



EMPOWERING LEARNING: TECHNOLOGY-BASED LEARNING TOOLS ON THE MOTIVATION AND PERFORMANCE OF GRADE 7 LEARNERS

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ABSTRACT

The study's main goal was to investigate the technology-based teaching strategies of Technology and Livelihood Education (TLE) teachers and their effect on the performance of Grade 7 learners. It specifically tried to answer several key questions about the extent of use of technology-based learning tools used by teachers. It also sought to determine the perceived level of learners' motivation and performance in written examinations and practical tests, and the significant effect of technology-based teaching strategies in TLE on learners' motivation and their performance.

The perceived level of learners' motivation was interpreted as Always Observed, which means that the goals and aspirations, interest and curiosity, self-efficacy and confident, teacher-learner relationship, and parental peer support are crucial for improving students' learning and motivation. The level of learner's performance in terms of written examinations and practical tests had descriptive equivalent of Outstanding and verbally interpreted as Closely Approximating Mastery.

Based on the findings, technology integration tools do not substantially affect learners' motivation, leading to the acceptance of the hypothesis. The analysis conducted on the integration of technology-based learning tools in TLE revealed that among the predictors, only audio-visual had a marginally significant effect on learners' performance, leading to the acceptance of both hypotheses. This means that technology integration tools do not substantially impact learners' motivation, and resources might be better redirected toward other aspects of the learning experience or used to enhance technology implementation strategies.

Therefore, TLE teachers should use technology-based learning tools in their classes. The students should develop a personal interest in using audio visuals, vlogs, video presentations, game-based/gamification, and podcasts. They should be promoted in teaching TLE subjects and be made available and affordable, especially to educators, educational institutions, and students who should be exposed to technology-based learning tools to improve their performance in written and practical tests in TLE subjects.

KEYWORDS: technology-based; teaching strategies; Technology and Livelihood Education (TLE)

1. INTRODUCTION

In recent times, technology has seamlessly woven into the fabric of daily existence, granting effortless access to vast reservoirs of data and information. The contemporary crop of students has been immersed in a technologically saturated environment since childhood, with its prevalence steadily rising. To cultivate an impactful 21st-century classroom tailored to student requirements, educators must consider student motivation and technology's transformative role in fostering inclusive educational practices.

Technology is a tool that allows for social interaction and easy creation of content by users. It is a pervasive force in the lives of 21st-century learners. Applications such as audio visual, vlogs, video presentation, game-based/ gamification and podcast enable users to express their thoughts, voice their opinions, and connect anytime and anywhere.

According to Kang (2019), technology-based teaching strategies have increased the use of social media. It enables users to access multiple social media sites through just a few clicks. This technology greatly impacts students, and a large number of studies have been conducted, each with a unique result.

Numerous educators have sought to harness the inherent advantages of integrating technology into their teaching methodologies. The essence of learning technology largely stems from its participatory nature, enabling the creation, sharing, and interaction with content and knowledge. This concept of technology-infused teaching strategies finds support in Wegell's (2019) assertion that learning is intrinsically intertwined with technology, as the mind evolves through its engagement with tools and media provided by the cultural milieu. While the term "technology" is widely comprehended, the precise definition of "social media" remains somewhat fluid. From the perspective of instructional design, social media platforms also facilitate the development of reusable digital content that can be readily updated and modified. This content can be annotated with descriptors, enhancing its searchability and accessibility. Such underlying principles of instructional design hold the potential to benefit students when they engage in independent study and require efficient information retrieval. Through diverse technological tools, the populace collectively contributes to the pool of knowledge by editing, tagging, and disseminating information digitally.

In line with this, the researcher explored empowering learning through technology-based learning tools on the motivation and performance of the Grade 7 learners in San Pedro City.



1.1 Statement of the Problem

Specifically, it sought to answer the following questions:

1. What is the extent of use of technology-based learning tools in the teachers in terms of:
 - 1.1. Audio-Visual
 - 1.2. Vlogs
 - 1.3. Video Presentation
 - 1.4. Game-based/Gamification, and
 - 1.5. Podcast?
2. What is the perceived level of learner’s motivation in terms of:
 - 2.1. goals and aspirations
 - 2.2 interest and curiosity
 - 2.3 self-efficacy and confidence
 - 2.4 teacher-learners’ relationship; and
 - 2.5 parental peer support?
3. What is the level of Learners’ Performance in terms of:
 - 3.1. Written Exam and
 - 3.2 Practical test?
4. Does utilizing technology-based learning tools in TLE significantly affect the learners’ motivation?
5. Do technology-based learning tools significantly affect the learners’ performance in TLE?

2. METHODOLOGY

A correlational method of research was used in this study. According to Barkha Devi (2023), a correlation reflects the relationship's strength and/or direction between two (or more) variables. The correlational method was used to investigate technology-based learning tools on the motivation and performance of grade 7 learners.

The study was correlational in nature as it reflected the status and conditions of technology-based learning tools used by TLE

teachers. Additionally, researchers considered factors such as sample size and potential confounding variables that could impact the relationship between variables.

3. RESULTS AND DISCUSSION

This chapter enumerates the different results and discusses the results that were yielded from the treatment of the data that was gathered in this study.

The main goal of this study was to explore how empowering learning through technology-based learning tools affects the motivation and performance of learners. The study involved one hundred twenty (120) grade 7 students from Sampaguita Village National High School, Division of San Pedro.

The presentation of findings is based on the sequence of the statement of the problems, such as to determine the status of using technology-based learning tools of the teachers in terms of audio-visual, vlogs, video presentation, game-based/gamification, podcast and mean level of performance of grade 7 students in terms of written and practical test.

Furthermore, to find the technology-based learning tools' significant effect on learner’s motivation and performance in TLE. Integrating technology into teaching strategies can greatly enhance learning experiences and prepare students for the demands of the modern workforce. Incorporate social media platforms and online collaboration tools into TLE projects to promote teamwork, communication, and networking skills. Platforms like Facebook Groups, Slack, or Microsoft Teams can facilitate collaboration among students working on group projects.

Extent of Use of Technology-Based learning tools of the Teachers in terms of Audio-Visual, Vlogs, Video Presentation, Game-based/Gamification and podcasts was measured using mean and standard deviation.

Table 1.

Extent of use of the Technology-based Learning Tools of the Teachers in terms of Audio-Visual

STATEMENTS	MEAN	SD	REMARKS
1. My teacher uses Audio-Visual to increase the learning of learners.	4.33	0.71	Always
2. My teacher uses Audio-Visual to provide individual instructions for learners.	4.34	0.65	Always
3. My teacher uses Audio-Visual to arouse the interest of the learners.	4.31	0.70	Always
4. My teacher uses Audio-Visual to enrich and vary classroom activities	4.43	0.68	Always
5. My teacher uses audio-visuals to provide a real opportunity for choosing, purposing, planning, executing, and evaluating on the part of the learners.	4.48	0.67	Always
Weighted Mean		4.38	
SD		0.30	
Verbal Interpretation		Very Great Extent	

Table 1 illustrates the extent of teachers' use of technology-based learning tools. Learners always observed that their teacher uses Audio-Visual to provide a real opportunity for choosing, purposing, planning, executing, and evaluating on the part of the learners (M=4.48,

SD=0.67). Additionally, their teacher uses Audio-Visual to arouse the interest of the learners” received the lowest mean score of responses with (M=4.31, SD=0.70). This implied that technology-based learning tools are vital in assessing learners' performance outcomes. The heightened engagement these tools



provide significantly impacts student performance and participation. Incorporating interactive elements, such as engaging multimedia features and dynamic activities, makes learning experiences more appealing, capturing students' attention and maintaining their interest. .

This increased engagement often translates into better participation and improved performance. Additionally, collaborative tools such as online forums, group projects, and peer assessments foster a sense of community and encourage collaborative learning.

The extent of use of the technology-based learning tools of the teachers attained a weighted mean score of 4.38 and a standard deviation of 0.30, which was a very great extent among the respondents. The result implied that most of the teachers agreed that computer technology is really important in enhancing the professional development of their instruction materials, especially in teaching technology and livelihood education. technology ensures that all students are assessed against the same criteria, reducing potential bias and ensuring a fair evaluation process.

Table 2.

Extent of use of the Technology-based Learning Tools of the Teachers in terms of Vlogs

STATEMENTS	MEAN	SD	REMARKS
1. My teacher uses blogs to present the content of his/her subject matter, tailored to the student's knowledge.	4.29	0.75	Always
2. My teacher uses blogs to allow the student to organize and distribute part of an assignment to be performed in the TLE subject.	4.40	0.65	Always
3. My teacher uses blogs to encourage student interest and learning motivation.	4.44	0.71	Always
4. My teacher uses blogs to improve the learners' communication skills.	4.62	0.66	Always
5. My teacher uses blogs to allow students to participate actively in their learning, determine their learning goals and share their knowledge to develop their understanding of the target learning activities.	4.48	0.71	Always
Weighted Mean	4.45		
SD	0.31		
Verbal Interpretation	Very Great Extent		

Table 2 shows the Extent of use of technology-based learning tools by the teachers in terms of Vlogs.

Learners always observed the use of blogs to improve their communication skills (M=4.62, SD=0.66). Additionally, it is also always observed that the teacher uses blogs to present the content of his/her subject matter, tailored to the student's knowledge (M=4.29, SD=0.75)

The overall weighed mean of 4.45 indicated that the extent of use of the technology-based learning tools of the teachers in terms of Vlogs was Very Great Extent among the respondents. The result implies that the teacher agreed that technology-based learning tools like vlogs make classroom management more interactive.

Table 3.

Extent of use of the Technology-based Learning Tools of the Teachers in terms of Video Presentation

STATEMENTS	MEAN	SD	REMARKS
1. My teacher uses video-presentation to improve performance of students in doing practical works.	4.43	0.68	Always
2. My teacher uses video-presentation to help the learners to understand the lesson/lectures better.	4.43	0.69	Always
3. My teacher uses video-presentation to understand the relations of various structures in the part shown.	4.38	0.69	Always
4. My teacher uses video-presentation to give students an engaging sensory experience.	4.52	0.63	Always
5. My teacher uses video-presentation to allow information from different perspectives.	4.52	0.62	Always
Weighted Mean	4.46		
SD	0.29		
Verbal Interpretation	Very Great Extent		

The Table above shows the Extent of use of the technology-based teaching strategies of the teachers in terms of Video Presentation.

The teacher always observed that the teacher uses video-presentation to provide students with an engaging sensory experience and allows information from different perspectives (M=4.52, SD=0.62). It is also always observed that the teachers



use video-presentation to understand their relations of various structures in the part shown with the lowest mean of $M=4.38$, $SD=0.69$.

The overall weighted Mean of 4.46 indicated that the extent of use of technology-based teaching strategies of teachers in terms of video presentation was interpreted as Very Great Extent. The result implies that the video-based presentation can motivate students to enhance their technology and livelihood education skills. Video-based presentations offer a dynamic and versatile tool for enhancing student motivation and skill development in Technology and Livelihood Education. By providing engaging, interactive, and practical learning experiences, videos can help students see the value and applicability of their education, driving them to enhance their skills and pursue excellence in their chosen fields.

The result of the study was related to the study of Silver (2020) cited that teaching Technology and Livelihood Education (TLE) through video presentations can be an effective way to engage students and enhance their learning experience.

Table 4 illustrates the extent of teachers' use of technology-based learning tools in terms of game-based/gamification.

Extent of Use of the Technology-based Learning Tools in terms of Game-based/Gamification

Learners always observed that their teacher uses game-based/gamification to increase verbal and memory performance ($M=4.50, SD=0.61$). It is also observed that their teacher uses game-based/gamification to enhance the learner's analytical and critical thinking skills ($M=4.23, SD=0.71$).

Table 4.

Extent of use of the Technology-based Learning Tools of the Teachers in terms of Game-based/Gamification

STATEMENTS	MEAN	SD	REMARKS
1. My teacher uses game-based/gamification to enhance the learner's analytic and critical thinking.	4.23	0.71	Always
2. My teacher uses game-based/gamification to improve the accuracy/speed of the hands.	4.39	0.69	Always
3. My teacher uses game-based/gamification to improve visual information accuracy.	4.38	0.69	Always
4. My teacher uses game-based/gamification to increase verbal and memory performance.	4.50	0.61	Always
5. My teacher uses game-based/gamification to increase students' engagement by capitalizing on student's intrinsic motivation.	4.48	0.70	Always
Weighted Mean		4.40	
SD		0.27	
Verbal Interpretation			Very Great Extent

The overall weighted mean of 4.40 revealed that the extent of use of the technology-based teaching strategies of the teachers in terms of Game-based/Gamification was interpreted as Very Great Extent. The result implies that gamification is one of the best innovations to make the lesson fun.

Extent of Use of the Technology-based Learning tools in Terms of Podcast

Table 5 presents the extent of use of technology-based learning tools by the teachers in terms of podcasts.

Learners always observed that their teacher uses podcasts to allow students to practice their listening comprehension of complex text that is both conversational and format ($M=4.45, SD= 0.70$). It is also always observed that their teacher uses podcasts to recognize/listen out to the words change in connected in the lessons yielded the lowest mean ($M=4.10, SD=0.79$).

The overall weighted mean of 4.28 was interpreted as a Very Great Extent. The result implies that podcasts can help students develop a range of language skills, from listening to reading, writing, note-taking, and speaking.

Table 5

Extent of use of the Technology-based Learning Tools of the Teachers in terms of Podcast

STATEMENTS	MEAN	SD	REMARKS
1. My teacher uses podcasts to recognize/listen out to the words change in connection in the lessons.	4.10	0.79	Always
2. My teacher uses podcasts to follow the transcription while listening.	4.22	0.76	Always
3. My teacher uses podcasts to help the learners to become better listeners.	4.18	0.79	Always
4. My teacher uses podcasts to allow students to practice their listening comprehension of complex texts that are both conversational and formal.	4.45	0.70	Always
5. My teacher uses podcasts to allow students to resonate with	4.43	0.71	Always



listeners on a deeper level.

Weighted Mean	4.28
SD	0.36
Verbal Interpretation	Very Great Extent

In addition, Podcasts have been utilized for amusement and relaxation. However, podcasts have become popular among educators as a teaching and learning tool in recent years. Podcasts, for instance, can be used by educators to offer lectures, assign homework, or foster interest-based

communities.

Learners' motivation levels include goals and aspirations, interest and curiosity, self-efficacy and confidence, teacher-learner relationships, and parental peer support.

Table 6.
Perceived Level of Learner's Motivation in terms of Goals and Aspirations

STATEMENTS	MEAN	SD	REMARKS
1. Being a learner, I understand the goals and importance of the lessons in real-life.	4.50	0.62	Strongly Agree
2. As a learner, I tend to set goals I cannot quite achieve to force me to try harder.	4.30	0.64	Strongly Agree
3. As a learner, I set challenging but achievable goals.	4.25	0.75	Strongly Agree
4. Being a learner allows me to set my goals and aspirations in life.	4.44	0.62	Strongly Agree
5. Being a learner, I challenge myself by setting goals that are just out of my reach.	4.47	0.71	Strongly Agree
Weighted Mean	4.39		
SD	0.29		
Verbal Interpretation	Always Observed		

Table 6 presents the perceived level of learner's motivation in terms of goals and aspirations.

Learners strongly agreed that the student understands the goals and importance of the lesson in real life (M=4.50, SD=0.62). It is also strongly agreed that the learners tend to set goals that he/she cannot achieve to force them to try harder and receive the lowest mean (M=4.30, SD=0.64). The overall weighted mean of 4.39 indicated that the respondents interpreted the perceived level of learners' motivation in terms of goals and aspirations as Always Observed. The result implies that goals and aspirations serve as guiding principles that propel you forward in your studies, helping you stay motivated, focused, and ultimately, successful.

In addition, goal focuses on achieving a specific, tangible outcome, an aspiration is more general. Aspirations also leave room for different outcomes and results. Setting and working towards goals teaches students valuable lessons in resilience and perseverance. They learn to overcome setbacks and

obstacles, developing the resilience needed to navigate challenges in education and life.

The perceived level of learner's motivation includes goals and aspirations, interest and curiosity, self-efficacy and confidence, teacher-learner relationship, and parental support.

Perceived Level of Learner's Motivation in terms of Interest and Curiosity

Table 7 shows the perceived level of learner's motivation in terms of interest and curiosity.

Learners strongly agreed with the statement that students are able to do more recreational activities in the lesson when the teacher used technology-based learning tools, yielded the highest mean (M=4.50, SD=0.66). Additionally, it also strongly agreed that the students enjoy investigating new ideas using technology-based learning tools received the lowest mean (M=4.35, SD=0.67) and was remarked as Strongly Agree.

Table 7.
Perceived Level of Learner's Motivation in terms of Interest and Curiosity

STATEMENTS	MEAN	SD	REMARKS
1. As a learner, I felt interested when my teacher used technology-based teaching strategies.	4.50	0.64	Strongly Agree
2. As a learner, I enjoy investigation new ideas using technology-based strategies.	4.35	0.67	Strongly Agree
3. As a learner, I can do more recreational activities in my lesson.	4.52	0.65	Strongly Agree
4. As learner, I actively participate in the discussion, answering exercises and/or clarifying things I did not understand.	4.40	0.70	Strongly Agree
5. As learner, I listen attentively to the lecture of my TLE	4.50	0.66	Strongly Agree



teacher.

Weighted Mean	4.45
SD	0.33
Verbal Interpretation	Always Observed

The perceived level of learner’s motivation in terms of interest and curiosity attained the overall weighted mean of 4.45 and interpreted as Always Observed. This implies that the interest and curiosity in learners motivate them to design learning experiences that are relevant, meaningful, and interactive. Incorporating real-world examples, encouraging exploration and inquiry, and providing opportunities for choice and autonomy can all help to spark and sustain learners' interest and curiosity.

In Technology and Livelihood Education, leveraging practical applications, multimedia resources, hands-on projects, and student autonomy can significantly boost students’ interest and curiosity, leading to a more dynamic and effective learning experience. Regular feedback and reflection activities can further sustain and amplify these motivational drivers.

Interest and curiosity are powerful motivators in education, driving deeper engagement and better learning outcomes. By making lessons relevant, interactive, and personalized, educators can enhance these intrinsic motivators.

Table 8.
Perceived Level of Learner’s Motivation in terms of Self-efficacy and Confident

STATEMENTS	MEAN	SD	REMARKS
1. As a learner, I can foster creative skills in my classroom.	4.37	0.69	Strongly Agree
2. As a learner, I can enhance my ability to take meaningful academic risks.	4.35	0.67	Strongly Agree
3. As a learner, I can understand the appropriate information/topics in my subject.	4.43	0.67	Strongly Agree
4. As a learner, I can accomplish my aims in learning.	4.51	0.62	Strongly Agree
5. As a learner, I can manage a difficult situations/topic	4.58	0.66	Strongly Agree
Weighted Mean		4.45	
SD		0.30	
Verbal Interpretation		Always Observed	

Table 8 presents the perceived level of learner’s motivation in terms of self- efficacy and confidence.

Learners strongly agreed that learners could manage difficult situations when the teacher used learning tools yielded the highest mean (M=4.58, SD=0.66). Additionally, it is also strongly agreed that the students are capable of enhancing their abilities to take meaningful academic risk using technology-based learning tools received the lowest mean (M=4.35, SD=0.67).

Overall, the perceived level of learner’s motivation in terms of self-efficacy and confident attained 4.45 weighted mean and interpreted as Always observed. This further means that the respondents manifest that self-efficacy and confidence impacted the quality of teaching and learning.

Table 9.
Perceived Level of Learner’s Motivation in terms of Teacher-learner’s Relationship

STATEMENTS	MEAN	SD	REMARKS
1. As a learner, I contribute a build positive atmosphere in the relationship with my teacher.	4.38	0.71	Strongly Agree
2. As a learner, I talk to my teacher about difficulties in lessons.	4.47	0.62	Strongly Agree
3. As a learner, I have a positive view of my teacher's strategies to promote unity, order, satisfaction, and less conflict in the classroom.	4.58	0.64	Strongly Agree
4. As a learner, I am able to ask for assistance without fear of rejection or embarrassment to my teacher.	4.37	0.66	Strongly Agree
5. As a learner, I view my teacher as a good person and feel that my teacher is a coach, mentor, or partner.	4.51	0.65	Strongly Agree
Weighted Mean		4.46	
SD		0.34	
Verbal Interpretation		Always Observed	

Table 9 shows the perceived level of learners’ motivation in terms of the teacher-learner relationship.

Learners strongly agreed that the learner has a positive view of

the learning tools used by the teacher to promote unity, order, satisfaction, and less conflict in the classroom received the highest mean (M=4.58, SD=0.64). It is also strongly agreed that



the learner contributes to a built positive atmosphere in the relationship with their teacher, getting the lowest mean (M=4.38, SD=0.71) and also remarked as strongly Agreeing.

Overall, the perceived level of learner’s motivation in terms of the teacher-learner relationship attained a 4.46 weighted mean and was interpreted as always observed. The result implies that providing emotional support and encouragement fosters the learner’s confidence and belief in their abilities. When learners feel supported, they are more motivated to engage in learning activities and strive for success.

Perceived Level of Learner’s Motivation in Terms of Parental Peer support

Table 10 presents the perceived level of learner motivation in terms of parental peer support.

Learners strongly agreed that being honest with their parents about academic performance received the highest mean (M=4.67, SD=0.51). It is also strongly agreed that the learners connect more with the help of parents got the lowest mean (M=4.47, SD=0.71).

Overall, the perceived level of learner’s motivation in terms of parental peer support attained a 4.54 weighted mean and interpreted as Always Observed. The result implies that when parents provide encouragement, understanding, and positive reinforcement, learners feel more motivated.

Table 10.
Perceived Level of Learner’s Motivation in terms of Parental Peer Support

STATEMENTS	MEAN	SD	REMARKS
1. As a learner, I am comfortable with my ability to study with my supportive parent.	4.53	0.65	Strongly Agree
2. As a learner, I have been to connect more with my parent's help.	4.47	0.71	Strongly Agree
3. As a learner, I get the emotional help and support I need from my parent.	4.51	0.62	Strongly Agree
4. As a learner, I can be confident in my decision with the support of my parent.	4.55	0.63	Strongly Agree
5. As learner, I am honest with my parents about academic performance	4.67	0.51	Strongly Agree
Weighted Mean		4.54	
SD		0.40	
Verbal Interpretation		Always Observed	

Knowing that their parents believe in them can boost their confidence and determination.

Level of Learner’s Performance in Written and Practical Tests

Table 11.
Level of Learner’s Performance in terms of Written Exam

Score	frequency	Percentage	Descriptive Equivalent
41 – 50	86	71.67	Outstanding
31 – 40	25	20.83	Very Satisfactory
21 – 30	9	7.50	Satisfactory
11 – 20	0	0.00	Fairly Satisfactory
1 – 10	0	0.00	Did not meet Expectations
Total	120	100	
Weighted Mean			42.03
SD			6.41
Verbal Interpretation			Closely Approximating Mastery

Table 11 presents the level of Learner’s Performance in terms of Written Exam. Out of one hundred and twenty respondents “41 to 50” received the highest frequency of eighty-six (86) or 71.67% of the total population with the descriptive equivalent of Outstanding. The “31 to 40” scores received the frequency of twenty-five (25) or 20.83% of the total population with the descriptive equivalent of Very Satisfactory. While the scores “21 to 30” received the lowest frequency of nine (9) or 7.50% of the total population with the descriptive equivalent of Satisfactory.

With a (Weighted Mean = 42.03, SD = 6.41), it shows that the level of Learner’s Performance in terms of Written Exam has a descriptive equivalent of Outstanding and is verbally interpreted as Closely Approximating Mastery. The result implies that the learners demonstrated sufficient understanding or proficiency in the material assessed. It’s a positive outcome indicating that they have achieved the desired level of competence in their written test.

The learners need experience in written tests, where they must defend their analyses in TLE subjects. These experiences are essential in their preparation for engaging in creating



formations that evolved from various functions.

CRITERIA	MEAN	SD	REMARKS
1. Proper use of Tools	4.69	0.59	Outstanding
2. Application Procedures.	4.70	0.65	Outstanding
3. Speed.	4.72	0.58	Outstanding
Weighted Mean	4.70		
SD	0.04		
Verbal Interpretation	Outstanding		

One of the reasons discovered for the poor performance was the lack of multimedia instructional materials that aid learning. This is because using appropriate multimedia materials concretely elucidates complex and abstract concepts such as genetics and evolution, consequently improving students' academic performance.

Level of Learner's Performance in terms of Practical test 1 and 2.

Table 12 shows the level of Learner's Performance in Practical Test 1 in Taking Body Measurement.

The teacher always observed that their student performance in Practical Test 1 in terms of speed got the highest mean of (4.72,

SD=0.58). It is also always observed that the students used proper tools with the mean of (M=4.69, SD=.59).

An overall (Weighted Mean = 4.70, SD = 0.04) shows that the Learner's Performance level in terms of Practical test 1 has a descriptive equivalent of Always Observed and verbally interpreted as Closely Approximating Mastery.

The result implies that practical tests are essential components of technology-based learning tools, as they play a vital role in assessing and developing students' practical skills, problem-solving abilities, and readiness for the real-world challenges they will encounter in their chosen fields.

Table 12.
Level of Learner's Performance in terms of Practical test 1 and 2.

CRITERIA	MEAN	SD	REMARKS
1. Application of Principles and Elements of Design	4.68	0.65	Outstanding
2. Creativity	4.76	0.53	Outstanding
3. Workmanship	4.74	0.59	Outstanding
Weighted Mean	4.73		
SD	0.06		
Verbal Interpretation	Outstanding		

In assessing the performance based on the provided rubrics, the evaluation is structured around three main criteria: proper use of tools, application procedures, and speed/time work allotment.

Firstly, regarding the proper use of tools, a rating of 5 indicates that the learner adeptly utilized the tools in accordance with safety measures while completing the task. This demonstrates competence in tool handling and a commitment to safety protocols. A rating of 3 suggests that the learner utilized the tools correctly but overlooked safety precautions, indicating a partial adherence to safety standards. Conversely, a score of 1 signifies a failure to properly utilize the tools and a complete disregard for safety precautions.

Secondly, in terms of application procedures, a rating of 5 implies that the learner executed the task with precision, accurately recording measurements following the prescribed procedures. This level of accuracy demonstrates a thorough understanding of the task requirements and meticulous attention to detail. A score of 3 indicates a somewhat lower level of accuracy, with the learner recording measurements correctly 80% of the time, indicating some proficiency but with room for improvement. On the other hand, a rating of 1 suggests significant deficiencies in following the correct procedures, with only 50% accuracy in measurement recording, reflecting a

need for further instruction and practice.

Finally, concerning speed/time work allotment, a rating of 5 signifies that the learner completed the activity within the allocated time frame, demonstrating efficiency and time management skills. This reflects an ability to work effectively under pressure and meet deadlines. Conversely, a rating of 3 indicates that the learner completed the task late, suggesting possible issues with time management or workflow efficiency. A score of 1 indicates a failure to accomplish the activity altogether, highlighting significant time management and task completion shortcomings.

Level of Learner's Performance in Terms of Practical Test 2

Table 12 also shows the level of Learner's Performance in Practical Test 2 in Principles of Design and Colors.

The teachers always observed that the performance of the learners in Creativity got the highest mean (M=4.76, SD=0.53). Additionally, it is always observed in applying principles and design elements with a mean of (M=4.68, SD= 0.65).

With an overall weighted mean of M= 4.73, SD= 0. 06 indicated that the level of Learner's Performance in terms of Principles of Design and colors in Practical test 2 has as descriptive equivalent of Always Observed and verbally



interpreted as closely approximating mastery. This means that the most crucial element of any design process is adhering to design principles. It would be quite difficult for users to comprehend the kind of message that the designer is attempting to convey without these guidelines.

The researcher used the rubrics to evaluate student performance based on three main criteria: application of principles and elements of design, creativity, and workmanship.

Firstly, in terms of applying principles and elements of design, a score of 5 indicates that the learner adeptly applied all the elements and principles of design accurately. This suggests a comprehensive understanding of design concepts and their effective integration into the task. Conversely, a rating of 3 suggests that while the learner attempted to apply these elements and principles, they did so inaccurately, indicating a partial grasp of design fundamentals. A score of 1 indicates a failure to apply any elements or principles of design, reflecting a lack of understanding or effort in this aspect.

Secondly, regarding creativity, a rating of 5 suggests that the learner not only performed the learning task properly but also applied creativity, demonstrating originality and innovation in their approach. This indicates a willingness to think outside the box and explore new ideas within the constraints of the task. A score of 3 implies that while the learner performed the task adequately, a lesser degree of creativity was evident in their work, suggesting some potential for more imaginative solutions. On the other hand, a score of 1 indicates a failure to perform the learning task at all, indicating a complete absence of creativity and engagement with the assignment.

Finally, in assessing workmanship, a rating of 5 implies that the learner accurately identified their client's body shape and created the design correctly, showing attention to detail and proficiency in execution. This suggests a thorough

understanding of client needs and the ability to translate them into a well-crafted design. A score of 3 suggests that while the learner identified the client's body shape, the resulting design was not entirely correct, indicating some deficiencies in execution or understanding. Conversely, a score of 1 indicates a failure to identify the client's body shape and create the design, highlighting significant shortcomings in both understanding client requirements and executing the task.

Overall, this rubric provides a structured framework for assessing student performance in design-related tasks, encompassing key criteria such as the application of design principles, creativity, and workmanship. By evaluating performance across these dimensions, educators can provide targeted feedback to help students improve their design skills and achieve their learning objectives.

Practical tests typically involve solving problems or completing tasks, which helps students develop critical thinking and problem-solving skills.

Technology-based learning tools often simulate real-world scenarios, making practical tests more relevant to students' future careers. This helps bridge the gap between theoretical knowledge and its application in professional settings.

Regression Analysis on the Effect of Technology-based Learning Tools on the Learner's Motivation

The table presents the results of a multiple regression analysis examining the effect of technology-based teaching strategies in TLE on the learner's motivation. Audio-Visual, Vlogs, Video Presentation, Game-based/Gamification, and Podcast have no significant effect on learner's motivation. This implied that technology-based learning tools enhance the effectiveness of assessments and provide personalized learning experiences. However, they do not significantly affect learners' motivation in terms of increasing their interest and curiosity.

Table 13.

Regression Analysis on the effect of technology-based learning tools in TLE on the learner's motivation

Audio-Visual	B	SE	β	t	p
Constant	4.089	.781		5.233*	.000
Goals and aspirations		.1	.077	.773	.441
Interest and curiosity		.087	.086	.985	.327
Self-efficacy and confident		.097	-.05	-.51	.611
Teacher-learner's relationship		.086	.01	.121	.904
Parental peer support		.074	-.06	-.78	.436
R-squared			.02		
Adjusted R-squared			.023		
Standard Error of the Estimate		.306			
F(5, 114)				.454	.81
Vlogs	B	SE	β	t	p
Constant	4.206	.795		5.289*	.000
Goals and aspirations		.101	.017	.172	.864
Interest and curiosity		.089	-.01	-.16	.872
Self-efficacy and confident		.098	-.07	-.73	.47
Teacher-learner's relationship		.088	.021	.243	.808
Parental peer support		.075	.099	1.318	.19
R-squared			.022		
Adjusted R-squared			.021		



Video Presentation					
	B	SE	β	t	p
Standard Error of the Estimate		.312			
F(5, 114)				.522	.759
Constant	5.628	.741		7.592*	.000
Goals and aspirations		.095	-.06	-.61	.545
Interest and curiosity		.083	-.14	-1.65	.103
Self-efficacy and confident		.092	.084	.921	.359
Teacher-learner's relationship		.082	-.1	-1.17	.244
Parental peer support		.07	-.06	-.82	.415
R-squared			.055		
Adjusted R-squared			.014		
Standard Error of the Estimate		.29			
F(5, 114)				1.33	.257
Game-based/Gamification					
	B	SE	β	t	p
Constant	4.147	.686		6.048*	.000
Goals and aspirations		.087	.047	.542	.589
Interest and curiosity		.077	.077	1.001	.319
Self-efficacy and confident		.085	-.05	-.59	.553
Teacher-learner's relationship		.076	-.07	-.97	.333
Parental peer support		.065	.055	.857	.393
R-squared			.025		
Adjusted R-squared			.017		
Standard Error of the Estimate		.269			
F(5, 114)				.592	.706
Podcast					
	B	SE	β	t	p
Constant	3.463	.923		3.754*	.000
Goals and aspirations		.118	.118	.999	.32
Interest and curiosity		.103	.176	1.704	.091
Self-efficacy and confident		.114	-.02	-.19	.846
Teacher-learner's relationship		.102	-.16	-1.57	.12
Parental peer support		.087	.072	.827	.41
R-squared			.051		
Adjusted R-squared			.01		
Standard Error of the Estimate		.361			
F(5, 114)				1.233	.298

*p < 0.05

Regression Analysis on the Effect of Technology-based Learning Tools on the Learner's Performance

The table presents the results of a multiple regression analysis examining the effect of technology-based learning tools in TLE to the learner's performance.

The regression analysis for the written exam revealed that only the audio-visual was significantly different. However, none of the individual predictors (constant, Vlogs, Video Presentation, Game-based/Gamification, and Podcast) showed that there is no significant.

Their p-values range from 0.1283 to 0.9798, indicating no significant effect on the written exam scores. Despite the lack of significance in individual predictors, the overall model explains 27% of the variance in the written exam scores (R-squared = 0.27), and the F-statistic of 6.361 (p = 0.027) suggests that the model is insignificant.

For practical test 1, the regression analysis results provided offer insights into the relationship between several predictor variables and a dependent variable. Each predictor variable, including Audio-Visual, Vlogs, Video Presentation, Game-based/Gamification, and Podcast, is examined for its effect on the dependent variable. The output includes coefficients, standard errors, standardized coefficients, t-values, and p-values for each predictor, providing a comprehensive view of their significance. The regression model may have overall statistical significance, the low adjusted R-squared value and non-significant predictor variables suggest that the model might not effectively explain the variability in the dependent variable. Further analysis or refinement of the model may be necessary to improve its predictive power.

Their p-values range from 0.1283 to 0.9798, indicating no significant effect on the written exam scores. Despite the lack of significance in individual predictors, the overall model explains 27% of the variance in the written exam scores (R-squared = 0.27), and the F-statistic of 6.361 (p = 0.027) suggests that the model is insignificant.



Table 14
Regression Analysis on the effect of technology-based learning tools in TLE on the learner's performance

Written exam	B	SE	β	t	p
Constant	68.32	18.824		3.6293*	0.0004
Audio-Visual		2.04	-0.453	-0.222	0.8248
Vlogs		1.9962	-0.051	-0.025	0.9798
Video Presentation		2.0565	-3.151	-1.532	0.1283
Game-based/Gamification		2.2656	-1.28	-0.565	0.5733
Podcast		1.6382	-1.034	-0.631	0.5292
R-squared			.27		
Adjusted R-squared			.16		
Standard Error of the Estimate		6.455			
F(5, 114)				6.361	.027
Practical test 1	B	SE	β	t	p
Constant	15.762	5.0507		3.1207*	0.0023
Audio-Visual		0.5474	-0.33	-0.603	0.548
Vlogs		0.5356	0.5156	0.9626	0.3378
Video Presentation		0.5518	-0.482	-0.874	0.3842
Game-based/Gamification		0.6079	0.2661	0.4377	0.6624
Podcast		0.4395	-0.358	-0.815	0.417
R-squared			.252		
Adjusted R-squared			.018		
Standard Error of the Estimate		1.732			
F(5, 114)				5.884	.0079
Practical test 2	B	SE	β	t	p
Constant	13.716	4.5945		2.9852	0.0035
Audio-Visual		0.4979	-0.986	-1.981*	0.05
Vlogs		0.4872	0.1866	0.3829	0.7025
Video Presentation		0.5019	0.2511	0.5002	0.6179
Game-based/Gamification		0.553	0.1923	0.3478	0.7287
Podcast		0.3998	0.4441	1.1106	0.2691
R-squared			.503		
Adjusted R-squared			.087		
Standard Error of the Estimate		1.578			
F(5, 114)				2.1081	.0399

*p < 0.05

For practical test 1, the regression analysis results provided offer insights into the relationship between several predictor variables and a dependent variable. Each predictor variable, including Audio-Visual, Vlogs, Video Presentation, Game-based/Gamification, and Podcast, is examined for its effect on the dependent variable. The output includes coefficients, standard errors, standardized coefficients, t-values, and p-values for each predictor, providing a comprehensive view of their significance. The regression model may have overall statistical significance, the low adjusted R-squared value and non-significant predictor variables suggest that the model might not effectively explain the variability in the dependent variable. Further analysis or refinement of the model may be necessary to improve its predictive power.

The analysis for practical test 2 shows that the constant term is significant with an intercept of 13.716 and a t-value of 2.9852 (p = 0.0035). Only Audio-Visual has a marginally significant effect among the predictors, with a coefficient of -0.986, a t-value of -1.981, and a p-value of 0.05. The other predictors (Vlogs, Video Presentation, Game-based/Gamification, and Podcast) do not significantly affect the scores, with p-values ranging from 0.2691 to 0.7287. The model explains 50.3% of the variance in practical test 2 scores (R-squared = 0.503), and

the F-statistic of 2.1081 (p = 0.0399) indicates that the model is significant overall.

The results implied that the combination of predictors could account for a substantial portion of the variance in the dependent variables, but individual predictors, except for Audio-Visual in practical test 2, do not significantly influence the outcomes.

4. CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study presented, the following conclusions were drawn:

Technology-based Learning tools in TLE have no significant effect on the Learner's Motivation. Thus, the hypothesis is accepted. This means that technology integration tools do not substantially impact learners' motivation, and resources might be better redirected toward other aspects of the learning experience or used to enhance technology implementation strategies.

However, the analysis conducted on the integration of technology-based learning tools in Technology and Livelihood Education (TLE) has revealed that among the predictors, only



Audio-visual has a marginally significant effect on learner performance. Therefore, the hypothesis is also accepted. It emphasized that the findings underscored the significant impact of technology-based learning tools on students' advancement in Technology and Livelihood Education (TLE), particularly in areas such as goal setting, interest, self-efficacy, teacher-learner relationships, and parental and peer support, all pivotal for enhancing learning outcomes and motivation.

Moreover, the efficacy of technology-based learning tools hinges on learners' aptitude for assimilation. These tools also foster technological integration within the classroom, collaborative TLE learning environments, and mutual engagement between students and educators. This collaborative approach enriches the learning process and cultivates an atmosphere conducive to the exchange of innovative teaching methods, where students actively contribute their perspectives and ideas.

Based on the conclusion formulated from the findings, the following recommendations are given:

1. Technology and Livelihood Education teachers may use technology-based learning tools in their TLE classes, and the students should develop personal interest in the use of audio-visuials, vlogs, video presentations, game-based/gamification, and podcasts. It should be promoted in teaching TLE subjects and made available and affordable to people, especially educators and educational institutions.
2. Students should be exposed to the use of technology-learning tools to improve their performance in written and practical tests in TLE subjects.
3. School Heads may develop an empowering program in the faculty development, such as seminars and workshops on using advanced technology in teaching and learning.

REFERENCE

1. *Barkha, Devi (2023) : Application of Correlational Research Design in Education*