancestors, we must first of all strengthen the ideological immunity in their hearts and minds. So that our youth become people who deeply understand their national identity, as well as the world, and keep up with the times. Then even the "call" of ignorant fanatics will not be able to influence and influence ideas that are completely alien to us and reject the concept of morality.

The dramatic socio-political and ideological processes taking place in the world today once again confirm the accuracy of the prediction of French philosophers almost three centuries ago that "the world is now ruled by ideas". In the modern world, ideological aggression is increasing, aimed at capturing the human mind and heart[2].

If every citizen of our country, especially the younger generation, does not have their own independent opinion, time-tested national values, sound worldview and strong will, it will be very difficult to resist all kinds of spiritual threats, sometimes explicit and hidden.

Spiritually person there should be spiritual cleansing, awakening of the soul. We can say that it is a manifestation of goodness if a person and our current youth are able to embody these qualities, enrich their inner world and develop the will to approach him as a human being, faith in general and a sense of endurance. When indifference and indifference prevail in the spiritual education of our youth, when the most pressing issues are left to

egoism, spirituality becomes the weakest and most vulnerable point. Or, conversely, where vigilance and zeal, high intelligence and contemplation prevail, spirituality becomes a powerful force.

A person who has adopted Eastern morality and universal human ideas is a person of high spirituality, that is, a spiritually mature, perfect person. Spiritual perfection is characterized by a direct connection with a person's worldview, his beliefs, psyche, norms of behavior, morality. Spiritually mature people think about the fate and well-being of the people, about the fate of the Motherland and its development. They don't want to live in dumbness, depending.

Spiritual maturity of young people is a very broad concept, on the basis of which it is important to educate a healthy generation with a healthy worldview. After all, the main goal of education is to lead a conscious life in society, to create a highly cultured, intellectual and prosperous environment.

When we say "healthy", we must understand not only our physically strong children, but also a spiritually rich generation, mentally developed, morally pure, enlightened children, a generation. Such people should embody the values and ideas of the most cherished qualities of our people - faith and honesty, kindness, compassion and mercy, shame and modesty, honor, mutual respect, high patriotism, humanity, loyalty to the people and nation.

The process of human maturation is complex, it is influenced by the program in hereditary units (eternal destiny), personal will and external natural and social environment, as well as purposeful educational processes [3].

A spiritually mature person does not pursue fame, career, material wealth, does not bend when faced with material difficulties, and sometimes organized slander and conspiracies do not drown his spirit. Consequently, no misfortune and fate can destroy the spirituality of a pure, courageous, spiritually mature person, but strengthen and temper it. A person with a high level of spirituality is distinguished by such noble qualities as devotion, courage, courage, love for his people, respect for the Motherland, pride in his ancestors. Humanity of a person is determined, first of all, by his spiritual perfection and purity.

Another aspect of spiritual and educational development is national pride. National pride is national pride.

National pride with boundless respect and reverence refers to all material and spiritual wealth, historical heritage, customs, traditions, morality, way of life, high spirituality, all the historical achievements and lessons of its people, created over thousands of years. Preservation and pride in them [4]. Healthy national pride also requires respect for people of other nationalities[5].

There is no national pride, pride in the nation, there is no nationalism among those who do not know, appreciate and forget history, national values, language, future interests of their people, forget their national identity, do not care about the future of their nation. We cannot call such people spiritually mature.

Thus, above we have considered only a spiritually mature person, some aspects of his essence and main aspects. Some of the remaining aspects will be discussed in the following sections.

The idea of an ideal person is in harmony with the idea of a spiritually perfect person. It is impossible to reach the level of a perfect person without achieving spiritual perfection. So, striving for spiritual perfection is striving to reach the level of a perfect person. Perfection is achieved throughout life. Three concepts: healthy generation, spiritually mature, perfect person - gradually acquire a deeper meaning. From this it follows that there are no definite boundaries and boundaries in order to be a perfect person. However, not everyone can independently determine the level of spiritual and moral perfection. Who says: "I have reached the peak of spiritual and moral perfection, the one who values himself highly is not yet a perfect person. A person can never assess his level of spiritual maturity. Perfection is seen in each person's relationship with others. The ideal person is formed by parents, community, and relationships with them. The path to excellence is to learn only good qualities from people, learn from them, always strive for goodness, kindness.

The ideal person is ideal for us. He possessed all worldly and divine knowledge, his soul was full of absolute spirit, his grace was abundant, and his heart was full of good feelings. An ideal person is one who embodies all the virtues and dignity that people dream of.

In the history of morality of the Muslim East, many pandnoms and folk books have been written about the education and development of a perfect, harmonious person, which served as a guide for human life. Among the works reflecting the qualities of a perfect person: "Nightmare" by Kaykovus, "Gulistan", "Boston" by Saadi, "Statutes of Temur" by Amir Temur, "Bahoriston" by Abdurahmon Jami, "Mahbubul-kulub" by Alisher Navoi, "Mahbubul-kulub" by Hussein Voiz Kashifi. "Akhlaki Mukhsini" and others. Many of these works endow a person with oriental qualities, such as a just king and justice, honesty and purity, purity, straightforwardness, humanity, enlightenment.

The work of Alisher Navoi "Nasoimul muhabbat" lists the qualities of an ideal man, his oriental qualities. These include the great thinker: repentance, satisfaction with an honest bite, earning a living with your profession, observance of Sharia, self-opinion below everyone else, lack of rudeness towards your children or servants, fluency in the language - kindness, politeness, generosity, courage, meekness, kindness, patience, devotion, loyalty, a life of harmony, no fear of smoking, and etc.

So, in the past, a unique ethical code of the ideal person was developed, and possessing these qualities was considered the dream of every person. Ideas about the ideal person are of great social, moral and spiritual significance. It served to educate a person in the spirit of honor, goodness and great kindness, and also strengthened kindness, loyalty and devotion.

Linking the above with our current independent life, lifestyle, aspirations of people, especially young people, we can conclude that the following qualities and attributes are included in the traits of an ideal person:

Our Motherland, the future foundation of the nation is created in educational institutions, that is, the future of our people depends on how our children are being brought up and brought up today, because the path to the human heart begins with education. For this, every parent, teacher and coach must first of all see in the image of every child a person who creates a great future. Based on such a simple requirement, the main goal and task of every parent should be to educate our children as independent and broad-minded people, living consciously, embodied in the great qualities of a person. This requires every parent, teacher, and coach to approach this work with a great sense of responsibility. After all, our children are worthy owners of national spirituality.

CONCLUSION

In our opinion, that no matter how many people are on Earth, whatever their fate, everyone has their own spiritual world. To understand spirituality, one must first understand and understand a person. That is why it is difficult to imagine a person living without awareness of their own dignity and human dignity, without thinking about it.

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EMPLOYMENT PROBLEMS AND SOLUTIONS OF EMPLOYMENT DURING THE CORONAVIRUS PANDEMIC

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ANNOTATION
This article is about the problems and solutions of employment during the Coronavirus pandemic, the reasons for the pandemic slowing down the economy, the unemployment and direct loss of income due to the closure of enterprises and firms. As well as, special attention was paid to some recommendations and ideas on mitigating the impact of the global economic crisis on incomes and living standarts in the Republic of Uzbekistan.
KEYWORDS: *unemployment, epidemic, COVID 2019, gross domestic product (GDP), economic downturn, pandemic.*

INTRODUCTION

Unemployment is a process when a part of the economically active population is unable to find a decent job and becomes a labor force. Unemployment is one of the major socio-economic problems that directly affect human interests. For many people, losing their jobs leads to a decline in the standard of living of the family, the turmoil of private life, and a serious psychological impact on the person.

In the current economic life, unemployment is manifested in the form of labor supply exceeding demand for it. In the economy, the balance of aggregate supply and demand is disturbed, the reduction of market demand for goods also reduces the demand for labor. As a result, part of the workforce becomes redundant. With the development of the economy, the demand for skilled labor force will increase, the unskilled will no longer be needed, and when the population grows faster than the workers, part of it will be redundant and unemployed. Just as the causes of unemployment are different, so are its forms.

The main forms of unemployment:

Frictional unemployment is the periodic unemployment for various reasons (moving to a new place of residence, changing profession, raising a child, choosing a new job). This is called voluntary unemployment.

Structural unemployment occurs at a time when people who have worked in the old industries have not yet mastered the profession they need in the new industry in a changing environment.

Cyclical unemployment depends on economic hardship, it occurs as a result of reducing production . This is forced unemployment.

Seasonal unemployment is the unemployment of those who are busy with seasonal work and at the end of the season they lose their job.

Hidden unemployment is only part-time employment of those who are officially employed. It includes those who have a reduced working day or work week, those who have taken unpaid leave due to lack of work.

The unemployed make up the labor force in the country along with those who work. The main purpose of studying the problem of unemployment in the economy is to expand the country's (enterprise) labor force by improving employment and to develop measures to further improve the living standards of the population.

It should also be noted that the ranks of the unemployed usually include not only those who have been fired for various reasons, but also those who have resigned voluntarily and are trying to find a new job.Unemployment structure includes 4 main categories of labor force by its causes: those who lost their jobs as a result of dismissal, those who resigned voluntarily, those who are looking for work after a break, those who are looking for work for the first time.The

interrelationships of these categories depend on the stages of economic development.

At the national level, an unemployment rate of 3-5% is normal for the economy (the natural limit of unemployment). To reduce unemployment, a state employment program will be developed, enterprises will be built, new jobs will be created, staff will be trained and retrained, and an employment assistance fund will be established.

Under labor laws, the unemployed are paid unemployment benefits through labor exchanges.

The permanent population of Uzbekistan as of January 1, 2020 accounted for 33,905.8 thousand people, an increase over the beginning of 2019 by 650.3 thousand people or 2.0%.The share of urban population consists of 17.1 million (50.5% of the total), rural population - 16.7 million (49.5%).

The largest population is in Samarkand (11.4%), Fergana (11.1%), Kashkadarya (9.7%) and Andijan (9.2%). Analysis of population density shows that in the Republic of Uzbekistan there are 74.1 people per 1 sq. Km. The most densely populated areas are Andijan (713.2 people per 1 sq. Km), Fergana (544.8 people), while Navoi region (8.8 people) is the opposite.

According to preliminary data, as of January 1, 2020, 30.3% of the permanent population of the country are under the age of working age, 59.5% are of working age and 10.2% are adults of working age.

DISCUSSION

The pandemic that is now being announced all over the world, in turn, will have an impact on the economy as well. According to experts, the pandemic will slow down the growth of the Uzbek economy. Of course, the slowdown in economic growth is also due to the slowdown in the economies of Uzbekistan's main partners (China, Russia, Turkey). Another important factor is the slowdown in business activity associated with the decline in commodity markets. The fall in oil prices will also influence significantly. In many ways, economists say that if these external factors stabilize, the Uzbek economy could grow.

Also, according to the World Bank's research on international migration and household welfare, if remittances stop, the poverty rate in Uzbekistan will increase by 16.8%. It should be noted that quarantine restrictions have a negative impact on many areas of Uzbekistan. Public catering, tourism and hotel services will suffer. It has been very difficult, especially in a small business, because in such conditions it is not easy to recover quickly.

METHODS

The creation of profitable jobs is an important condition for economic development and improving the living standards of the population. Increased labor productivity and employment are the two main factors contributing to the growth of such an important indicator as GDP per capita. In countries with the highest per capita incomes, labor productivity has risen sharply over the past two centuries. Such an increase in labor productivity leads to the creation of "more efficient" or higher-paying jobs. GDP per capita is actually an indicator of the efficiency (productivity) of labor of the whole population. In countries with high and low incomes, the differences in GDP per capita represent the differences in the levels of labor productivity between countries.

Of course, it is gratifying that such reforms are being carried out in our country, but there are many obstacles in the way of these reforms. The most dangerous of these barriers is the Coronavirus, which is now a pandemic around the world. The virus, which is forcing many countries into economic crisis, has not bypassed Uzbekistan.

RESULTS

From March 23 in the Republic of Uzbekistan all enterprises and institutions (regardless of the form of ownership) must take leave in the manner prescribed by law and organize the activities of other workers as far as possible (online or remotely) without affecting their core business. Gazeta.uz reports that according to a survey posted on the social network Telegram on April 5 (more than 200,000 respondents), during the quarantine period, 43% of respondents, or 86.7 thousand, lost their income, and 29% or 58.9 thousand lost their income altogether. This shows that 79% of the population has a negative impact on income. The addition of 13-15% of the population in need, another 30% of the population below the poverty line, and 43% of the population with reduced incomes is likely to complicate the socio-economic situation. and it is possible to get out of this complicated situation by providing them with targeted support.

The current situation is very dangerous for people living on wages. There are many families in Uzbekistan who do not have a fund that allows them to live for 1-3 months. In Uzbekistan, about 5.7 million people are employed in the formal sector. This is 30 percent of the country's resources. About half of them work in the public sector. The other half work in the private sector. It may not be possible to make a steady income here. , 4 million people work in the informal sector. The situation here is even worse. Because no one cares about these people, and they are self-

employed people. Another 2.6 million people work abroad. According to official data, this is actually even more. It is not surprising that these people and their families are in a catastrophic situation, because some people work and earn a living in foreign countries.

A number of measures are being taken to support and provide employment to the unemployed during the pandemic. During quarantine, employers are prohibited from dismissing the parents of a child infected or quarantined with a coronavirus infection, paid temporary incapacity benefits of 100% of the average monthly salary to quarantined parents and caregivers, and employees, especially pregnant women. These include allowing the elderly, people with disabilities and people with chronic illnesses to work remotely, on a comfortable work schedule, or to work from home. Determining the list and volume of food products for procurement and stockpiling, monitoring the volume of raw materials needed for the production of consumer goods, daily monitoring of market prices for socially important food products and artificially lowering their prices. Strict controls to prevent overpopulation are one of the key solutions to employment during a pandemic.

CONCLUSION

In conclusion, in such a situation, gross demand and gross supply and measures to support the needy are important. The experience of many countries shows that the main way out of this situation is, first of all, direct payments to needy families. This is done, on the one hand, so that families do not fall into poverty and starvation, and, on the other hand, to support the general demand. It should be mentioned that in such testing days we are once again convinced that the Uzbek people care and are kind to each other. It is gratifying that a group of entrepreneurs, government agencies and volunteers are aware of the plight of low-income and needy families and extend a helping hand to them.

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MEDIATUTOR AND OPEN EDUCATION

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ABSTRACT
The article introduces a new term in relation to tutoring and media education, ''mediator''. The mediator creates conditions for open education using media resources in order to form an individual educational request.
KEY WORDS: *open education, tutor, mediator.*

АННОТАЦИЯ: В статье вводится новый термин по отношению к тьюторству и медиаобразованию, «медиатьютор». Медиатьютор создает условия для открытого образования, используя медиаресурсы, с целью формирования индивидуального образовательного запроса.
КЛЮЧЕВЫЕ СЛОВА: открытое образование, тьютор, медиатьютор.

INTRODUCTION

The ideas of open education were put forward abroad in the wake of student protest movements in the 1960s and 70s. Among the supporters of open education there were representatives of different directions, from opponents of school education in general to authors who propose reforming schools and universities towards openness towards society. Many works put forward the idea of open educational spaces, the end of the monopoly of educational institutions on education.

MAIN PART

Thus, representatives of anti-pedagogy, for example, P. Goodman, demanded that schools be closed, believing that education can be obtained in everyday life, "on the streets, in cafeterias, shops, on the radio, in parks and factories" - in all so-called "street schools" [6, p.448]. I.Illich in his well-known book "Society without School" puts forward an alternative to school as an institution that generates inequality, open social institutions. The author divides all sources of knowledge into four types: things and material environment; behavior patterns; help from elders; contact with peers. In accordance with these sources of knowledge, he proposes a "network" model of education that includes people willing to share knowledge, professional environments, and cultural institutions.

In accordance with the ideas of open education in the 1970s and 80s. in the USA and Western Europe, such types of educational spaces as "open schools", "open universities", "open classes", "educational parks", etc. appear.

The new meaning of open education appears in connection with the Internet, in the late 1990s. the movement "Open educational resources" is formed, in 2002, the term "open educational resources" was adopted at the UNESCO conference in the following form: processing. Open educational resources include complete courses, teaching materials, modules, textbooks, videos, tests, software, as well as any other means, materials or technologies used to provide access to knowledge" [2, p.1].

The basic principles of open education are presented in the Cape Town Declaration (2007). It notes that open education cannot be limited to educational resources alone. Open education should be associated with open teaching technologies, open exchange of pedagogical experience, open promotion of new educational opportunities [3].
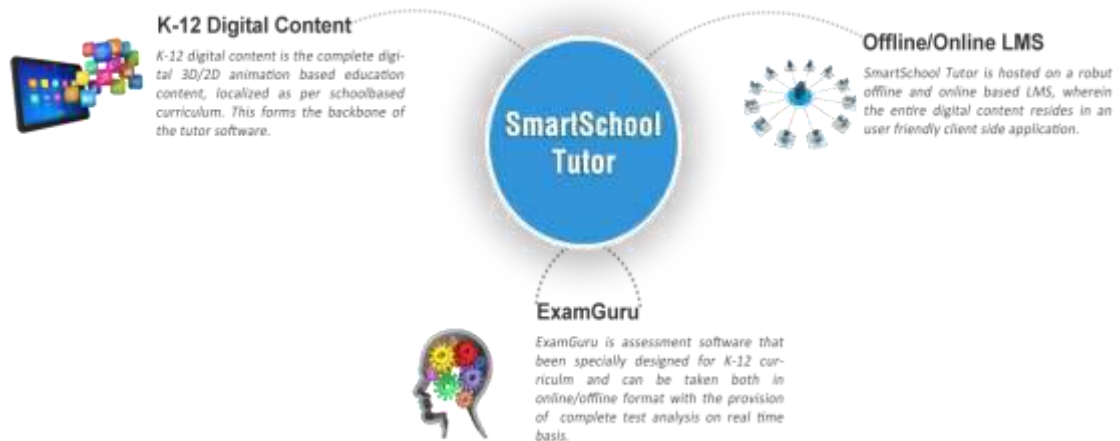
Integration of ideas of the information society and open education since the 1990s. leads to a new, global demand for openness in education. In such UNESCO documents as "Education: a hidden treasure. The main provisions of the Report of the International Commission on Education for the 21st Century", the UNESCO World Report "Towards Knowledge Societies" characterizes modern society and its development prospects as a knowledge society, an education society. Education is seen as a key area in solving many global problems.

Particular attention is paid to education throughout life: "The truth is that throughout the entire public and private life, a person has a lot to learn. In this regard, there is a strong temptation to pay special attention to this aspect, in order to emphasize the educational potential of modern means of communication or professional activity, as well as cultural life and leisure"[4, p.12]. All opportunities provided by society can and should be used in education.

The UNESCO report Towards Knowledge Societies, inter alia, provides a brief description of the stages of learning. The first three stages are quite traditional - from preschool education to higher education. The fourth stage is "lifelong education", already outside the original educational system. The fifth stage is characterized by the freedom to follow one's own tastes, one's interests, to engage in social activities of one's choice, no longer being obliged to take into account the requirements of professional life [4].

In fact, this document sets a new vector for considering open education as an education aimed at developing human capabilities using any available educational resources. The same idea of education as a process, first of all, developing all available human abilities, characterizes the work of the modern expert in the field of education K. Robinson: "We understand that to enter a new era, a completely different paradigm of human abilities is needed.

We need to develop a new perspective on the importance of developing human talent and understand that talent manifests itself in different ways. It is essential to create an environment - in schools, workplaces and government offices - where everyone is encouraged to develop their creativity. It is necessary to ensure the confidence of each person that he has the opportunity and ability to do what he should be doing in order to discover his vocation"[8].

Thus, knowledge societies have a new meaning of open education. On the one hand, it includes the openness of educational institutions, schools and universities as a necessary prerequisite for the formation of a new attitude to continuous self-education and the need for self-improvement. On the other hand, the information society creates global opportunities for education through open educational resources. From the point of view of the anthropology of education, educational resources can be any events, people, environment, everything that is considered by the person himself as a source of personal growth.

Knowledge societies correspond to new cultural behavior, manifested in the field of self-expression, active participation in the new culture of the information age. A cultural policy of expanded civic participation meets the new needs of society. Thus, culture, education and society are linked by a new educational paradigm.

In the text of the Perm Project, education occupies a rather important place among the "soft infrastructures": "a new way of life, a comfortable atmosphere and environment, modern humanitarian technologies, small business, innovations in culture and education, as well as the implementation of large cultural projects"[7]. Moreover, it is emphasized that "regional development must keep pace with cultural and educational policies." At the same time, education is understood in line with international trends "education without borders", "education throughout life", "open education".

One of the principles of cultural policy was proclaimed the principle "We teach by acting": "Current practice and promising projects (such as the Perm Open University) are a springboard for training and advanced training, the formation of a new generation of managers, creators, spectators, patrons. In accordance with the principle of lifelong education, all projects include a variety of educational components (excursions, lectures, conferences, etc.) and, in turn, attract teaching, entrant, student, postgraduate resources, provide jobs for certified specialists"[7, from. 16].

The biggest problem in connection with the initiatives of the Perm cultural project was the departmental barriers between education and culture. To some extent, they tried to solve this problem by the emergence of an intermediary between culture and education, a tutor. In October 2011, with the support of the Ministry of Education and the Russian Federation and the Ministry of Culture of the Perm Territory, it was decided to hold an All-Russian methodological seminar "Theater, cinema, museum - for a new school".

The aim of the seminar was to coordinate the activities of cultural and educational institutions in the field of tutor technologies, and the tasks:

1) to reveal the experience of tutor support in the field of culture in the Russian Federation;

2) identify the experience of tutoring in the field of education in the Russian Federation;

3) to present a model of interaction between cultural and educational institutions through tutoring technologies. In the final document of the seminar, experts and participants noted that the Perm Territory in recent years has become an initiator and leader in promoting new forms of cultural and educational activities, there are favorable conditions for the development of tutoring technologies not only in the field of education, but also in culture. The Perm Territory can become an experimental platform for developing models of training tutors for the sphere of culture and education, as well as models for coordinating the activities of educational and cultural institutions in the field of creative education for young people.

Thus, along with the development of tutoring technologies in education, primarily in schools, experimental activities begin on the basis of the media education department of Perm Cinematheka. The experience gained in recent years allows us to raise a number of questions. First of all, what is the difference between the activities of a tutor in culture and tutoring in education? In addition, it is important to think about the prospects for the development of tutoring in the field of culture in general, and media culture in particular.

Having analyzed the professional standard of a tutor, it is possible to fix common and different features in comparison with the activities of a tutor in the field of culture.

Thus, a tutor in education begins his professional activity by identifying an individual educational request. It is assumed that under certain conditions, in the form of an open (redundant) educational space, the presence of a choice, the support of an individual educational program becomes in demand, from its design to the implementation and reflection of the results.

Unfortunately, the process of "opening" our education is very slow, which can be explained by both objective and subjective reasons. It is important to note that in the absence of open educational spaces and real choice in schools and universities, the cultural sphere is able to partially take on this mission. Moreover, the sphere of culture, due to its complementarity (optional) in relation to education, works on the principles of choice and redundancy, personal interest and demand. A school is an obligatory institution for education, a cinematheque or a museum can become a resource for education, for the formation of interests and individual request.

Reflecting on the experience of the "Perm Cinematheque", on the film programs that have become in demand by the schools of Perm and the

Perm Territory, comparing this experience with tutor support, one can identify the key process characteristic of the activity of a mediator.

A meditator begins his activity not with an individual educational request, but with the order of the school in the person of the class teacher, teacher, administration for some educational media event. It can be one film screening and discussion of a problem, or it can be a series of meetings on a specific program. Cinema, documentary or fiction, in this case is a necessary but not a self-sufficient resource, it is not a film show. But cinema, especially documentary, has a huge educational and educational potential, the potential of meeting - with people, events, problems, professions and situations of life choice. And the task of the mediator is to build a conversation in such a way, to choose such films so that this meeting takes place, first of all, a meeting with oneself. Children, schoolchildren and students, have a reason to think about the most key personal questions - "who am I in this world?", "What do I want?", "Who are other people for me?" These questions are rarely asked in classrooms and university classrooms, but the answers to these questions affect both professional and personal choices.
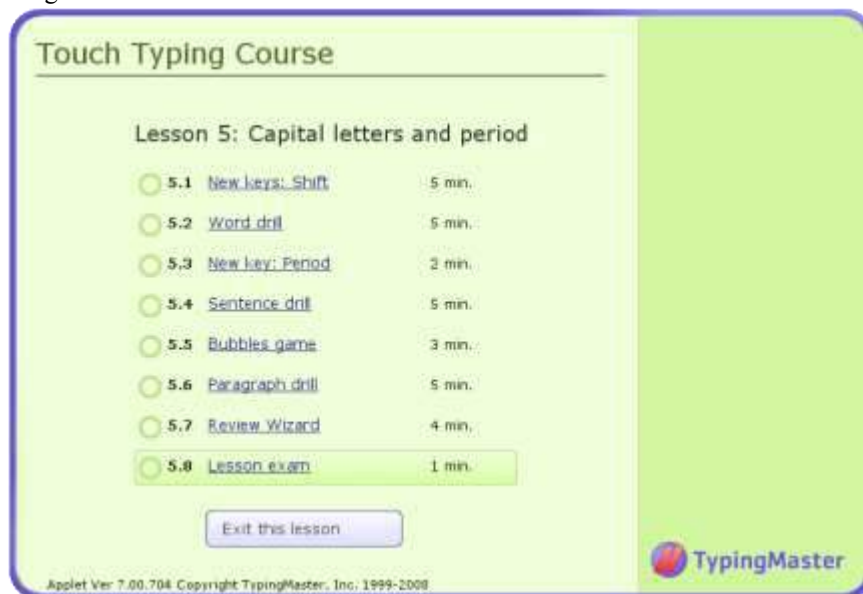
Thus, from our point of view, the mediator creates conditions for open education, using media resources, in order to form an individual educational request.

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ROLE OF WOMEN OF UZBEKISTAN IN SOCIAL AND POLITICAL LIFE OF SOCIETY

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ABSTRACT
This article discusses the potential of Uzbek women during the period of independence, their freedom to work in any field and their place in society.
KEYWORDS: *public education, independence, modern woman, public opinion, economic and social protection of women, society*

РОЛИ ЖЕНЩИН УЗБЕКИСТАНА В СОЦИАЛЬНО-ПОЛИТИЧЕСКОЙ ЖИЗНИ ОБЩЕСТВА

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Аннотация: В данной статье обсуждается потенциал узбекских женщин в период независимости, их свобода работать в любой сфере и их место в обществе.
Ключевые слова: народного образования, независимость, современная женщина, общественное мнение, экономической и социальной защиты женщин, общества

По словам президента Узбекистана Мирзиёева, -"Женщины составляют более 87% консультантов по вопросам религиозного просвещения и духовно-нравственного воспитания в махаллях. Всего же в Узбекистане насчитывается около 9700 махаллей.

Узбекские женщины считают Международный женский день поводом отметить свою возрастающую роль во всех сферах жизни. На сегодняшний день женщины составляют от 36 до 50% членов политических партий и занимают большее, чем мужчины, количество должностей в некоторых ведомствах, таких как Министерство здравоохранения и Министерство народного образования, согласно данным узбекского Комитета Женщин.

В целом, согласно данным комитета, количество женщин в органах государственной власти увеличилось с 3,4% в 2005 году до 17,1% в 2016 году. Согласно результатам опроса,

проведенного ташкентским государственным центром «Общественное мнение» 30 декабря, более 70% женщин-респондентов выразили уверенность в том, что в будущем их роль в государственном и общественном строительстве возрастет. [1]

С первых дней независимости Узбекистана сильная социальная политика является одной из пяти основных принципов, предложенных Главой нашего государства, на которых строится процесс реформирования всех сфер жизни страны и общества. Основным содержанием ее является защита прав и интересов человека, рост уровня жизни народа, обеспечение занятости населения и повышение трудовой мотивации граждан. В рамках реализации социально-экономической политики особое внимание уделяется вопросам правовой, экономической и социальной защиты женщин, создания для них необходимых условий для дальнейшего повышения их роли в обществе. Стоит отметить, что защита прав и интересов женщин в Узбекистане возведена в ранг государственной политики. Она направлена на утверждение принципа равных прав и свобод, создание равных возможностей для всех, независимо от пола. И воспользоваться ими в полной мере может каждая женщина, чувствующая в себе силы, энергию и знания, которые она может использовать как для гармонического развития личности, так и во имя процветания страны.

В Узбекистане трудовые права женщин реализуется через использование механизмов социального партнерства и общественного контроля. Профсоюзы являются самой крупной общественной организацией, которым предоставлено право, внедрять эти механизмы в каждом трудовом коллективе.В реалиях нового времени, профсоюз меняет стиль и методы работы в отношении женщин и направляет свою деятельность на усиление их социальной защиты. Для этого создана работоспособная правовая база в сфере труда и социальных отношений. [2]

Повышение социально-политической активности женщин, укрепление их роли в правительстве и обществе, обеспечение занятости женщин, выпускников профессиональных колледжей, их широкое участие в предпринимательстве и дальнейшее укрепление основ семьи, изложены в качестве приоритетных задач в Стратегии действий на 2017-2021 годы. Расширение роли женщин в государственном управлении также является ключевым элементом национальной цели устойчивого развития № 5. 20 октября 2018 года правительство Узбекистана приняло постановление «О мерах по реализации национальных целей и задач на местах»

устойчивого развития на период до 2030 года ». Задача 5.5. предусматривает, что необходимо «обеспечить полное и эффективное участие женщин и равные возможности для них чтобы вести на всех уровнях принятия решений в политической, экономической и общественной жизни».

«Наличие критической массы женщин на руководящих должностях имеет позитивный характер развития общества во всех странах. Так, мировая практика показывает, что увеличение представленности женщин в государственной администрации приводит к тому, что законодательство разрабатывается с учетом гендерных факторов, участие женщин в политике предполагает, что ежедневные проблемы женщин также начинают расти в парламентских дебатах. Таким образом, увеличение представленности женщин в государственном управлении может улучшить защиту интересов женщин», – отметила Хелена Фрейзер, Постоянный представитель ПРООН в Узбекистане.

«В стране проводится масштабная работа по повышению общественно-политической активности женщин, проявлению их таланта и способностей в различных областях, обеспечению строгого соблюдения их прав и законных интересов, а также укреплению института семья», – подчеркнула Танзила Нарбаева, Заместитель премьер-министра, Председатель Комитета женщин Узбекистана.

После панельных дискуссий участники конференции договорились разработать стратегию по увеличению числа женщин в отраслях, где их участие незначительно или полностью отсутствует. Участники конференции также признали необходимость разработки комплекса мер по созданию рабочих мест для девочек и женщин-инвалидов, изучению опыта в области развития предпринимательства, художественного, научного, технического и национального творчества среди женщин, обсуждения партнерских отношений и подписания меморандумов между Комитетом женщин Узбекистана и основными организациями правительства и неправительственных организаций, занимающимися проблемами женщин в Центральной Азии и других развитых странах, бывших в центре внимания конференции.

Международная конференция была организована Комитетом женщин Узбекистана в партнерстве с Сенатом и Законодательной палатой Олий Мажлиса, Министерством иностранных дел Республики Узбекистан,

Независимый институт по мониторингу формирования гражданского общества, Федерацией профсоюзов Узбекистана, Национальная ассоциация электронных средств массовой информации Республики Узбекистан и Национальная ассоциация негосударственных некоммерческих организаций Узбекистана, Программой развития ООН в Узбекистане, Представительством Фонда Ф. Эберта (Германия) в Узбекистане, координатор проектов ОБСЕ в Узбекистане, офисами ЮНИСЕФ и ЮНФПА в Узбекистане в качестве международных партнеров.

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THE ROLE OF HISTORICAL MEMORY IN THE REVIVAL OF NATIONAL CONSCIOUSNESS

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ABSTRACT
The article examines the significance of historical memory in the context of restoring national identity and historical values of the uzbek people. Historical memory is becoming particularly relevant for Uzbekistan also because in the process of strengthening statehood, a new concept of the nation, an original national identity, national and state identity is being formed.
KEYWORDS: *Historical memory, history, historical consciousness, national identity, spiritual values, national identity.*

РОЛЬ ИСТОРИЧЕСКОЙ ПАМЯТИ В ВОЗРОЖДЕНИИ НАЦИОНАЛЬНОГО САМОСОЗНАНИЯ

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Аннотация: В данной статье рассматривается значение исторической памяти в контексте восстановлении национального самосознания и исторических ценностей узбекского народа. Историческая память приобретает особую актуальность для Узбекистана и потому, что в процессе укрепления государственности формируется новая концепция нации, самобытное национальное самосознание, национальная и государственная идентичность.
Ключевые слова: Историческая память, история, историческое сознание, национальное самосознание, духовные ценности, национальная идентичность.

После достижения независимости возрастает интерес нашего народа к познанию своей Родины, ее языка, культуры, ценностей, истории. Это — естественное явление. Каждому человеку присуще желание знать свою родословную, кто были его предки, историю села, города, где он родился и вырос, одним словом, историю Родины. Сегодня весь мир признает, что край, называемый Узбекистаном, то есть наша Родина, является одной из колыбелей не только восточной, но и мировой цивилизации. Узбекистан стоит в одном ряду с такими

древними государствами, как Китай, Индия, Иран, Египет. Национальная государственность Узбекистана имеет древнюю историю, этот край славится крупными государственными деятелями. В истории Узбекистана было немало выдающихся деятелей, сочетавших в себе политический ум моральную доблесть, религиозное мировоззрение и энциклопедическую образованность. Великие наши предки: Имам Бухари, Ат-Термизи, Накшбанди, Хаджи Ахмад Яссави, Аль Хорезми. Беруни, Ибн Сино, Амир Темур, М. Улугбек, З. Бабур и многие другие внесли огромный вклад в

развитие нашей национальной культуры, стали поистине предметом гордости нашего народа. Эти имена, их выдающейся вклад в развитии мировой цивилизации известны сегодня всему миру.

Велика роль исторической памяти в осознании истории предков, национально-нравственных ценностей и традиций, нашей священной религии. Ни один народ не может представить свое будущее, не зная своей истории, не опираясь на вековое духовное наследие и не совершенствуя его.

История становится подлинным воспитателем нации. Деяния и подвиги великих предков пробуждают историческую память, формируют новое гражданское сознание, становятся источником нравственного воспитания и подражания

Историческая память чаще всего понимается как одно из измерений индивидуальной и коллективной (социальной памяти) — как память об историческом прошлом или, вернее, как символическая репрезентация исторического прошлого. Историческая память — не только один из главных

каналов передачи опыта и сведений о прошлом, но и важнейшая составляющая самоидентификации индивида, социальной группы и общества в целом, ибо оживление разделяемых образов исторического прошлого является таким типом памяти, который имеет особенное значение для конституирования социальных групп в настоящем.

С одной стороны, под исторической памятью можно понимать способность субъекта сохранять воспоминания о пережитом опыте, который является необходимой основой для выработки исторического сознания. С другой стороны, это результат определенных смыслообразующих операций по упорядочению воспоминаний, осуществляемых в ходе формирования исторического сознания путем переработки пережитого опыта.

С обретением политической независимости и свободы наш народ стал подлинным национальной культуры. В годы независимости важным явлением в духовной жизни коренных народов стало возрождение исторической памяти народа. Открытость внешнему миру и сохранение национальной идентичности, высокая духовность и уважение к собственной истории, религиозная и культурная толерантность - базовые слагаемые философии национального возрождения Узбекистана, основоположником которой, является Первый Президент Узбекистана. Принцип "Без исторической памяти нет будущего", провозглашенный Исламом Каримовым в первые годы независимости, стал

важным руководством к действию по реформированию духовной жизни, воспитанию культуры исторической памяти, созидательных устремлений нашего народа. Это поистине историческое решение, принятое на заре суверенитета нашей страны, стало сутью идеологии независимости и мощнейшим источником энергии в дальнейшем развитии государства и общества. В этой идее воплощены все лучшие идеалы прошлого узбекского народа, органично сплетенные с общепризнанными ценностями его настоящего и задачами будущего.

В последние годы реформы, проводимые в духовно-культурной сфере, стали основой для изучения истории Узбекистана на новом уровне.

В частности, в 1996 году был создан Центр новой истории Узбекистана при Академии государственного и общественного строительства при Президенте Республики Узбекистан; в июле 1998 г вышло Постановление Кабинета Министров «О совершенствовании деятельности Института истории кадемии наук Республики Узбекистан»; Указ Первого Президента Республики Узбекистан И. Каримова, Указ Кабинета Министров от 7 октября 2010 года «Об утверждении Государственной программы об охране, защите, и использовании в 2010-2020 гг. нематериальных культурных объектов наследия», 30 июня 2017 г., - Постановление Президента Республики Узбекистан «Об организации деятельности Общественного совета по Новейшей истории Узбекистана при Академии наук Республики Узбекистан» и др.

Историческая память приобретает особую актуальность для Узбекистана и потому, что в процессе укрепления государственности формируется новая концепция нации, самобытное национальное самосознание, национальная и государственная идентичность. А в процессе формирования национального самосознания фиксируется и закрепляется представление об уникальности собственного исторического опыта и оригинального культурного наследия. Историческая память составляет одну из основ осознания человеком своего "я" в семейной родословной и в истории своего народа, понимания нашего "мы" в национальной и культурной общности страны. Ее роль особенно актуальна в формировании ценностного отношения граждан страны к своему Отечеству в настоящее время

Исторический опыт, преемственность традиций - все это общечеловеческие ценности, на которых воспитываются новые поколения. Возникновение и развитие исторического сознания и его важной составляющей – исторической памяти – отражает связь времен в материальной и духовной культуре любой

человеческой общности, обеспечивает историческую устойчивость носителя этой культуры. Не случайно наша культура стала центром притяжения для всего человечества: Самарканд, Бухара, Хива - места паломничества не только ученых и ценителей искусства, но всех людей земли, которых интересуют история и исторические ценности

Курс на возрождение национальных ценностей, истории, традиций, взятый государством с первых лет независимости, оказал огромное влияние на духовную атмосферу общества, формирование исторического мышления, воспитание культуры исторической памяти, особенно подрастающего поколения, успехи социально-экономических и политических реформ. Они являются культурными символами общественной памяти, сформировавшими духовные ценности и коллективные представления исторических эпох, определившими самосознание и ментальность народа. Первый Президент Ислам Каримов отмечает что, « Мы должны иметь свое независимое, научно глубоко обоснованное мнение по этому вопросу, то есть о древнем прошлом, об исторических корнях. Это актуальная задача, стоящая перед нашими учеными-историками, научными учреждениями. Я хочу обратиться к ученым-специалистам, которые трудятся в области истории: создайте правдивую историю нашей нации, дабы она одарила наш народ духовной силой, возродила нашу былую гордость. Если мы хотим поднять наш край на новый уровень, новый высокий рубеж, для этого нам необходима светлая идея. В основе этой идеи лежит возрождение самосознания нашего народа. Невозможно осознать себя без знания правдивой истории».

Вместе с этим, изучение прошлого Узбекистана пробуждает у молодежи чувство уважительного отношения к истокам национального достоинства, чести и совести, преданности и любви к своей Родине; соизмерять свои поступки, деятельность с добрыми традициями, дорожить сегодняшней стабильностью общества, вносить свой вклад в дело процветания страны. Подвиги Тумарис, Ширака, Спитамена, Муканны, Джалалиддина Мангуберды, Нажмиддина Кубро, Темура Малика и десятки других во имя чести и достоинства своей Родины служат ярким примером для молодежи. А государственная мудрость Амира Темура вызывает глубокое уважение к этой неординарной личности.

Сегодня становится как никогда очевидно, что настоящее «вырастает» из прошлого, которое, в свою очередь, становится предпосылкой будущего. Прошлое – почва будущего.

Историческая память своими конечными выводами подводит к практическим потребностям сегодняшнего дня. Историческое сознание дает обществу, им обладающему, тот глазомер, то чутье, которые предохраняют его от многих ошибок и потрясений.

Обеспечивая и ускоряя процесс преемственности исторического развития, историческая память обуславливает формирование, функционирование и интенсивность исторического сознания. Ведь, только изучая прошлое, проверяя возможные варианты и уточняя прогнозы, можно предсказать черты будущего. Хорошее знание большого числа соответствующих ситуаций в прошлом позволяет строить наиболее вероятные, а потому практически верные прогнозы. Таким образом, познанное прошлое воплощается в настоящее.

Исторические преобразования, осуществляемые за годы независимости, оказывают огромное влияние на формирование воззрений наших соотечественников. Успешная реализация грандиозной программы по возрождению памятников архитектуры, охватившей фактически всю территорию страны, стала возможной благодаря участию в этом благородном деле самых широких слоев населения. В ходе реставрационно-строительных работ воочию проявилась жизненность таких исконно народных традиций, как бескорыстие, взаимная поддержка и взаимовыручка, толерантность. Люди разных национальностей, независимо от социальной, религиозной принадлежности, возраста и места проживания, по зову души от сознания личной принадлежности к великой истории Родины добровольно вносили свою лепту в возрождение культурного наследия своей улицы, села, города и государства в целом. Благодаря политике нашего государства удалось не только восстановить национальную идентичность, укрепить национальное самосознание, воспитать высокую духовность, но и на этих ценностях консолидировать соотечественников на созидательный труд во имя прогресса и процветания страны. По признанию всего мирового сообщества, именно это следует отнести к самым выдающимся достижениям независимого Узбекистана и жизнеутверждающей философии национального возрождения узбекского народа.

Таким образом, в заключении следует сказать, что историческая память является не только одним из главных каналов передачи опыта и сведений о прошлом, но и достаточно мощным объединяющим фактором представителей того или иного этноса, основой культурной преемственности поколений и национально-

гражданской идентичности, формирует чувство сопричастности к истории своего народа, способствует сохранению связей между поколениями. Эта форма имеет большое значение в процессе социализации и формирования идентичности Она также способствует усвоению многих социальных норм и дает объяснение настоящего.

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HIGH MORAL VIRTUE IS A FACTOR IN THE FIGHT AGAINST IDEOLOGICAL THREATS

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ANNOTATION
In this article, we will talk about the factor of struggle against spiritual and ideological threats directed to the realization of various merciless goals during the period of intense and intense gloom, that is, high moral qualities. The article also covers what qualities should be acquired and what vices should be upbringing of a healthy and harmonious generation through the use of the Sons of our ancestors in the fight against various threats.

This world is a field of struggle. The weapon of this area is healthy physical body, sharp mind and good morality is.
Abdurauf Fitrat

The sharp and severe course of the global processes is leading to many problems before mankind. The changes taking place in the ideological landscape of the world, the mutual conflict between different ideologies and the escalation of strong geopolitical struggles, the systematic approach to ideological security and the development of strategic tasks are dictated.

What is ideological security in a person by itself? it is natural to ask the question "What is the difference?" This can be answered as follows. "Ideological security is a concept that interprets the level of protection of an individual, nation, society, state from the effects of ideological aggression, the corruption of various ideological centers, manifested in various forms."

It can be seen that in order to ensure the ideological security of our independent Uzbekistan, first of all, we must form a strong ideological immunity that can protect and fight against the various ideological aggressions and threats of every individual, citizen, nation, society and state living in our country. This, in turn, requires an in depth study of the spheres of coverage and influence of ideological threats. The ideological threats of the new world are manifested in all spheres of our society, including economic, political, cultural and spiritual leadership. Especially widely used the factor of spirituality encourages a person to sympathy.

The issue of threats is not just a problem of the present time. This problem has been in the spotlight of thinkers and politicians from time immemorial. The main causes of internal and external threats to the state and society, the prevention and Combating of ideological threats, the issues of ensuring ideological security have been expressed in detail in the scientific heritage of our ancestors. In particular, such scholars as Al-Farabi, Yusuf Khoshib, Nizamumulk, Alisher Navoi, Abdulla Avlani, Fitrat, Amir Temur and Babur have written their opinions about the existence of various internal and external threats to human rights in their works.

In the views of our ancestors, we can see that protection from threats, the sustainable development of the state and society in general is connected with two things: the first is that the King, in addition to having good qualities of the ruler, is associated with the fair management of the state, constant vigilance, and the second is characterized by the fact that the in both, it is not difficult to notice that the issue of Virtue and educational upbringing is in the main place.

Our scientists have always agreed that the main factor that develops society and the state and ensures its stability is morality. Whether he will be a ruler or an ordinary people, first of all, those who believe that moral qualities should be endowed with good qualities, and vice versa. In this sense, it is worthwhile to think and reflect on the qualities that are the criteria of human perfection and the vices that negatively affect its perfection.

In the book "Explanatory Dictionary of the Uzbek language", it is explained that virtue is a positive trait, a good quality or a characteristic, and vice is a mental or physical defect, a defect, a defect, a defect-a mental or physical defect.

Virtue is expressed through the concepts of good deeds, quality, character, feature, and vice versa ill-bad deeds, defect, defect, defect, fault.

Kari Nizamiddin bin Mulla Hasan in his book "Ilmi axloq" says that if one person does not find Azores other than himself, his work, his words, Good Behavior. If they find, it will be called bad behavior," he explains.

In his work "Turkiy guliston yoxud axloq", Abdulla Avlani spoke about 33 virtues and 19 vices and revealed their essence.

He describes to the evil-doers (vices) as "moral hikes, whose life deprives people of eternity of happiness, content under the guise of truth and in the eyes of the people, whose life is innocent."

As the types of vices you can switch to come up with the following:

№	Kari Nizamiddin bin Mulla Hasan "Ethics in science" (XIX century) according to his work	A.Avlani's " Turkish Gulistan or morality" (1913) according to his work	H.Of Abdukarimov "Interesting pedagogy" (2012) according to his work
1	gapyotmaslik	adovat[11]-xusumat	adovat-nizo
2	yolg'onchilik[1]	anoniyat[12]-xudbinlik	Buzuqlik
3	yolqovlik[2]	atolat[2]-dangasalik	zulmkorlik[4]
4	jaholat[3]	jaholat[3]-bilimsizlik	ishratparastlik[15]
5	zulmkorlik[4]	jibonat[9]-qo'rqoqlik	kek-gina
6	isroflik[5]	zulm[4]	Mayparastlik
7	munofiqlik[6]	kizb[1]-yolg'onchilik	Manfaatparastlik
8	taassub-qaysarlik	namimat[8]-chaqimchilik	Molparastlik
9	hasad[7]	nifoq[6]-munofiq	Mutakabbirlik
10	hiylagarlik	rahovat-tanparvarlik	ta'magirlik[13]
11	chaqimchilik[8]	safohat[5]-isrofgarlik	fisqu-fasod[16]
12	ezmalik	tama'[13]-umidvorlik	Xiyonat
13	qo'rqoqlik[9]	haqorat[14]	xudbinlik[12]
14	g'azablik[10]	hamoqat-o'zbilarmonlik	Xusumat
15		hasad[7]-ko'rolmaslik	qahr-g'azab[10]
16		hasosat-xasislik	haqorat[14]
17		shahvat[15]	
18		g'azab[10]	
19		g'iybat[16]	

If we compare the illusions in the table above in comparative terms, then half of the 32 illusions in the general list, say 19 illusions in the most given list, that is, all 16 are repeated twice, and oppression and anger are repeated three times. It can be seen that several vices are mired in any period of socio-political development and slowed down in any period. At the same time, there are some such vices that will also exist in all historical periods. To this can be attributed: theft, betrayal, deceit, envy, gossip. Hadrat Alisher Navoi noted "lying" as the main flaw. Written in 1431 year of Muiniddin Juvaini, who lived in the XV century, in the age of "Nigoristan", which includes a lot of moral wisdom, wisdom and poetry, the following points can be met.
About virtue:
- Quenching anger, making the sentence less,
Noble qualities of good people.
Beware of your desires as much as possible,
The undying generosity of the greedy.
- The official collects goods, wisdom.
-The same term, which approaches the better - opens the way to virtue

About illness
-The ignoramus has five qualities: irritability; in vain speaking; not being shy without interest; excessive boasting; not being able to distinguish between a friend and an enemy .
- If anyone has a bad habit,
Repeat this habit one day.
Scorpio beats blind stone,
But it does not pass into the stone at all!
Virtue and malice are concepts that express both positive and negative aspects of human quality in general terms.

A set of qualities is one of the important components of an individual's moral consciousness and experience. Qualities are a social phenomenon by their nature. In their content, the system of values, which is accepted in society at all times, is ravaged. In the end, the same virtue determines the outlook of the individual and his understanding of the world, and, consequently, the direction of his behavior. Qualities are a separate type of regulatory factor. In contrast to the rules, qualities are positive moral

qualities that do not separate the spiritual consciousness of the individual.

Qualities are not given to a person in a natural way by nature, but they are possessed and formed with the help of moral experience, taking them as an example from the behavior, life-activities of adults throughout their lives.

"A good virtue brings a person closer to a person", "each person has qualities that others do not know", "as a person's knowledge increases, his good qualities increase" is called in folk proverbs.

Very many books have developed perfect human qualities, qualities and status. There are correct and fair interpretations that a person with this or that system of qualities achieves the level of perfection. We often talk a lot about virtues-it is, but we do not think that virtues will find a decision only after the abolition of vices. In our opinion, a person is able to penetrate into his spiritual perfection even by overcoming vices.

Virtue and malice can belong to the whole society or to some individual, individual. The fact that in the nature of everyone who has hundreds of qualities, there are also a thousand, unfortunately, a number of vices is a bitter fact at the same time.

One of the factors contributing to the perfection of the harmonious generation and raising their spiritual perfection is the way of becoming of these vices. We grow spiritually by destroying, eliminating our own vices. We achieve positivity by eliminating a few ills in a month, two months, a year. It depends on our will and vision. To do this, we must first identify ourselves with a list of vices, which are bitter truths and exhausting acts, and start the work from the beginning to eliminate the most "naive" of them.

Even, we cut off the ears, tail of our dog, which is a domestic animal, we shave the mustaches of our cat. We also give shape to the inanimate trees, we plant them: oblique, broken, overgrown branches.

So, in addition to giving ourselves an external mesh, it is also necessary that we give an internal mesh, we lose various prejudices and vices.

The first president of our country Islam Karimov writes in the chapter "the main criteria for the formation of spirituality" of the work "High spirituality-invincible power": "we are putting the issue of raising national spirituality in every way as the main task before us, today it is worthwhile to analyze in depth all the factors and criteria that shape and influence our spirituality".

It would not be an exaggeration to say that every contemporary, harmonious generation, which has taken the path of perfection as its own criterion-that is, our young people will achieve high spirituality and the rank of perfection, using forgery as a factor of their spiritual perfection, by eliminating the ills in themselves.

Head of our state Sh.Mirziyoyev in his speech at the solemn ceremony dedicated to the 24th anniversary of the adoption of the Constitution of the Republic of Uzbekistan emphasizes the following: when talking about the upbringing of the younger generation, I would very much like each of us, especially the sons and daughters, who are now entering into life, to follow these thoughts of Abdurauf Fitrat grandfather. Here is what our great ancestor wrote: "the people's progress towards a clear goal, statesman, happy self-esteem, being a world or weak, suffering the burden of misery, being ignored, subjecting to other people and being enslaved depends on the upbringing they received from their parents in childhood." The deeper meaning and significance of these words is more evident if we take into account the increasing risk of religious extremism, terrorism, drug trafficking, illegal migration, various disasters called "mass culture" around us today.

In conclusion, while the education of the younger generation plays an important role in combating and preventing external and internal spiritual and ideological threats, first of all, we should educate the representatives of the growing future as the owner of high morality, good manners and virtues against any threats and destructive ideas. After all, the land where there is any messages and children with positive qualities is invincible and the future is bright.

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WASHING THE SOIL THROUGH IRRIGATION EROSION AND MEASURES TO COMBAT IT

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ANNOTATION

The paper indicates materials related to water savings with the help of water weir, which installed in furrow in order to protect from irrigation erosion, decreasing erosion of soil and positive effect on cotton yield.
KEY WORDS: *washing, soil, erosion, combat.*

It is known that soil erosion causes serious damage to the national economy, especially agriculture.

Soil erosion is common in our republic due to irrigation, wind, floods, landslides, mountain erosion (due to strong rains or rapid melting of snow).

Erosion processes occur either under the influence of natural changes, or due to anthropogenic influences.

At present, erosion processes occurring in the course of natural changes are to some extent predicted and managed. But the erosion that occurs in terms of anthropogenic effects requires study, research.

In this article, one of the erosion processes that occur in the anthropogenic effect is the result of the experiments conducted on soil washing, which occurs in roughing and irrigation. In the current period, there are many cases of washing the top, fertile part of the soil, pouring estimated water on each roughness met.

As a result of this kind of erosion, an average of 100-150 thousand tons of soil is washed out of every hectare of land during the vegitation period, and along with this, a huge amount of humus, nitrogen, phosphorus, potassium, other macro-micro elements, crop diseases, agrochemicals used against weeds are also washed and the environment is polluted.

From this kind of erosion, less than half a million, tons, some other authors write that one million tons of cotton are harvested in the Republic every year. Therefore, the fight against this disaster is one of the main tasks.

On the Republican scale, the occurrence of various erosion processes and their area are listed in Table 1. [3]:

1-Table.
Information about Areas Exposed to Erosion

Type of erosion	Thousand / ha
Total area of the Republic	44884^x
Damaged by all kinds of erosion	30870
Water erosion:	7067
Mountaineering	5645
Arable land	1422
Irrigation erosion	722
On lalmikor lands (from strong rain or melting of snow)	700
Wind erosion	21873
In the Sahara Sagittarius zone	20031
Irrigated lands	1812
Water and wind erosion at once	1929

X) it is required to identify the data.

These data indicate that our republic suffers from erosion processes and requires to fight them, to maintain and increase the fertility of lands exposed to erosion.

A number of scientific research works were carried out by our scientists on the origin of irrigation erosion, its negative impact on the agrochemical, agrophysical States of the soil and the fight against it [1;2]. But these problems have not yet found a full-fledged solution, and measures of wide use are absent in production.

One of the most basic in the fight against erosion of this variety is the proper distribution of water into the owner. To solve this problem, scientific research works were carried out together with the scientific research institute of agrotechnologies of cotton selection, seed growing and Cultivation, Department of soil erosion protection and agroecology, Tashkent Institute of irrigation and melioration, Department of soil erosion protection and agroecology. As a result of the research, each owner was tested 2,5 and 4,50 slope in the field of experiment of the scientific research institute "agrotechnologies of cotton selection, seed production and cultivation", in the field of development of water meters and their field conditions, and in the Chinoz district "Kulakhmad ota" in the conditions of typical burlap in the farmer's farm.

The scheme of the water meter – devices produced is shown in Figure 1 below.

Water meter fixture
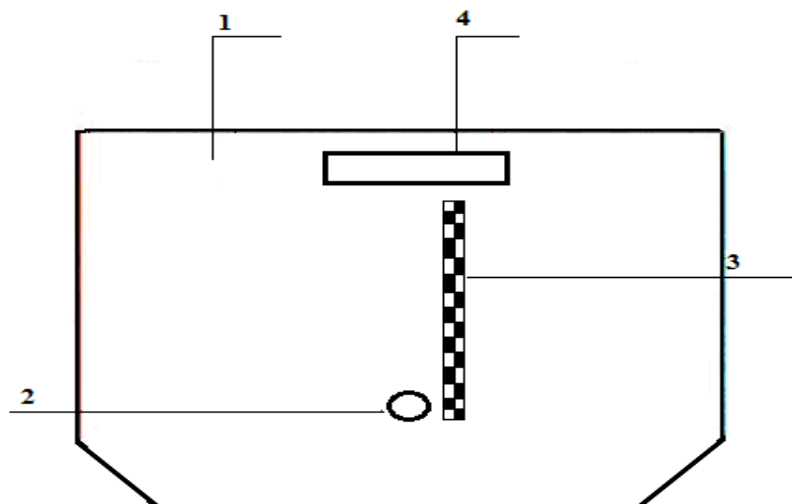
1 – figure.
1 - plastic wall; 2 - water transfer part; 3-rubber; 4-handle.
The mode of operation of this device is based on the following.

When determining the flow of water from the device, we must first look at the types of "holes". If the following condition is met, the holes in the objects are considered small.

$$\omega_1 \geq 4\omega ;$$

where ω_1 – is the surface of the water satchel;
ω-hole surface.

If the following condition is met, the walls are obtained as

$$t < 0,5\ d$$

Here it is. t-wall thickness;
d-hole diameter.

To determine the water consumption flowing out of a small object, we use the equations of gravity and, as a result, determine the speed at which it flows through the hole [4,5 and head]:

$$\upsilon_c = \phi\ \sqrt{2g \cdot H} \quad \textbf{(1)}$$

Here: uc-the speed of the current coming out of the hole.
ϕ -speed coefficient, determined from experience;

g-free fall acceleration;
H-water pressure in front of the hole;

We determine the water consumption through the hole using the following formulas:

$$Q = \mu\omega\sqrt{2gH}; \quad \textbf{(2)}$$

Based on the dynamics of the movement of the current in the rut, we determine the face of the hole:

$$\omega = \frac{Q}{\mu\sqrt{2g \cdot H}} \quad \textbf{(3)}$$

$$\omega = 0,78\ d^2;$$

We solve the equations 1 and 2 together and determine the diameter of the hole. The diameter of the hole is determined depending on the flow rate and water consumption. The results of the calculation are presented below (table 2):

2-Table.
Calculation of hole diameter

Water pressure H=2 sm	Q, л/с	0,1	0,2	0,3	0,4	D cp
	d, sm	1,7	2,4	2,9	3,4	2,6
Water pressure H=4 sm	d, sm	1,5	2	2,5	2,9	2,2
Water pressure H=6 sm	d, sm	1,3	1,8	2,2	2,6	2
	dcp	1,5	2,07	2,5	3	2,3

Based on the experiments conducted, irrigation erosion was detected on water meters of different diameters. The results of the experiments are presented (Table 3).

3-table.
Irrigation standards (m³/ha)

option	Water measurement device parameters	Indicators	In the unwashed part of the soil	In the washed sleeve of the soil	In the washed out part of the soil
			Total, m³/ha	Total, m³/ha	Total, m³/ha
1	Simple (on the farm applied)	Irrigation standard (brutto)	6627,0	6886,9	6147,3
		Spent water (netto)	4660,8	4953,0	4324,1
		Running water	1966,1	1933,8	1823,2
		Washed soil, t/ha	36,9	40,3	34,3
2	10мм	Irrigation standard (brutto)	6627,0	6886,9	6147,3
		Spent water (netto)	4660,8	4953,0	4324,1
		Running water	1966,1	1933,8	1823,2
		Washed soil, t/ha	9,0	9,3	8,4
3	15мм	Irrigation standard (brutto)	4730,2	4916,2	4387,0

		Spent water (netto)	4254,4	4421,8	3945,6
		Running water	475,8	494,4	441,4
		Washed soil, t/ha	15,7	16,3	14,1
4	20мм	Irrigation standard (brutto)	5991,6	6627,1	5556,9
		Spent water (netto)	4526,6	4703,7	4266,8
		Running water	1465,0	1523,4	1290,1
		Washed soil, t/ha	27,7	28,8	24,4

As can be seen from the information obtained, in the erosion-free part of the pike, when watered by the farm method, water was spent on one hectare of land at 6627,0 m³, the soil was washed to 36,9 t/ha, water consumption in the variant with the diameter of the water meter was 10mm 4661,7 m³, respectively In the eroded part of the crop feed, the water consumption was 6886,9 m³ when watered by the farm method, corresponding to the above figures, the soil was washed to 433 t/ha, water consumption in the water meter diameter option was 10mm 4844,9 m³, respectively, 9,3 t/ha, 15 mm 4916,2 m³ , 16,3 t/ha, and 20mm 6627,1 m³,

From this information, it can be concluded that irrigation water is much more economical when the porous is watered with water meters, and in terms of water economy, the best results can be achieved when the diameter of the water meters is 10 mm. But in order for the in this hole to reach the end of the water in the rut with respect to the 15 mm water meter, 4 - 4,5 hours are spent a lot.

In soils that have not undergone erosion, each without fertilizer-on average 16,2, 200 kg of nitrogen per hectare of corn crop, 140 kg of phosphorus and 100 kg of potassium fertilized with 26,3 Centner, or additional yield compared to the fertilizer-free option was 10,1 Centner. Now the goose is without fertilizer, but the yield in the variant where the water meter is appropriate 10 mm is 20,5, in the water meter with 15 mm is 22,1, and in the variant 20,9 mm is 18,9 Centner.

In the soil exposed to erosion, the wheat crop suitable for options is 25,7; 14,5; 21,5; in the accumulation section of 20,0 and 17,4 millet 27,6; 17,9; 21,9 ; 22,6; 23,9; and 24,8 was a Centner.

Thus, when multiplying the crop of the goose, it turned out that the optimal water meter hole diameter is 15 mm, the accuracy of the additional crop was confirmed in mathematical studieslanm (NSR soil type monan 1,09; 1,26 and 1,62 ts/ha).

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THEORETICAL AND METHODOLOGICAL BASIS OF PHILOSOPHICAL KNOWLEDGE OF SUFFISM

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ABSTRACT

The article analyzes the philosophical foundations of theoretical and methodological aspects of cognition of the Suffism teaching.

KEY WORDS: *Allah, sufism, the noble Quran, heritage, tariqat (path of spiritual development), sharia, godliness, saint, story, false, method, truth, gazelle, hermit, soul, rebellion, enlightenment.*

DISCUSSION

While social-humanitarian Sciences serve to improve human quality, to perfect human personality, they do not deny the importance of religion, mysticism, art and other institutions in solving this important and complex problem; after all, science is the worldview, thinking and way of life of the elite, not members of the whole society, but a minority, critical-thinking and self-perceiving as responsible for the.

In the heart of Sufism, based on the Holy Quran and hadiths Sharif, many sects such as Qadiriya, Yassaviya, Kubroviya, suhravardia, Nakshbandiya, Shozaliya, Khilvatiya, Mavlaviya, Badawiya, Dasuqiya, Jalvatiya were formed and developed. Muslim nationalities have come and come to create spiritual perfection under the influence of similar traditions. It is with great attention that Sufism has served as a step of spiritual maturity for such magnates as Hazrat Imam member, Khoja Ahmed Yassavi, Imam Gazzali, Yunus Emro, Najmiddin Kubro, Jalaluddin Rumi, Bahuddin Naqshqshband, Faqih Abulays Samarkand, Abdurahman Jami, Alisher Navoi, Sufi Olloyor, Muhammad Zahid Kottku, who took a worthy place in science and culture of the Islamic world. Therefore, these natural beings were spiritually pure, morally perfect, enlightened, loving, pious, pious, faithful, Muhsin, mushfig and wise. They are on all fronts: the messenger of Allah (s.a.v) in worldly and uhra'ah (s.a.v.) for their following their Lord, we also pronounce their names with reverence. If we look at the ideas of mysticism and the requirements it has put forward, we can see that it is based on some verse and Hadith[2].

"Mysticism is to abandon all desires and pleasures of the soul"[3].

Roweym (VEF. 303-915) says: "the image is to leave the soul to the will of Allah. Mysticism is built on three qualities: adhering to charity and pride, spending your property without paying attention to Allah and keeping someone else above yourself (thinking of someone else more than yourself), intimidation (showing intensity) and abandonment of discretion"[4].

a) To turn away from the world and direct the heart to Allah;

b) Purification of the spirit by praying diligently on the path shown by the Qur'an and Sunnah;

c) To take control of the desires of the soul through prayer, remembrance, contemplation, mathematics and Incarnation;

g) Show enthusiasm to attain Allah by gaining knowledge of the truth[5].

Along with the spread of the religion of Islam, a number of companions were given more and more prayers and tried to purify the morals and to do math. There are a lot of verses and hadiths that determine the relationship between man and creator both in the Qur'an and in the Sunnah. Sufism theorists used to search for the roots of irfanian teachings from these verses and hadiths[6].

Irfan and Sufism, to prove the various methods, rules and manners that relate to the people of Sufism and Irfan, rely on the Qur'an Karim, the prophet of Islam, the words of his companions and their practical lives, which are the main sources of Islamic religion. As the French Sufi scholar Faki Arnoldz said, Islamic mysticism includes such chapters and materials that in a broad sense Islam is permeated along with its fundamentals and

teachings[7].

The ideas of mysticism about pure divine work, about truth and truth, about pure human qualities, about the profession of perfection turned into poetic ideas-poets sang irfanious ideas with an ardent soul, by the command of the soul, irreplaceable lyrical poems, world-famous epics, stories were created. The conception of the work of mysticism, the embodiment of purity, justice and truth-the pleasure of love for the absolute God strongly influenced the people of creativity, the poets of the rebellious spirit, whose heart was filled with grief by humanity, attracted to himself in a melody, brought into being a wonderful poem of moderate, rich in emotion. The central hero of this poem-rindi, was a spiritually free man, who was horny in the heart of divine Love, saw himself at the peak of perfection.

Robiya Adaviya, Mansur Hallaj, Abdullah Ansari, Abu Said Abul Khayr, Pahlavan Mahmud also used this method. We are well aware that Khayyam, Rumi, Jami, Bedil, Iqbal describe many subtle theoretical issues of mysticism in the commentary of the world through poetic works.

To understand God, the prophet and the loved one when you say prisoner, to pay attention to these same concepts when you say Saki, when you say lab, when you say sect, when you say divine beauty, when you say brow, when you say the limit of the material world with the divine world, when you say waist, when you say perfect human imagination, when Without a detailed understanding of these emblems, it is impossible to understand the Sufi poem. Through these emblems, the image of solic in the lyrics of Navoi and Mashrab is praised. A stranger on the way to the sect, that is, Solik, describes his experiences and anxieties, the memory of the prisoner, his singing, his joy in the moments. In general, in Navoi, the ascension of man towards God is the main idea. The poet describes his suffering and career in this way by various means. Epic "Khamsa", "Lison ut-tayr" are also works depicting uruj-me'roj.

Without studying sufi literature, it is impossible to form a clear picture of the cultural life of medieval eastern Muslims. Its classical representatives until the beginning of the twentieth century influenced many Eastern literature. All this forces us to focus strongly on this literature. So, almost all the great admirers of the Muslim East are associated with mysticism in this or that sense. Consequently, without getting acquainted with this literature, it is worthwhile to fully understand them.

Sufi - many researchers have come to the conclusion that this word came from the Arabic word "sufi", wool, fabric, hirqa. From another point of view, the so is derived from the Greek word safos-wise. There are also scientists who explain this word in the meaning of pure-purity, that is, moral purification and spiritual perfection. We read in the "Ghiyos ul-lugot": "Sufi-khirqa, so, wool is called sufi. A person who looks at his heart in the occupation of a citizen and forges his dream of something other than truth is called "sufi" [8].

According to Abulhasan Ali Hujviri, cardigan-paws are those who have reached the age of purity. Another group of beggars and beggars is also called Sufis. According to the definition of Junaid Baghdad, " those who recognize the existence of the absolute in their body, whose work is only with God, are called Sufis." There is also an opinion that the suffix so, in general, is devoid of etymological content, and the letters in it make a psycho-physiological impression. According to this concept, each letter of the suffix denotes a clear meaning: "C" samat, safo, savm (dietician); "v" vido, vafo, vard; "f"-faqr, fikr and fano"[9].

The lexical meaning of the word Persian darvesh is gado, which means poor, that is, poorless is poverty. Being humble, hunchback, self-righteous is regarded as the main virtue of Dervish in the calculation. At the same time, they called the kalandars, the people, who retreated to the latest, and in many cases the Orif sohfs, too, dervish. Dervish was widely used in the next sense, especially in poetry.

So dervish's low generosity, who walked in the hope of feeding the belly, made a difference in this aspect from the beggars (So, Alisher Navoi at "Mahbub ul-qulub" with hatred of thieves partner beggar poor). So dervish is also a beggar, but there is a heavenly difference between his begging and the begging of poor. Dedicated himself to the path of truth and turned away from the world; looking at wealth, gold-jeweler, the human dignity knew and spirituality preferred any zaru zevar, sarvatu masnad; the quest for the winged-dervish (Taliban) to reach the divine community, to search incessantly for the discovery of the mystery of the mystery of the ghouls, to prefer and guide the spirit. Although the dervishes appeared outwardly, apparently, in janda's clothing (cardigan), but there were those who were Botanic science-enlightened, zaki, witty and courageous. That is, in the eyes of humanistic poets, all good deeds, cabbage, human qualities should be reflected in a person. Sheikh Sa'diy writes in his work "Gulistan": "the appearance of the dervishes is janda's clothes and shaved hair, and the truth is a living soul, a soul and a dying soul." According to Navoi's contemporaries Mirkhond: "dervish means struggle for the profession of advantage". With this feature, dervish becomes the ruler of his own soul, the pendulum Reigns the soul and occupies the throne of contentment; spirituality becomes the king of the estate. The Dervishes who took such a career were honored with the titles of "King dervish", "Sheikh"," Khoja".

Dervish is a collective image, the embodiment

of goodness. Both magnates and poor miracles, as well as creative writers, can see themselves from this. But it seems obvious that the entrepreneurial dervishes, which have risen to the level of most Saints, are more implied, of course. For example, in the works of Farididdin Attor "Tazkiratul avliyo", Abdurahman Jami "Nafahotul uns" and Alisher Navoi "Nasoyimul muhabbat" one can include the sheikhs in the sentence of such dervishes. To be more precise, Khoja Ahror Vali describes as the bishop of the total faqr.

Apparently, when Abdurahman Jami Khoja Ahror Vali was among the people of Fano, he considered the personal qualities, behavior and lifestyle of a person, the life of a Sufi, an enlightened soul. Because Khoja Ahror, although he had an incalculable wealth, but he himself lived a poor life, and his wealth was spent on feeding the poor, looking after the needy. Khoja Ahror has become the wealth of the wealth of the people. It is also known that Khoja Ahror spent money on the maintenance of salaries of students studying in Samarkand madrasahs, the construction of khanaqo and rabots. And he himself spent all the time surrounded by dervishes zikr with sky day, heated sufi conversations. Of course, the fact that Khoja Ahror hindered the development of secular sciences, too, is not true, because the mysticism itself does not correctly recognize the study of the universe through logical, rational knowledge, because according to this doctrine, the mystery of secret-the divine secret-is Asror and it can only be perceived by intuition, the soul.

At that time, Sufism-Sufism began in Movarounnahr. Sufism as a philosophy doctrine originally appeared in the VIII century BC. As for Movarounnahr, it passed through Iran, where it had a great influence in the XI - XII centuries.

Sufism is a complex philosophical flow. It has very diverse forms, content and flows. "Sufism is so broad and multifaceted," wrote E.E.Bertels, - could let him enter the world of the desired conception, " [10].

The famous Iranian Hussein ibn Mansur Hallaj (killed in Baghdad in 922 year) became the first victim of the Muslim Inquisition. The main idea of Halloween is "Anal-haq". He rejected the object by his same rule-the real world, he knew that God was not outside himself, and that his subjectivity suddenly became a reality. Hence, the Hallaj stood in the position of subunits, but the essence of the Hallaj subunits consisted in the rejection of the nobleman reality of his time, and the philosophy of Islam and Islam-against the word.

Mansur Hallaj, a Muslim Inquisition, was sentenced to death. However, the reaction was not able to eliminate the effect of Hallaj on the public with this brutal revenge. The influence of the doctrine of Hallaj is not only in Iran, but in the entire Muslim East, which means, even in Movarounnahr, it is even more intensified. The name of Mansur Hallaj remained a symbol of protest and indignation against the suffering. After that, the macro-psychics tried to use the reputation of Halloween for the purpose of deceiving the public for their own benefit.

Ahmad Yassawi describes the basics of Sufism in his work of "wisdom" as a prominent manifestation of mysticism in Movarounnahr. He writes about ten Legends of Sharia, sect, enlightenment and truth, describes the printouts of Sufism, talks about the ten different advantages of Sufism, about the ways and qualities of poverty and poverty, calls poverty a beacon, the Sun. According to Ahmad Yassaviy's note: " the one who does not pray for the blessings of the world is the one who spends the misfortune and pride in prayer and crying is the one who does not ask for the blessings of the world.""[11]

Bahouddin Naqshband the famous miraculous saint, who gained fame as an intermediary of his servants in the presence of Allah, the defender of ordinary raids (citizens), began to be recognized. To worship him, to rid him of all kinds of tribulations, oppression, to ask him for spread wide bread not only in his homeland in Central Asia, but also in the Islamic countries of the army. To him not only ordinary people, but also rulers, kings, scientists and poets worshiped. They gave him a hand and became his Murshid. Great poets Abdurahman Jami and Alisher Navoi worshiped the Naqshbandian sect, took its mystical path and propagated in their works[12]. The great Uzbek poet Boborahim Mashrab went along the path of the Naqshbandiya sect and received education in the land of Ofoqkhoja and described in his book "Mabdai nur" as the great representative of Sufism as the only means of achieving purity, honesty and Allah. Until the end of his life, Naqshbandiya went along the path of mysticism.

One of the major manifestations of Sufism was that of Sheikh, The Elder, who continued and developed the Bahouddin Naqshband, who had a very great reputation among the people, lived in Qashqar[13].

The philosophy of mysticism and mysticism is the most important and specific part of the religious-philosophical thinking of Turkestan, Khorasan and Iran, the peoples of the middle and Middle East in general.

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METHODOLOGICAL ANALYSIS OF TEACHING FOLKLORE MATERIALS

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ABSTRACT
This article presents the methodological analysis of teaching Folklore materials including a detailed analysis of folklore, customs, traditions which play an important role on the formation of a child's personality, on relationships between people, on the usual character traits and behavior.
KEY WORDS: *teaching folklore, national education, national culture, traditions, pedagogy, children*

INTRODUCTION

Currently, with the revival and intensive development of national cultures, both in theory and in the practice of national education, many researchers turn to the study of various aspects of ethno-pedagogy which plays a great role in raising children. We know that the traditions are formed on the basis of Uzbek families including: observance of age stages in the establishment of relations between parents and children; early social activities, functions of father and mother; a differentiated approach to the education of boys and girls. Traditions of upbringing of a religious and moral character: respectful attitude towards parents, older family members; reverence for the parental home; responsibility for the fate of widows and orphans; mercy, mutual assistance, hospitality - were the basis that determined the whole future life of a person in our culture.

MATERIALS AND METHODS

The role of culture and values in the upbringing of the younger generation is so great that the development of material and spiritual wealth must continue continuously in order to bring them to the level of perfect personalities. In this regard, the young generation must be able to develop material and spiritual wealth at the level of their ancestors, even better than them. In order to form such material and spiritual abilities in the younger generation, society must have a system of educational intuitions that operates continuously and effectively. It is impossible to raise the level of achieving positive results in the upbringing of our children to the level of the achievements of our ancestors without the intervention of folklore. The correct approach to raising a child from birth can give him a positive upbringing thorough knowledge. The influence of folklore on the upbringing of children leads to the

formation and development of courage, overcoming fear, helping others, caring for nature, caring for family and friends, passion for education and learning, love for exercise, home care and many other qualities.

Traditions occupy a special place in the experience of national education. The established numerous customs and traditions, rituals and holidays acquired special educational significance. The commonality of pedagogical cultures is explained by many factors: a) common historical conditions for the development of different peoples; b) the commonality of goals and interests of the peoples of all countries, their universal human spiritual and moral values; c) commonality of the foundations of folk psychology; d) common geographic conditions; e) the mutual influence of the pedagogical traditions of different peoples.

According to Ya.A. Komensky, the rules of teaching folklore are quite simple and form the basis of the universal requirements of the moral codes: respect elders; take care of children, illness, weakness, helpless; deification of bread, water, earth; respect for food, material and spiritual values, for all living things in nature; hard work; patience; modesty; kindness, mercy; hospitality, respect for others; and the ability to listen. The means, techniques and methods of teaching folklore are quite differentiated: proverbs, sayings, legends, aphorisms are among the common means of folk pedagogy. There are many proverbs and sayings among the people, all of them are aimed at improving the moral qualities of a person.

Highly appreciating the educational role of teaching folklore, G.N. Volkov emphasizes that in the pedagogical wisdom of the people there is a fairly clear differentiation of the forms of education: proverbs - mainly for social and ethical formation,

riddles - for mental education, songs - for the aesthetic, patriotic, fairy tales for both. Fairy tales can be aimed at the formation of certain character traits of the growing person. Proverbs and sayings - mainly for moral edification and aesthetic education, riddles - for the development of intelligence, ingenuity, intelligence, songs and dances for aesthetic education, fairy tales for everything. In addition, specific ages of both educated and educators are associated with a certain genre. It is clear what age and for what age they use nursery rhymes, lullabies. The old ones most often resort to proverbs. Proverbs and sayings are one of the genres of oral folk art, in artistic images recorded the experience of a lived life in all its diversity and contradictions. Children learn to express their thoughts, feelings clearly, concisely, expressively and they develop the ability to creatively use a word, the ability to figuratively describe an object, and give it a vivid characteristic through using proverbs and sayings.

RESULTS AND DISCUSSIONS

Folk tales nurture the child in the traditions of the people, giving him an idea of life based on the spiritual and moral views of the people. The role of Uzbek folk tales in the upbringing of children, in the formation of their spiritual and moral world is invaluable. From generation to generation, the Uzbek people have carefully created not only the plot, but also the speech, the turning points of fairy tales. The language of fairy tales, saturated with aphorisms and repetitions, is very poetic, refreshing and elevating the heart of the listener. The formed moral belief serves as the basis for the development of behavioral motives that motivate children to do certain things. It is an analysis of the causes of actions that allows the teacher to get into the essence of the child's behavior, to understand the cause of his or her actions and to choose the most appropriate way of influencing. The content of moral education of preschool children is defined by the "First Step". This includes cultivating a love for the Motherland, respect people and their work, a culture of humanity, discipline and behavior, willpower and positive moral qualities of the individual. Moral education is carried out in the process of all educational work of the teacher with children. Guiding the independent activities of preschool children, organizing work, games, lessons, gives them an educational character. Thus, by watching the games, the teacher analyzes their content, paying attention to the nature of the relationships between the participants; As teacher narrates the lesson in visual activity, he/she invents a theme so that the children can complete the task and reflect on their relationship to the reality around them; guiding children's work raises its importance to those around them.

The riddle is one of the small forms of oral folk art, in which the most vivid, characteristic signs of objects or phenomena are given in an extremely concise, figurative form. Solving riddles develops the ability to analyze, generalize, form the ability to independently draw conclusions, inferences, the ability to clearly highlight the most characteristic, expressive signs of an object or phenomenon, the ability to brightly and concisely convey images of objects, develops a "poetic view of reality" of children.

Lullabies, in the opinion of the people, are a companion of childhood. They, along with other genres, contain a powerful force that allows them to develop the speech of preschool children. Lullabies enrich children's vocabulary due to the fact that they contain a wide range of information about the world around them, first of all about those objects that are close to the experience of people and attract with their appearance.

As for the methodological analysis of teaching Folklore materials including a detailed analysis of folklore, customs, traditions which play an important role on the formation of a child's personality, on relationships between people, on the usual character traits and behavior, it is important to take into account the following principles in modern education:

• Internationalism as the basis for constructing relations, communication in the socio-pedagogical complex

• The values of the cultures of peoples and the importance of folk pedagogy as an ideological, instrumental basis for everyday and professional processes of socialization and personality formation;

• Tolerance for the views of the individual, including various religious beliefs, for the socio-cultural environment of its development;

• Taking into account the specifics of broad social movements in Uzbekistan and the world and using their capabilities, traditions, customs in the development of an original personality;

The effective implementation of these tasks largely depends on the preparedness of teachers to realize the educational potential of folk pedagogy.

In modern historical and pedagogical literature, basically, four different interpretations of the concept of "folk pedagogy" have developed: first, as a spiritual phenomenon inherent in the consciousness of the masses (empirical knowledge, information, ideals, ideas, views, perceptions , the installation of educational actions and so on); secondly, as the pedagogical practice of different peoples; thirdly, as a unity of pedagogical thought and pedagogical activity of the masses and, fourthly, as a science of popular education.

CONCLUSION

In conclusion we can say that teaching folklore plays an important role in raising children. Dividing it into genres allows a child to enrich his

spiritual world at a certain age, develop patriotism, respect elderly people, study his traditions, and assimilate moral norms of behavior in society. Teaching folklore develops the child's oral speech, influences his spiritual development and his imagination.

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THE PLACE OF THE HISTORY OF MUSIC IN THE CULTURE OF THE NATION

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ANNOTATION

The history of music is a branch of musicology (a science and academic discipline) that studies music, primarily European, by era, country, and school. Music, as part of a culture, is influenced by all other aspects of it, including socio-economic organization and experience, climate, and access to technology. The emotions and ideas expressed in music, the situations in which music is performed and perceived, and attitudes toward performers and composers vary by region and era.

KEY WORDS: *music education, national culture, form of music, tradition, musical instrument, history of music.*

DISCUSSION

The methodological tradition also referred to the history of music as musical palaeography, systematization of musical forms in their historical development, and instrumentology. In Western science, musical palaeography is studied by philologists, form is studied by music theorists, and instruments (their construction, historical descriptions, acoustic structure) are studied by all musicologists (historians, theorists, musicologists-folklorists, etc.) without exception.

It is assumed that the appearance of modern man occurred about 160,000 years ago in Africa. About 50,000 years ago, humans settled all the habitable continents. Since all the people of the world, including the most isolated tribal groups, possess some form of music, historians have concluded that music must have been present in the first people in Africa, before they settled on the planet. Music is thought to have existed for at least 50,000 years after its origin in Africa and has gradually evolved into an integral part of human life across the planet.

Prehistoric, or primitive, is commonly referred to as an oral musical tradition. Modern American and Australian Aboriginal music is sometimes also referred to as prehistoric, however the term is usually applied to European music. For prehistoric music of non-European continents, the terms folk, folk or traditional music are often used.

The flute is the oldest recorded musical instrument. One specimen was found next to sculptures that date back to 35-40 thousand years BC.

The prehistoric era ends with the transition to a written musical tradition. The next era was called "music of the ancient world". The oldest known song recorded on a cuneiform tablet was found in the excavations of Nippur, it dates back to 2000 BC. The tablet was deciphered by professor A.D.Kilmer from the University of Berkeley, it was also demonstrated that it was composed in thirds and used the Pythagorean system.

Double pipes, such as those used, for example, by the ancient Greeks, and ancient bagpipes, as well as a review of ancient drawings on vases and walls, and ancient writing (see, for example, Aristotle's Problems, Book XIX.12), which describes the musical technique of that time, indicate polyphony. One pipe in probably provided the background, while the other played melodic passages. Instruments such as the seven-hole flute and various types of stringed instruments have been found in the Indus Valley civilization.

References to Indian classical music (marga) can be found in the scriptures of the Vedas. The sama Veda, one of the four Vedas, describes music in detail. The history of music in Iran (Persia) dates back to the prehistoric era. The great legendary king, is credited with the invention of music. Music in Iran can be traced back to the days of the Elamite Empire (2500-644 BC). Fragmentary documents from various periods of the country's history show that the ancient Persians had an extensive musical culture. Sasanian period (226-651 AD) E.), in particular, left us a lot of evidence indicating the presence of a lively musical life in Persia. The names of some important musicians, such as Barbad Mervezi, Nagisa and Ramtin, as well as the names of some of their works have been preserved.

On the walls of the pyramids, in ancient papyri, in the collections "Texts of the Pyramids" and "Book of the Dead" there are lines of religious hymns. There are "passions" and "mysteries". A popular theme was the "passion" of Osiris, who died and was resurrected every year, as well as women's songs-lamentations over the dead Osiris. The performance of songs could be accompanied by dramatic scenes.

Music played an important role in the life of the ancient Egyptians. The significance of music in ancient Egypt is reflected in the wall reliefs of ancient Egyptian temples and tombs depicting musicians. The ancient musical instruments of the Egyptians were the harp and flute. During the New Kingdom, the Egyptians played bells, tambourines, drums, and lyres imported from Asia. [6] Rich people arranged receptions with the invitation of professional musicians[7].

It is believed that it was in Ancient Greece that music reached its highest flourishing in the culture of the Ancient world. The word "music" itself is of ancient Greek origin. In ancient Greece, for the first time, a natural relationship between pitch and number was noted, the discovery of which tradition attributes to Pythagoras. Music as a subject of education and upbringing and as a component of social life was of great importance for the Greeks and, in general, for the entire later European civilization.

Ancient music is a general term used to describe music in the European classical tradition from the fall of the Roman Empire in 476 AD to the end of the Baroque era in the mid-18th century. The music within this vast span of time was extremely diverse, spanning multiple cultural traditions within a wide geographical area. Many of the cultural groups from which medieval Europe developed already had musical traditions of which little is known. The unifying origin of these cultures in the Middle Ages was the Roman Catholic Church, and its music served as a focus for musical development during the first thousand years of this period. Secular old music is also preserved in a large number of sources.

According to the evidence of numerous ancient documents and artistic images, the musical life of the Early Middle Ages (until the 800s AD) was quite rich and rich. However, history has preserved to this day mainly the liturgical music of the Roman Catholic Church, a significant part of which is occupied by the so-called Gregorian chorale, named after Pope Gregory I. Modern scholars consider the evidence of the musical contribution of Gregory the Great to be a legend. Most of the compositions of the Gregorian chorale in the period between the milestones of the activities of Gregory I and Charlemagne belong to unknown authors.

During the ninth century, several important events occurred in the development of Medieval music. First, the Catholic Church began to make significant efforts to unify the various directions of the Gregorian chant and to bring them all within the framework of the Gregorian liturgy. The second important event was the appearance of early polyphonic music: the octave doubling (polyphony) used in ancient times was replaced by the accompaniment of the church melody by means of a second voice, which formed intervals from unison to a quart (two-voice organum, or "diaphony"). The third and most important event for the history of music was the attempt to recreate musical notation, which followed the end of almost five hundred years of research by composers in this field. For the first time, lines are used to record notes and the first 7 or 15 letters of the Latin alphabet are used. The founder of modern musical notation is considered to be Guido of Aretino (died in 1037), who reduces letter and non-letter notation into one harmonious system.

In the period after 1100, several schools of polyphonic music stand out in music:

• The school at the monastery of Saint-Martial (Saint Martial) was characterized by the presence of one main stable theme and a fast-moving second voice in the form of a two-voice organum;

* The School of Notre-Dame, which gave the world high examples of polyphony of that time and became the first school of European choral polyphony, with its founders, the monks Leonin and Perotin;

• school of Santiago de Compostela in the province of Galicia, the former at that time a centre for pilgrims, wandering pilgrims and a place of work of the composers of many musical traditions of the late middle Ages, much of the work which has reached our times in the writings Calixtine code;

• The English school, whose music is represented in our time in the Old Hall Manuscript and in the manuscript known as the Worcester Fragments.

Together with these schools of church music, there were also secular trends in the development of music of the Middle Ages, which were reflected in numerous compositions of troubadours, trouvers and Minnesingers. The musical forms and aesthetic ideas of secular musicians of the time gave rise to the development of early Renaissance music, but the minstrel culture itself was largely destroyed during the Albigensian Crusade in the early thirteenth century.

Ethnic music is a direction of modern music that combines traditional folk and folk music. An analogue of the well-known English term "world music" (music of the world). National music refers to both musical folklore and music written in the spirit of the nation and gained popularity in it.

This is music adapted to North American and European standards of commercial sound recording, as well as modern "Western" music with a

wide use of borrowed from traditional folk music (various cultures of the world) and classical music of non-European traditions of sound patterns, instruments, performance styles, etc. In the works of ethnic music, the sounds of "hoomei", djembe, duduk, sitar, bagpipes, didgeridoo and many other musical instruments are used. Sampling of folk instruments and singing is common.

The English term "world music" refers to all music that is not part of modern Western music and originates outside the cultural influences of Western Europe and English-speaking countries. World music can be defined as "local music from outside" or "someone else's local music".

The term became widespread in the 1980s as the name of a section of the classification of such phenomena in the music industry. This category includes:

* Traditional folk music;

* Folk music -modern popular music with pronounced elements of ethnic music (for example, Celtic music, Afro-Cuban music, reggae).

The term "ethnic music" adopted a compromise: the term "world music" sounds incomprehensible in translation. Therefore, the term "ethnic music" was taken, which in English historically describes a line of musical products produced specifically for Eastern markets and for emigrants from Eastern countries (primarily from India).

The appeal of Western civilization to the exotic traditions of folk music and the music of other civilizations can be confidently traced back to the Baroque music. There are many pieces of music at the intersection of ethnic and classical music. At the same time, it should be noted that the composer Antonin Dvorak wrote "Slavic Dances" under the influence of folk music of the peoples of Central Europe and "Symphony No. 9" ("From the New World") under the influence of folk music of Negroes and aborigines of North America.

On the classical and later jazz scene of the XX century, musical archaism is established as an independent direction in the form of neofolclorism. "Dance of the Seven Veils" from R. Strauss's opera "Salome" is called one of the first and most striking examples of the author's aestheticization of folklore. In 1913, Igor Stravinsky poetized paganism in the ballet "Sacred Spring", which was a kind of manifesto of neo-folklore. His influence has significantly affected the works of Sergei Prokofiev, Rodion Shchedrin and others in Russia, and abroad — Bartok and Kodai in Hungary, Martinu in the Czech Republic, de Falla in Spain, Vila Lobos in Brazil, Chavez in Mexico and many others.

Ethnic music (especially Oriental music) had a great influence on such American composers of the 20th century as Henry Cowell, John Cage, Lou Harrison and Alan Hovaness.

In the 1960s, many rock musicians resorted to the means of traditional music of the East. For example, Indian elements appeared in the music of The Beatles, and the band members were taught to play the sitar by the famous Indian musician Ravi Shankar.

In the same era, the reggae style, which is referred to as "world music" in English-speaking culture, originating in the sacred music of Jamaica, and its largest performer, Bob Marley, became widely popular.

In the 1980s, there was another surge of interest in ethnics in the West. On the one hand, Western musicians were looking for new influences and discovering folk music, on the other hand, ethnic music was promising from the point of view of marketing and the music industry. Then there were radio programs ("World of Music" on the radio station "Voice of America", "D. N. A: destination Africa" on "BBC Radio 1Xtra", the Andy Kershaw show on "BBC Radio 3" , and others); festivals (WOMAD), labels ("Real World "by Peter Gabriel, founded in 1988," Piranha Music", World Music Network,"Luaka Bop" by David Byrne) specializing in ethnic music. In Russia, there are also many labels specializing in World Music and ethnics: Sketis Music, Dom Records, Dolina Bortanga and others (due to the general decline of the physical media industry, only Sketis Music can be distinguished from the actual Russian world music labels).

In Russia, in recent years, the genre of ethnic and world music has become more and more popular. Bright images of the Russian world music scene were such groups and musicians as "Rada and Ternovnik", "Melnitsa", Inna Zhelannaya, Zaman, Theodor Bastard, TL "Ruda Navi", "Va-Ta-Ga", Namgar, "Volga", Raven Wing, "vedan kolod", "Volkov Trio", Sergey Starostin, Bulat Gafarov, Viktor Savenko, Ivan Smirnov, Stepanida Borisova (Yakutia), Yarga Sound System, Nino Katamadze, Pelageya, Drums ASHE, Godlav, Fudjin-HAO.

Uzbekistan is considered one of the cradles of human civilization, a country with a rich historical past. The culture of our people is one of the most unique and original, which has been formed for thousands of years. Since ancient times, various types of arts, including music, have developed on the territory of Uzbekistan.

Monuments of material culture and extant written sources testify to the ancient origins of the musical heritage of the Uzbek people. On the monuments of fine art related to the culture of the Kushan period, you can see images of musicians. One of them is represented on the frieze with a stringed harp-like instrument in his hands, another with a wind instrument similar to a flute, and the third with a double-sided drum of an oblong shape. From this we can conclude that the Kushans and

Sogdians knew the main types of instruments and used them both solo and in an ensemble.

In the IX-XII centuries ("The Renaissance») Samarkand, Bukhara, Merv, Urgench and other cities are becoming leading scientific and cultural centers. Local traditions in all fields of science, literature and art are being revived, and a huge number of scientific treatises are being created. The best examples of musical art received generalized coverage in treatises on the music of such Central Asian encyclopedic scholars as al-Farabi, Abu Ali Ibn Sina, al-Khwarizmi, Jami and others.

After gaining independence, one of the priority tasks of the state was the revival and preservation of the spiritual values of generations, careful attitude to the cultural wealth of the country, the veneration of great ancestors. In recent years, Uzbekistan has carried out significant work on the deep study and further development of musical art. The country has created the necessary legislative framework for training young talents, which provides an opportunity for the younger generation to get an education based on the traditions of Uzbek culture and art, world standards. It also serves to stimulate the work of teachers, scientific and creative workers in this field, as well as to strengthen the material and technical base of educational institutions of culture and art.

In all regions of the republic there are children's schools of music and art equipped with new musical instruments, palaces of culture, colleges and lyceums in the areas of art. A special place in this list is occupied by the State Conservatory of Uzbekistan, which is considered to be the oldest higher music educational institution in Central Asia. Since March 22, 2002, the university staff has been operating in the new building. Equipped with special modern equipment and instruments, this beautiful building has 305 classrooms and classrooms, 4 concert halls, 4 educational recording studios, a Museum of national Instruments, a specialized research center, a publishing house "Music", a music library, 4 sports halls. Thus, there is everything necessary for the implementation of fruitful educational, creative, research and performance work.

Also in our country, a large number of musical events of international importance are held, designed to promote the revival, preservation and enrichment of the traditions of musical folklore and academic performance skills. Among them is the International Music Festival "Sharq Taronalari "("Melodies of the East"), held every two years in Samarkand. Musicians and performers from all over the world come here to introduce the participants and guests of the festival to the unique national musical culture of their peoples.

In addition, in order to develop the national musical art as an important means of educating young people in the spirit of love for the Motherland, loyalty to the ideas of independence, respect for national traditions and values, various creative forums, festivals and competitions of republican significance are held in Uzbekistan. Such song contests as "Yagonasan, Mukaddas Vatan", "Nihol", "Mardi Maydon" contribute to the identification of young talents in the field of national song art, their comprehensive support and stimulation. To strengthen the creative cooperation of poets, composers and performers, various creative projects and forums are regularly held.

Throughout the country, monitoring is being conducted to identify and preserve centers of intangible cultural heritage, including such types of performing arts as "bakhshi", "lapar", "makom", "yalla" and others. The Directorate of Academic Folk and Artistic groups, which unites the State Choral Chapel, the Chamber Orchestra "Turkiston", the Classical Ensemble "Mumtoz", the National Song and Dance Ensembles "Uzbekistan", the Chamber Ensemble "Soloists of Uzbekistan", the State Orchestra of Folk Instruments named after-T. Jalilov and Symphony orchestra. All these groups actively participate in the holidays dedicated to Independence Day, Navruz, and also represent Uzbek musical creativity on various international stages.

Recognition of the unique value of the traditional musical and artistic heritage of the peoples of Uzbekistan was the fact that a number of phenomena of folk culture were included by UNESCO in the World Representative List of "Masterpieces of the oral and Intangible Heritage of mankind". In particular, this is the heritage of Baisun as an example of preserving all types of folk art in the region (traditional customs and rituals, oral poetic heritage, music); "Shashmakom" as a unique musical heritage of the makom art of the nation, a phenomenon of spiritual culture of the peoples of Central Asia; the original song genre of the Ferghana Valley "Katta Ashula" with its own peculiarities of musical and poetic language and performance.

Thus, the musical art of Uzbekistan, distinguished by its richness and diversity of forms and genres, is an integral part of the national culture, a unique way of communicating with the world community.

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