



# USING THEMATIC APPROACH IN THE LEARNERS' CRITICAL THINKING ABILITIES AND PROBLEM-SOLVING SKILLS

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## ABSTRACT

This study focuses on determining the significant effect on teacher's utilization of Thematic Approach on the learner's critical thinking abilities and problem-solving skills. It seeks to determine the level of Thematic approach, learners' critical thinking abilities and problem-solving skills. The significant difference in the learners' problem-solving skills before and after using the Thematic Approach. The significant effect on teacher's utilization of thematic approach on the learner's critical thinking abilities, and significant effect on the learner's problem-solving skills before and after the teacher's utilization of Thematic Approach.

The study used Quasi-Experimental research design. The research was conducted among the Grade 11 students of Majada In Integrated School during the school year 2023-2024. A purposeful sampling strategy is used to determine the respondents in the study. The research instrument used is the researcher-made survey questionnaire checklist which is prepared, checked, and submitted to reputable experts in the field of the study. A teacher made test is utilized to determine the before and after scores of the respondents and a questionnaire checklist to describe the level of thematic approach and critical thinking abilities.

Most of the learners strongly agree with very highly evident as interpretation of the utilization of the Thematic approach as to integrative, cross curriculum, world relevance and engagement. The level of learners' critical thinking abilities in terms of inference, reflection, creativity, and decision making was also very highly evident. The students' level of problem solving before and after using Thematic Approach has a verbal interpretation of Developing to Approaching Proficiency.

The study shows a significant difference in the students' problem-solving skills before and after using the Thematic Approach. The result also shows that there is a significant effect on teacher's utilization of Thematic Approach on the learner's critical thinking Abilities. Thus, both hypotheses were rejected. The approach has the capacity to help students improve their critical thinking. By utilizing the approach, the students critical thinking, analytical thinking, and evaluating skills can be increased. It was also found out that there is no significant effect on teacher's utilization of Thematic Approach on the learner's problem-solving skills thus the third hypothesis was accepted. The lack of strong effect observed demonstrates that this approach may not be sufficient to produce evident progress in learners' problem-solving skills.

Moreover, the conclusion is drawn from the findings and the following recommendations are hereby given: the teachers may utilize different mathematical teaching approaches to easily understand word problems; learners really need to practice solving word problems in Mathematics and use their valuable time to improve their understanding of the different problems; and for further validity and reliability of the study, it is suggested to conduct the study in a larger group of respondents to determine if the results vary.

**KEYWORDS:** Thematic Approach; critical thinking abilities; problem-solving skills

## 1. INTRODUCTION

In a very challenging learning environment that teachers are facing today teachers must be equipped with different learning strategies to deal with difficulties encountered in different classroom situation. Student's ability to solve word problems is deteriorating as shown in quarterly report of least learned competencies. May it be an approach, differentiated instruction or any best practice that the teacher may utilize will be a great help to alleviate students' difficulty in solving word problems and increase their critical thinking abilities.

Thematic instruction lent itself to the philosophy of systems thinking because the curriculum has been presented with the understanding that the learning has been connected, that teachers needed to work collaboratively to solve the problems plaguing the at-risk student, and that the educational system needed to become much more in tune with learning.

These days, the capacity to critically think in mathematics is a crucial foundational skill in schooling. The importance of this ability is not only to fulfil learning objectives and raise students' knowledge of mathematics but also connects in other subjects

and daily life. Development in quality education is seeing the need for pupils to play more active roles in learning. To solve mathematical problems, students must be both critical and logical thinkers who are able to reflect on their own reasoning. Schools should design learning spaces that enable students to delve deeply into subjects they are enthusiastic about. Students are likely to employ less critical thinking skills and have less opportunities to draw connections between the material covered in the classroom and their daily lives when teaching and learning activities are heavily focused on subject topic mastery through memorization of concepts and facts (Salleh 2023)

Therefore, the researcher believed that thematic approach can be useful and meaningful to improve critical thinking skills and problem-solving abilities.

### 1.1 Statement of the Problem

Specifically, the study sought to answer the following questions:

1. What is the level of using Thematic Approach in terms of:

1.1 integration;



- 1.2. cross-curriculum;
- 1.3. real-world relevance; and
- 1.4. engagement?
2. What is the level of learners' Critical Thinking Abilities in terms of:
  - 2.1. inference;
  - 2.2. reflection;
  - 2.3. creativity; and
  - 2.4. decision making?
3. What is the level of learners' Problem-Solving Skills before and after using Thematic approach in terms of
  - 3.1. critical thinking;
  - 3.2. analyzing; and
  - 3.3. evaluating?
4. Is there a significant difference in the learners' Problem-Solving Skills before and after using the Thematic Approach?
5. Is there a significant effect on teachers' utilization of Thematic Approach on the learners' Critical Thinking Abilities?
6. Is there a significant effect on teachers' utilization of Thematic Approach on the learners' Problem-Solving Skills?

## 2. METHODOLOGY

Descriptive research design was chosen in the study since the goal was to determine "what is" the current situation, specifically how assessments vary. With the use of a survey questionnaire that served as the data source, it evaluated the level of Thematic approach implemented by the teacher, as well as the students' level of critical thinking ability and problem-solving skills. According to Pandey (2021) the descriptive technique, commonly referred to as statistical research, describes information about the populations or phenomena

under study, including data and characteristics, Additionally, frequencies, averages, and other statistical computations are performed using this methodology. Often, doing a survey investigation is the best course of action before publishing a descriptive study.

## 3. RESULTS AND DISCUSSION

This chapter deals with presentation, analysis, and interpretation of the data. The researcher provided tables that summarize the responses of the respondents and discuss the findings of the study based on the research questions.

### Level of Using Thematic Approach

The level of using Thematic Approach was assessed by the respondents in terms of integration, cross-curriculum, real-world relevance, and engagement. The level of Thematic Approach was revealed in the following tables which shows the statement, Mean, Standard Deviation, remarks, and Verbal Interpretation.

Table 1 shows the level of the Thematic Approach in terms of Integration. It shows that the respondents Strongly Agree that the researcher uses other references to connect learners' interests, cultures, and family traditions as part of the learning experiences which gained the highest (M=4.64 S.D.=0.50), provides integrative material that supports student-centered learning (M=4.53 S.D. = 0.61 ), utilizes examples related to other subjects and having the same concept (M=4.50 S.D. =0.63 ), collaborates with other subject teachers in constructing performance tasks (M= 4.48 S.D.=0.58), integrates topics with relevant issues in society for more effective discussion (M=4.43 S.D.=0.63). It also reveals that the extent of Thematic Approach Is very highly evident supported by the grand (M=4.52 S.D.= 0.59).

**Table 1 Level of Using Thematic Approach in terms of Integration**

STATEMENT	MEAN	SD	REMARKS
The teacher... ...utilizes examples related to other subjects and having the same concept.	4.50	0.63	Strongly Agree
...uses other references to connect learners' interests, cultures, and family traditions etc., as part of the learning experience.	4.64	0.50	Strongly Agree
...integrates topics with relevant issues in society for more effective discussion.	4.43	0.63	Strongly Agree
...collaborates with other subject teachers in constructing performance tasks.	4.48	0.58	Strongly Agree
...provides integrative material that supports student-centered learning.	4.53	0.61	Strongly Agree
<b>Weighted Mean</b>		4.52	
<b>SD</b>		0.59	
<b>Verbal Interpretation</b>			Very Highly Evident

The researcher was able to utilize Thematic Approach in terms of Integration by integrating topics with relevant issues, collaborates with other subjects having the same concept. and providing material that supports student-centered learning.

The level of Thematic Approach was assessed by the respondents in terms of Cross Curriculum as shown in the following table having the Mean, Standard Deviation, and its verbal interpretation.



**Table 2. Level of Teacher’s Utilization of Thematic Approach in terms of Cross Curriculum**

STATEMENT	MEAN	SD	REMARKS
The teacher...			
...gave clearly defined theme aligned with the performance standard.	4.51	0.50	Strongly Agree
...uses multiple material that supports learning.	4.61	0.53	Strongly Agree
...uses strategies to connect the topic with other subjects.	4.50	0.60	Strongly Agree
...collaborates with other subjects that shows integration across the discipline.	4.45	0.63	Strongly Agree
...provide opportunities for a better learning experience.	4.55	0.67	Strongly Agree
<b>Weighted Mean</b>		4.52	
<b>SD</b>		0.59	
<b>Verbal Interpretation</b>			Very Highly Evident

Table 2 shows the level of Thematic Approach in terms of cross curriculum. It shows that the respondents Strongly Agree that the researcher uses multiple material that supports learning (M=4.61 S.D=0.53), provide opportunities for a better learning experience (M=4.55 S.D=0.67), gave clearly defined theme aligned with the performance standard. (M=4.51 S.D=0.50), uses strategies to connect the topic with other subjects (M=4.50 S.D.=0.60), collaborates with other subjects that show integration across the discipline (M=4.45 S.D. =0. 63). This implies that the researcher implementation of Thematic Approach in terms of Cross Curriculum was very highly evident supported by the grand (M= 4.52 S.D. = 0.59).

Likewise, the teacher utilized the Thematic approach in terms of cross curriculum by giving clearly defined theme aligned with the performance standard, using multiple material that supports learning, strategies to connect topics with other subjects, collaborates with other subjects that shows integration

across discipline, and provide opportunities for better learning experiences.

Table 3 shows level of teachers’ utilization of Thematic Approach in terms of Real-World Relevance. It shows that the respondents Strongly Agree that the researcher uses problems/ideas to create scenario that they might encounter in the future (M=4.71 S.D=0.53), creates theme based on the most essential learning competency (M=4.52 S.D.=0.54), gave performance task with real-life application (M=4.50 S.D.=0.63 ), involves students in creating problems based on authentic situations (M=4.48 S.D.=0.63), uses practical problems related to everyday life (M=4.35 S.D.=0.80). This implies that the researcher implementation of Thematic Approach in terms of Real-World Relevance was very highly evident supported by the grand (M=4.51 S.D.=0.64).

**Table 3. Level of Teacher’s Utilization of Thematic Approach in terms of Real-World Relevance**

STATEMENT	MEAN	SD	REMARKS
The teacher...			
...uses practical problems related to everyday life.	4.35	0.80	Strongly Agree
...creates theme based on the most essential learning competency.	4.52	0.54	Strongly Agree
...gave performance task with real-life application.	4.50	0.63	Strongly Agree
...involves students in creating problems based on authentic situations.	4.48	0.63	Strongly Agree
...uses problems/ideas to create scenario that they might encounter in the future.	4.71	0.53	Strongly Agree
<b>Weighted Mean</b>		4.51	
<b>SD</b>		0.64	
<b>Verbal Interpretation</b>			Very Highly Evident

The teacher utilized Thematic Approach in terms of real-world relevance by using practical problems related to everyday life, creates theme based on the most essential learning competency, gave performance task based on real-life application, involve students in creating problems based on authentic situations, and using problems to create scenario that they might encounter in the future.

The level of Thematic Approach was assessed by the respondents in terms of Engagement as shown in the following table having the Mean, Standard Deviation, and its verbal interpretation.



**Table 4 Level of Teacher’s Utilization of Thematic Approach in terms of Engagement**

STATEMENT	MEAN	SD	REMARKS
The teacher... <i>...presentation is engaging and relatable.</i>	4.49	0.60	Strongly Agree
<i>...material encourages deep exploration of theme/ideas.</i>	4.42	0.65	Strongly Agree
<i>...activities help students solve complex problem.</i>	4.52	0.63	Strongly Agree
<i>...instructional method engage student through project.</i>	4.31	0.75	Strongly Agree
<i>...consideration to students access to tools for a better teaching learning experience is evident.</i>	4.54	0.63	Strongly Agree
<b>Weighted Mean</b>		4.46	
<b>SD</b>		0.66	
<b>Verbal Interpretation</b>		Very Highly Evident	

Table 4 shows the level of Thematic Approach in terms of Engagement. It shows that the respondents Strongly Agree that the researcher considered students access to tools for a better teaching learning experience is evident (M=4.54 S.D.=0.63), gave activities that help students solve complex problem (M=4.52 S.D.=0.63), presentation is engaging and relatable (M=4.49 S.D. =0.60 ), involves students in creating problems based on authentic situations (M= 4.49 S.D.=0.63), instructional material encourages deep exploration of theme/ideas (M=4.31 S.D.=0.75).

The researchers’ implementation of Thematic Approach in

terms of Engagement was very highly evident supported by the grand (M=4.46 S.D.=0.66), this implies that learners were engaged in the activities in the Thematic Approach.

**Level of Learners’ Critical Thinking Abilities**

The respondents assessed their level of Critical Thinking Abilities in terms of Inference, Reflection, Creativity and Decision Making. The level of Critical thinking Abilities was revealed in the following tables which shows the statement, Mean, Standard Deviation, remarks, and Verbal Interpretation.

**Table 5 Level of Learners’ Critical Thinking Abilities in terms of Inference**

STATEMENT	MEAN	SD	REMARKS
I can... <i>...draw conclusion from a given information.</i>	4.48	0.61	Strongly Agree
<i>...interpret problem and deduce information.</i>	4.47	0.55	Strongly Agree
<i>...evaluate the given in a complex problem.</i>	4.47	0.57	Strongly Agree
<i>...connect pieces of information to solve problem.</i>	4.40	0.59	Strongly Agree
<i>...analyze data and its complexities to arrive at a correct solution.</i>	4.50	0.60	Strongly Agree
<b>Weighted Mean</b>		4.47	
<b>SD</b>		0.59	
<b>Verbal Interpretation</b>		Very Highly Evident	

Table 5 shows the level of Critical Thinking Abilities in terms of Inference. It shows that the respondents Strongly Agree that they can analyze data and its complexities to arrive at a correct solution (M=4.50 S.D.=0.60), draw conclusion from a given information (M=4.48 S.D.=0.61), interpret problem and deduce information (M= 4.47 S.D. =0.55), evaluate the given in a complex problem (M=4.47 S.D.=0.57), connect pieces of information to solve problem (M=4.40 S.D.=0.59). This meant that the Learner’s Critical Thinking In terms of Inference was very highly evident supported by the grand (M= 4.47 S.D. = 0.59).

The respondents assessed their level of Critical Thinking Abilities in terms of Reflection as shown in the following table

having the Mean, Standard Deviation, and its verbal interpretation.

Table 6 shows the level of Critical Thinking Abilities in terms of Reflection. It shows that the respondents Strongly Agree that they can evaluate/examine the validity of their own thinking (M=4.57 S.D.=0.51), create reflections based on my own thinking (M=4.51 S.D.=0.59), reflect on the connection of the theme in my learning (M=4.43 S.D.=0.58),use language to convey my thoughts effectively (M=4.38 S.D.=0.60),apply insights gained from reflections to future actions/learning (M=4.29 S.D.=0.59).This meant that the Learner’s Critical Thinking In terms of Reflection was very highly evident supported by the grand (M=4.43 S.D.= 0.58).



**Table 6 Level of Learners' Critical Thinking Abilities in terms of Reflection**

STATEMENT	MEAN	SD	REMARKS
I can...			
<i>...reflect on the connection of the theme in my learning</i>	4.43	0.58	Strongly Agree
<i>...use language to convey my thoughts effectively.</i>	4.38	0.60	Strongly Agree
<i>...evaluate/examine the validity of my own thinking.</i>	4.57	0.51	Strongly Agree
<i>...create reflections based on my own thinking.</i>	4.51	0.59	Strongly Agree
<i>...apply insights gained from reflections to future actions/learning.</i>	4.29	0.59	Strongly Agree
<b>Weighted Mean</b>		4.43	
<b>SD</b>		0.58	
<b>Verbal Interpretation</b>			Very Highly Evident

The respondents assessed their level of Critical Thinking Abilities in terms of Creativity as shown in the table having the Mean, Standard Deviation, and its verbal interpretation.

Table 7 shows that the respondents Strongly Agree that they can elaborate concepts through unique responses (M=4.52 S.D. = 0.57), provide multiple solutions to a problem (M=4.50

S.D.=0.67), adapt ideas in solving problems (M= 4.49 S.D. =0.50), generate original ideas related to a given theme (M=4.46 S.D.=0.64), innovate and explain how I arrive at this innovation (M=4.46 S.D.=0.66). This meant that the Learner's Critical Thinking In terms of Creativity was very high supported by the grand (M= 4.49 S.D. = 0.61).

**Table 7. Level of Learners' Critical Thinking Abilities in terms of Creativity**

STATEMENT	MEAN	SD	REMARKS
I can...			
<i>...generate original ideas related to a given theme.</i>	4.46	0.64	Strongly Agree
<i>...provide multiple solutions to a problem.</i>	4.50	0.67	Strongly Agree
<i>...elaborate concepts through unique responses.</i>	4.52	0.57	Strongly Agree
<i>...innovate and explain how I arrive at this innovation</i>	4.46	0.66	Strongly Agree
<i>...adapt ideas in solving problems.</i>	4.49	0.50	Strongly Agree
<b>Weighted Mean</b>		4.49	
<b>SD</b>		0.61	
<b>Verbal Interpretation</b>			Very Highly Evident

The learners can provide multiple solutions to problem, elaborate concepts through unique responses, innovate and explain how they arrive at certain innovations, generate original ideas related to a given theme and adapt ideas in solving problems.

The respondents assessed their level of Critical Thinking Abilities in terms of Decision Making as shown in the table having the Mean, Standard Deviation, and its verbal interpretation.

Table 8 shows that the respondents Strongly Agree that they can evaluate options and make reasoned choices (M=4.51 S.D.=0.55), identify biases and analyze outcomes (M= 4.50 S.D. =0.57), provide alternative and assess their quality (M=4.49 S.D.=0.63), consider consequences and justify their decision (M=4.48 S.D. = 0.66). On the other hand, the respondents agree that they can defend their viewpoints with sound reasoning and judgement (M=4.17 S.D.=0.66). This meant that the Learner's Critical Thinking In terms of Creativity was very highly evident supported by the grand (M= 4.43 S.D. = 0.63).

**Table 8. Level of Learners' Critical Thinking Abilities in terms of Decision Making**

STATEMENT	MEAN	SD	REMARKS
I can...			
<i>...evaluate options and make reasoned choices.</i>	4.51	0.55	Strongly Agree
<i>...consider consequences and justify my decision.</i>	4.48	0.66	Strongly Agree
<i>...provide alternative and assess their quality.</i>	4.49	0.63	Strongly Agree
<i>...defend my viewpoints with sound reasoning and judgement.</i>	4.17	0.66	Agree
<i>...identify biases and analyze outcomes.</i>	4.50	0.57	Strongly Agree
<b>Weighted Mean</b>		4.43	
<b>SD</b>		0.63	
<b>Verbal Interpretation</b>			Very Highly Evident



The respondents strongly agreed that they have a very high level of Critical Thinking Abilities in terms of Inference, Reflection, Creativity and Decision Making

**Level of Learners’ Problem-Solving Skills**

The level of Learners’ Problem-Solving Skills before using Thematic Approach refers to Problem Solving Skills in terms of Critical Thinking, Analyzing, and Evaluating skills. The following table shows the interval of scores, frequency, percentage of frequency, mean, standard deviation, and Verbal Interpretation.

**Table 9 Level of Learners’ Problem-Solving Skills in terms of Critical Thinking**

Score	Assessment	Frequency	Percentage	Descriptive Value
9-10	Pre-test	0	0%	Outstanding
	Posttest	4	4%	
7-8	Pre-test	3	3%	Very Satisfactory
	Posttest	24	21%	
5-6	Pre-test	40	36%	Satisfactory
	Posttest	61	54%	
3-4	Pre-test	46	41%	Fairly Satisfactory
	Posttest	22	20%	
0-2	Pre-test	23	21%	Did Not Meet Expectation
	Posttest	1	1%	
<b>Mean</b>	<b>Pre-test</b>	<b>3.91</b>	<b>Interpretation</b>	<b>Developing</b>
	<b>Posttest</b>	<b>5.63</b>		<b>Approaching Proficiency</b>

Table 9 shows the level of Learners’ Problem-Solving Skills before and after using Thematic Approach. It reveals the Learners’ Problem-Solving Skills in terms of Critical Thinking.

The Learners’ Level of Problem-Solving Skills in terms of Critical Thinking obtained a Mean of 3.91 (Developing) and 5.63 (Approaching proficiency) before and after using the Thematic approach respectively. This meant that there is a minimal increase in the students’ scores.

Table 10 shows the level of Learners’ Problem-Solving Skills before and after using Thematic Approach. It reveals the Learners’ Problem-Solving Skills in terms of Analyzing.

**Table 10 Level of Learners’ Problem-Solving Skills in terms of Analyzing**

Score	Assessment	Frequency	Percentage	Descriptive Value
9-10	Pre-test	0	0%	Outstanding
	Posttest	9	8%	
7-8	Pre-test	4	4%	Very Satisfactory
	Posttest	17	15%	
5-6	Pre-test	12	11%	Satisfactory
	Posttest	57	51%	
3-4	Pre-test	62	55%	Fairly Satisfactory
	Posttest	24	21%	
0-2	Pre-test	34	30%	Did Not Meet Expectation
	Posttest	5	4%	
<b>Mean</b>	<b>Pre-test</b>	<b>3.27</b>	<b>Interpretation</b>	<b>Developing</b>
	<b>Posttest</b>	<b>5.59</b>		<b>Approaching Proficiency</b>

The Learners’ Level of Problem-Solving Skills in terms of Analyzing obtained a Mean of 3.27 (Developing) and 5.59 (Approaching proficiency) before and after using the Thematic approach respectively. This meant that there is a minimal increase in the students’ scores.

Table 11 shows the level of Learners’ Problem-Solving Skills before and after using Thematic Approach. It reveals the

Learners’ Problem-Solving Skills in terms of Evaluating.



The Learners' Level of Problem-Solving Skills in terms of Evaluating obtained a Mean of 4.08 (Developing) and 6.18 (Approaching proficiency) before and after using the Thematic

approach respectively. This meant that there is a minimal increase in the students' scores.

**Table 11 Level of Learners' Problem-Solving Skills in terms of Evaluating**

Score	Assessment	Frequency	Percentage	Descriptive Value
9-10	Pre-test	0	0%	Outstanding
	Posttest	10	9%	
7-8	Pre-test	6	5%	Very Satisfactory
	Posttest	33	29%	
5-6	Pre-test	40	36%	Satisfactory
	Posttest	60	54%	
3-4	Pre-test	44	39%	Fairly Satisfactory
	Posttest	7	6%	
0-2	Pre-test	22	20%	Did Not Meet Expectation
	Posttest	2	2%	
<b>Mean</b>	<b>Pre-test</b>	<b>4.08</b>	<b>Interpretation</b>	<b>Developing</b>
	<b>Posttest</b>	<b>6.18</b>		<b>Approaching Proficiency</b>

To test the significant difference in the learners' Problem-Solving Skills before and after using the Thematic Approach the data was statistically treated by paired t-test. The table shows the critical t-value and p-value.

10.54, 12.62 and 13.51 for Critical thinking, Analyzing and Evaluating respectively. The computed t-value is greater than the critical value of 1.98, this means that Thematic approach can be an effective approach to improve problem solving skills. By utilizing this approach, the students critical thinking, analytical thinking and evaluating skills can be increased.

Table 12 shows the Difference Between Before and After Using the Thematic Approach.

It showed a significant difference with the computed t-value of

**Table 12 Difference Between Before and After Using the Thematic Approach**

Problem-Solving Skills	Mean	Mean Difference	Computed t-value	Analysis
Critical Thinking				
Before	3.91	1.72	10.54	Significant
After	5.63			
Analyzing				
Before	3.27	2.32	12.62	Significant
After	5.59			
Evaluating				
Before	4.08	2.10	13.51	Significant
After	6.18			

Note: \*  $t > 1.98$  is statistically significant.

Table 13 shows the results of the statistical analysis on the Significant Effect on Teacher's Utilization of Thematic Approach on the Learner's Critical Thinking Abilities. The Thematic Approach using Engagement shows a significant positive effect on all the components of Critical Thinking Abilities such as Inference, Reflection, Creativity and Decision Making (p=0.000;0.000;0.023;0.000). Moreover, some

components, such as Integration, Cross Curriculum and Real-World relevance show a statistically significant positive effect on students' Critical Thinking Abilities in their Inference, Creativity and Decision Making having the p-value that is less than 0.05 level of significance. This implies that the approach led to a significant improvement of students' critical thinking abilities.



**Table 13 Significant Effect on Using Thematic Approach on the Learner’s Critical Thinking Abilities**

Thematic Approach	Critical Thinking Abilities	T-Value	P-Value
Integration	Inference	2.8	0.006*
	Reflection	1.07	0.287
	Creativity	2.49	0.014*
	Decision Making	2.67	0.009*
Cross Curriculum	Inference	2.04	0.044*
	Reflection	0.80	0.425
	Creativity	2.02	0.046*
	Decision Making	2.48	0.015*
Real-World Relevance	Inference	2.91	0.004*
	Reflection	0.99	0.325
	Creativity	2.97	0.004*
	Decision Making	0.87	0.386
Engagement	Inference	5.32	0.000*
	Reflection	10.89	0.000*
	Creativity	2.31	0.023*
	Decision Making	4.28	0.000*

Note: \*  $p < .05$  is statistically significant.

Table 13 also shows the p-value of some indicators that resulted not significant such as Integration, Cross curriculum, Real World Relevance in students’ reflection ( $p=0.287; 0.425;0.325$ ). Additionally Real-World Relevance also reveals not significant in Decision Making having the p-value of 0.386 that is greater than the 0.05 level of significance.

To test the significant effect on teacher’s utilization of Thematic Approach of the learner’s Problem-Solving Skills, data were treated statistically using Regression Analysis which shows the degrees of freedom and p-value of the data.

Table 14 presents the results of the statistical analysis on the Significant Effect on Teacher’s Utilization of Thematic

Approach in terms of Integration, cross curriculum, real world-relevance, and engagement on the learner’s Problem-Solving Skills in terms of critical thinking skills, analyzing skills and evaluating skills.

In connection with the findings the Thematic Approach using Integration, Cross Curriculum, Real World Relevance and Engagement resulted not significant with the Problem-Solving skills such as Critical Thinking, Analyzing and Evaluating having the p-value of greater than 0.05 level of significance. This implies that the approach has no significant effect on the students’ Problem-solving skills.

**Table 14. Significant Effect on Teacher’s Utilization of Thematic Approach on the Learner’s Problem-Solving Skills**

Thematic Approach	Problem-Solving Skills	T-Value	P-value
Integration	Critical Thinking	0.18	0.854
	Analyzing	0.83	0.408
	Evaluating	0.17	0.862
Cross Curriculum	Critical Thinking	1.22	0.225
	Analyzing	0.67	0.503
	Evaluating	1.21	0.230
Real-World Relevance	Critical Thinking	0.19	0.236
	Analyzing	1.40	0.165
	Evaluating	0.23	0.820
Engagement	Critical Thinking	0.31	0.780
	Analyzing	1.74	0.085
	Evaluating	0.65	0.519

Note: \*  $p < .05$  is statistically significant.



#### 4. CONCLUSION AND RECOMMENDATIONS

Based on the finding of the study, the following conclusions were drawn:

There is a significant difference in the students' Problem-Solving Skills before and after using the Thematic Approach, thus the null hypothesis is rejected. Therefore, it can be concluded that Thematic approach can be used as a strategy and intervention to improve learners' Problem-solving skills.

There is a significant effect on teacher's utilization of Thematic Approach on the learner's Critical thinking Abilities. Thus, the null hypothesis is rejected. Highlighting the significance of considering the varieties of instructional methods and interventions is a major factor to improve learners Critical thinking Skills.

There is no significant effect on teacher's utilization of Thematic Approach on the learner's Problem-Solving Skills then the null hypothesis is accepted. The lack of strong impact observed with Thematic Approach demonstrates that solely utilizing the approach may not be sufficient to produce evident progress in Problem-Solving Skills.

In light from the conclusion drawn from the findings, the following recommendations were hereby given:

1. To secure a fresh approach to teach Problem Solving, the Mathematics department has the opportunity to spread the study's result. They may incorporate new strategies into their teaching practices.
2. The study's findings create an opportunity to organize webinars across different learning area and may develop students Critical Thinking Abilities and Problem-Solving Skills.
3. The teachers may utilize different mathematical teaching approaches to easily understand word problems.

#### REFERENCE

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