

Attributes and Motivation of Technology Teachers on Challenges in the Current Teaching Conditions of Technology and Livelihood Education Curriculum

Rhodelyn Monteiro Dorado

Laguna State Polytechnic University Sta. Cruz Laguna 4009 PHILIPPINES

Email address: rhodelyn.dorado@deped.gov.ph

Abstract— This study examined the attributes and motivation of Technology and Livelihood Education (TLE) teachers and their relationship to the challenges encountered in the current teaching conditions of the TLE curriculum. Specifically, it assessed teachers' attributes in terms of subject matter expertise, pedagogical competence, innovativeness, classroom management ability, and professional commitment; their motivation in terms of professional growth, personal growth, resilience, and innovation; and the extent of challenges experienced across resource-related, technology-related, student-related, and workload/administrative domains. The study employed a quantitative-descriptive research design. Data were collected from 131 purposively selected technology teachers using a validated researcher-made questionnaire. To analyze the data, statistical tools such as mean, standard deviation, and Pearson *r* correlation were utilized to determine the levels of teacher attributes, motivation, challenges encountered, and the relationships among these variables. Results revealed that technology teachers possess a very high level of attributes and demonstrate strong competence in subject matter mastery, pedagogical practices, innovation, classroom management, and professional commitment. They likewise exhibited very high motivation, particularly in professional growth, resilience, and innovation. Challenges across all domains were found to be very low, indicating that teachers generally manage instructional and institutional demands effectively. Correlation analyses showed significant relationships between all teacher attributes and the challenges encountered, as well as between several motivation factors—specifically professional growth, resilience, and innovation—and the identified challenges. The findings indicate that TLE teachers' capabilities and interest plays an essential role in determining how effectively teachers navigate the demands of the TLE curriculum. Both Teachers Attributes and Motivation show significant relationship on challenges in teaching thus the hypotheses are rejected. This concludes that Teachers with strong subject matter expertise, pedagogical competence, innovativeness, classroom management ability, professional commitment, and motivation are better prepared to respond to resource-related, technology-related, student-related, and workload or administrative challenges. The study proposes that the TLE curriculum be continuously enhanced through the integration of industry-aligned competencies, experiential learning activities, and innovative pedagogical approaches. Adequate provision of updated instructional resources, technology, and practical exposure should also be prioritized to improve teacher effectiveness, promote student engagement, and strengthen learners' readiness for future employment and lifelong skills development.

Keywords— Technology and Livelihood Education (TLE), Teacher Attributes, Teacher Motivation, Teaching Challenges, Pedagogical

Competence, Professional Growth, Resilience, Innovation, Classroom Management.

I. INTRODUCTION

The rapid advancement of technology and the evolving demands of the 21st-century workplace have significantly influenced the teaching and learning process in secondary education. In particular, the Technology and Livelihood Education (TLE) curriculum plays an important role in equipping students with practical skills, technical knowledge, and entrepreneurial competencies necessary for both personal development and future employment opportunities. However, the effective implementation of this curriculum depends heavily on the attributes and motivation of technology teachers, who serve as the key facilitators of learning in this specialized field.

According to Robert Lee, a good teacher possesses qualities such as strong communication skills, empathy, and a passion for lifelong learning. These attributes not only foster a positive and engaging classroom environment but also enhance student success and inspire a love for learning. Good teachers demonstrate a deep understanding of their subject matter and are able to make that knowledge culturally relevant for students through engaging lessons. Moreover, they motivate learners to reach their full potential while cultivating an inclusive environment where each student is valued, respected, and cared for (NU Editorial Contributors, 2022).

Alongside these attributes, the motivational styles of teachers play a crucial role in shaping student outcomes. Research suggests that when teachers employ autonomy-supportive styles—those that provide learners with a sense of choice, self-expression, and personal volition—students are more likely to engage meaningfully in classroom activities and experience greater well-being (Douwes et al., 2023). Such motivational approaches not only encourage active participation but also influence how teachers integrate tools and strategies, including the use of technology, in their instruction.

Despite the recognized importance of the TLE curriculum, teachers face numerous challenges in its implementation. One major concern is the lack of adequate resources and facilities, such as tools, equipment, and updated instructional materials, which limits the delivery of hands-on learning experiences essential to TLE. Additionally, rapid technological changes

require teachers to continuously update their skills, yet access to relevant training and professional development is often insufficient. Another challenge is the diverse skill levels and learning needs of students, which demand differentiated instruction. Furthermore, workload and administrative challenges may hinder teachers from fully covering competencies, while limited institutional support can affect motivation and teaching effectiveness.

In connection with this, the shift toward technology-driven teaching strategies has further highlighted the need for resilience, creativity, and adaptability among teachers to ensure effective instructional delivery. Understanding how teachers' attributes and motivational styles enable them to navigate these conditions is crucial in sustaining quality instruction despite constraints.

In response to these realities, this study seeks to explore the attributes and motivation of technology teachers in addressing the challenges of teaching the TLE curriculum. By doing so, it aims to identify areas for institutional support, the implementation of the TLE program and contribute to the holistic development of learners.

1.1 Statement of the Problem

Problem/s which were addressed by the research

This study seeks to determine the attributes and motivation of technology teachers and how these relate to the challenges in the current teaching conditions of the Technology and Livelihood Education (TLE) curriculum. It aims to examine the personal and professional qualities of TLE teachers, as well as the factors that encourage them to perform their duties effectively despite difficulties in teaching.

Specifically, it aims to answer the following questions:

1. What is the level of Technology teachers' attributes in terms of:
 - 1.1 Subject Matter Expertise;
 - 1.2 Pedagogical Competence;
 - 1.3 Innovativeness;
 - 1.4 Classroom Management Ability and
 - 1.5 Professional Commitment?
2. What is the level of Technology teachers' motivation in terms of:
 - 2.1 Professional Growth;
 - 2.2 Personal Growth;
 - 2.3 Resilience and
 - 2.4 Innovation?
3. What is the extent of challenges encountered by Technology teachers in the current teaching conditions of the TLE curriculum in terms of;
 - 3.1 Resource-related challenges;
 - 3.2 Technology challenges;
 - 3.3 Student-related challenges and
 - 3.4 Workload and administrative challenges?
4. Do the attributes of Technology teachers have a significant relationship on the challenges in the current teaching conditions of TLE curriculum?
5. Do the motivations of Technology teachers have a significant relationship on the challenges in the current teaching conditions of TLE curriculum?

II. METHODOLOGY

The study employed a quantitative-descriptive research design. Data were collected from 131 purposively selected technology teachers using a validated researcher-made questionnaire. To analyze the data, statistical tools such as mean, standard deviation, and Pearson r correlation were utilized to determine the levels of teacher attributes, motivation, challenges encountered, and the relationships among these variables.

III. RESULTS AND DISCUSSION

This part discusses the results that were yielded from the treatment of the data that was gathered in this study. The following tabular presentations and discussions will further determine the attributes and motivation of technology teachers and how these relate to the challenges in the current teaching conditions of the Technology and Livelihood Education (TLE) curriculum.

Level of Technology Teachers' Attributes

In this study, the level of technology teachers' attributes was described in terms of subject matter expertise, pedagogical competence, innovativeness, classroom management ability, professional commitment and was determined by mean and standard deviation.

The levels of teachers' attributes, motivation, and challenges in the current teaching conditions of the Technology and Livelihood Education (TLE) curriculum were determined using mean scores and standard deviations, which provided a quantitative measure of the extent of these variables. This statistical analysis helped determine how respondents perceived their level of competence, motivation, and the challenges they encounter in delivering the TLE curriculum effectively.

The following tables discussed how competent the technology teachers in various teaching attributes. These attributes reflect the essential knowledge, skills, attitudes, and instructional practices needed to deliver the TLE curriculum effectively. They also provide a clear basis for identifying the strengths and areas for improvement among technology teachers in relation to their teaching performance.

Table 1. Level of Technology Teachers' Attributes in terms of Subject Matter Expertise

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...demonstrate mastery of the concepts and skills required in the Technology and Livelihood Education (TLE) curriculum.	4.68	0.47	Strongly Agree
...apply relevant theories and principles of technology in teaching various livelihood skills.	4.47	0.81	Strongly Agree
...explain complex technical processes in a clear and understandable manner to learners.	4.59	0.81	Strongly Agree
...integrate updated industry practices and trends into classroom instruction.	4.57	0.75	Strongly Agree
...contextualize instruction by incorporating industry aligned practices and standard.	4.59	0.78	Strongly Agree
Weighted Mean	4.58		
SD	0.60		
Verbal Interpretation			Very High

Table 1 exhibits the level of Technology Teachers' attributes in terms of Subject Matter Expertise.

The respondents strongly agree that they demonstrate mastery of the concepts and skills required in the Technology and Livelihood Education (TLE) curriculum. They can explain complex technical processes in a clear and understandable manner to learners and able to contextualize instruction by incorporating industry aligned practices and standard. They also have the ability to integrate updated industry practices and trends into classroom instruction and apply relevant theories and principles of technology in teaching various livelihood skills.

The level of Technology Teachers' attributes in terms of Subject Matter Expertise attained the weighted mean of 4.58 with a standard deviation of 0.60, verbally interpreted as Very High, indicates respondents consistently high mastery of the concepts in Technology and Livelihood Education.

Table 2. Level of Technology Teachers' Attributes in terms of Pedagogical Competence

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...design lesson plans that align with the learning objectives of the TLE curriculum.	4.74	0.44	Strongly Agree
...employ diverse teaching strategies suited to students' learning styles and abilities.	4.48	0.70	Strongly Agree
...adapt my teaching approaches based on learner's feedback and assessment result.	4.50	0.60	Strongly Agree
...integrate hands-on and experiential learning activities in TLE instruction.	4.52	0.60	Strongly Agree
...assess students' learning outcomes using appropriate evaluation tools and techniques.	4.63	0.56	Strongly Agree
Weighted Mean	4.57		
SD	0.60		
Verbal Interpretation			Very High

Table 2 exhibits the level of Technology Teachers' attributes in terms of Pedagogical Competence.

Technology and Livelihood Education (TLE) teachers exhibit a very high level of agreement that they employ diverse teaching strategies suited to students' learning styles and abilities. They also assess students' learning outcomes using appropriate evaluation tools and techniques and integrate hands-on and experiential learning activities in TLE instruction. Moreover, they adapt their teaching approaches based on learners' feedback and assessment results and employ diverse teaching strategies suited to students' learning styles and abilities.

The level of Technology Teachers' attributes in terms of Pedagogical Competence attained the weighted mean of 4.57 with a standard deviation of 0.60, verbally interpreted as Very High indicating that the respondents consistently demonstrate effective pedagogical practices in teaching Technology and Livelihood Education.

Table 3 exhibits the level of Technology Teachers' attributes in terms of Innovativeness.

The data reveal that technology teachers exhibit a very high level of innovativeness, as indicated by the weighted mean of 4.47 and a standard deviation of 0.66. This suggests that the respondents consistently demonstrate innovative practices in the teaching of Technology and Livelihood

Education (TLE). The findings imply that teachers are highly capable of adapting their instructional approaches to address learners' needs and enhance student engagement.

Table 3. Level of Technology Teachers' Attributes in terms of Innovativeness

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...introduce creative teaching methods to improve students' engagement in TLE classes.	4.57	0.58	Strongly Agree
...develop new instructional materials that enhance students' practical learning experiences.	4.45	0.67	Strongly Agree
...integrate modern technology and digital tools into classroom instruction.	4.33	0.67	Strongly Agree
...explore alternative solutions to instructional challenges in limited-resource settings.	4.41	0.70	Strongly Agree
...modify traditional lessons to make them more relevant and applicable to real-life situations.	4.58	0.65	Strongly Agree
Weighted Mean	4.47		
SD	0.66		
Verbal Interpretation			Very High

In summary, the results indicate that teachers are highly adaptive and proficient in transforming conventional instructional methods into more meaningful and engaging learning experiences. This further suggests that they possess the necessary creativity, flexibility, and pedagogical competence required to respond effectively to the evolving demands of 21st-century education. Their ability to integrate innovative strategies, develop relevant instructional materials, and utilize technology contributes not only to increased student engagement but also to the development of practical skills applicable to real-world contexts.

Table 4 exhibits the level of Technology Teachers' attributes in terms of Classroom Management Ability.

Table 4. Level of Technology Teachers' Attributes in terms of Classroom Management Ability

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...establish clear rules and expectations to maintain order during TLE classes.	4.64	0.58	Strongly Agree
...organize classroom activities to ensure smooth and efficient learning flow.	4.49	0.60	Strongly Agree
...address students' behavior effectively to minimize disruptions during lessons.	4.50	0.61	Strongly Agree
...promote a positive and respectful classroom environment that supports learning.	4.56	0.55	Strongly Agree
...handle disciplinary issues fairly and consistently to encourage responsible behavior.	4.52	0.71	Strongly Agree
Weighted Mean	4.54		
SD	0.62		
Verbal Interpretation			Very High

The respondents strongly agree that they establish clear rules and expectations to maintain order during TLE classes. They also promote a positive and respectful classroom environment that supports learning and handle disciplinary issues fairly and consistently to encourage responsible behavior. Moreover, they address students' behavior

effectively to minimize disruptions during lessons and organize classroom activities to ensure a smooth and efficient learning flow.

The level of Technology Teachers' attributes in terms of Classroom Management Ability attained the weighted mean of 4.54 with a standard deviation of 0.62, verbally interpreted as Very High, indicating that the respondents consistently demonstrate effective classroom management practices in TLE instruction.

In summary, the results imply that teachers possess strong classroom management skills that help maintain discipline, foster a positive learning environment, and ensure that classroom activities are conducted in an organized and productive manner.

Table 5. Level of Technology Teachers' Attributes in terms of Professional Commitment

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...uphold the standards and ethical responsibilities of the teaching profession.	4.64	0.59	Strongly Agree
...demonstrate dedication to improving students' learning and overall development.	4.54	0.56	Strongly Agree
...participate actively in school programs, meetings, and professional activities.	4.30	0.71	Strongly Agree
...attend training, seminars, or workshops to enhance teaching competencies.	4.53	0.53	Strongly Agree
...complete teaching tasks and responsibilities on time with consistency and accuracy.	4.53	0.69	Strongly Agree
Weighted Mean	4.51		
SD	0.63		
Verbal Interpretation	Very High		

Table 5 exhibits the level of Technology Teachers' attributes in terms of Professional Commitment.

The respondents strongly agree that they uphold the standards and ethical responsibilities of the teaching profession. They also demonstrate dedication to improving students' learning and overall development and attend training, seminars, or workshops to enhance teaching competencies. Moreover, they complete teaching tasks and responsibilities on time with consistency and accuracy and participate actively in school programs, meetings, and professional activities.

The level of Technology Teachers' attributes in terms of Professional Commitment attained the weighted mean of 4.51 with a standard deviation of 0.63, verbally interpreted as Very High, indicating that the respondents consistently show a strong sense of dedication and responsibility toward their professional duties.

In summary, the results imply that teachers maintain high professional standards by actively engaging in professional development, fulfilling their responsibilities efficiently, and demonstrating commitment to students' learning and institutional goals. Their commitment also reflects a proactive approach in enhancing their competencies and adapting to educational changes, thereby contributing to the overall quality of education and the achievement of desired learning outcomes.

Level of Technology Teachers' Motivation

In this study, the level of technology teachers' motivation was described in terms of professional growth, personal growth, resilience, and innovation and was determined using the mean and standard deviation. The level of teachers' motivation in the current teaching conditions of the Technology and Livelihood Education (TLE) curriculum was measured through mean scores and standard deviations, providing a quantitative assessment of the extent of their motivational factors.

The following tables present the level of motivation of technology teachers across the identified dimensions.

Table 6. Level of Technology Teachers' Motivation in terms of Professional Growth

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...seek opportunities to attend training, seminars, or workshops related to TLE instruction.	4.72	0.77	Strongly Agree
...engage in continuous learning to enhance professional knowledge and teaching skills.	4.50	0.65	Strongly Agree
...apply new knowledge and skills acquired from professional development activities in my teaching practice.	4.50	0.80	Strongly Agree
...participate in professional organizations or communities that promote teacher development.	4.25	0.61	Strongly Agree
...pursue higher education or certifications to advance teaching competence.	4.53	0.69	Strongly Agree
Weighted Mean	4.50		
SD	0.69		
Verbal Interpretation	Very Highly Motivated		

Table 6 exhibits the level of Technology Teachers' motivation in terms of Professional Growth.

The respondents strongly agree that they seek opportunities to attend training, seminars, or workshops related to TLE instruction. They also pursue higher education or certifications to advance teaching competence and engage in continuous learning to enhance professional knowledge and teaching skills. Moreover, they apply new knowledge and skills acquired from professional development activities in their teaching practice and participate in professional organizations or communities that promote teacher development.

The level of Technology Teachers' motivation in terms of Professional Growth attained the weighted mean of 4.50 with a standard deviation of 0.69, verbally interpreted as Very Highly Motivated, indicating that the respondents demonstrate a strong desire to improve their professional competencies and teaching practices.

In summary, the results imply that Technology teachers are highly motivated to pursue continuous professional development, enabling them to enhance their teaching effectiveness and remain updated with current trends and practices in TLE instruction.

Table 7 exhibits the level of Technology Teachers' motivation in terms of Personal Growth.

The respondents strongly agree that they develop self-awareness to better understand their strengths and areas for improvement as teachers. They also balance their time and workload effectively to achieve personal and professional

balance and exhibit confidence in handling classroom challenges and responsibilities. Moreover, they adapt to changes in teaching conditions with flexibility and openness and maintain a positive outlook toward teaching despite difficulties in the work environment.

Table 7. Level of Technology Teachers' Motivation in terms of Personal Growth

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...develop self-awareness to better understand strengths and areas for improvement as a teacher.	4.56	0.71	Strongly Agree
...exhibit confidence in handling classroom challenges and responsibilities.	4.45	0.71	Strongly Agree
...maintain a positive outlook toward despite difficulties in the work environment.	4.28	0.81	Strongly Agree
...adapt to changes in teaching conditions with flexibility and openness.	4.41	0.77	Strongly Agree
...balance my time and workload effectively to achieve personal and professional balance.	4.53	0.65	Strongly Agree
Weighted Mean	4.45		
SD	0.74		
Verbal Interpretation	Very Highly Motivated		

The level of Technology Teachers' motivation in terms of Personal Growth attained the weighted mean of 4.45 with a standard deviation of 0.74, verbally interpreted as Very Highly Motivated, indicating that the respondents demonstrate a strong motivation to improve themselves personally and professionally.

In summary, the results imply that Technology teachers possess a high level of personal motivation that enables them to remain confident, adaptable, and positive in addressing challenges while maintaining balance between their personal and professional responsibilities.

Table 8. Level of Technology Teachers' Motivation in terms of Resilience

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...adapt quickly to changes in instructional methods and learning environments.	4.53	0.62	Strongly Agree
...seek solutions and alternatives when obstacles prevent the smooth delivery of the lesson.	4.32	0.76	Strongly Agree
...overcome difficulties by finding constructive solutions to classroom problems.	4.36	0.67	Strongly Agree
...continue performing teaching duties efficiently even under stressful conditions.	4.40	0.72	Strongly Agree
...demonstrate persistence in achieving teaching goals despite repeated setbacks.	4.64	0.48	Strongly Agree
Weighted Mean	4.45		
SD	0.67		
Verbal Interpretation	Very Highly Motivated		

Table 8 exhibits the level of Technology Teachers' motivation in terms of Resilience.

The respondents strongly agree that they demonstrate persistence in achieving teaching goals despite repeated setbacks. They also adapt quickly to changes in instructional methods and learning environments and continue performing teaching duties efficiently even under stressful conditions. Moreover, they overcome difficulties by finding constructive solutions to classroom problems and seek solutions and

alternatives when obstacles prevent the smooth delivery of the lesson.

The level of Technology Teachers' motivation in terms of Resilience attained the weighted mean of 4.45 with a standard deviation of 0.67, verbally interpreted as Very Highly Motivated, indicating that the respondents possess a strong capacity to remain persistent and adaptable in fulfilling their teaching responsibilities.

In summary, the results imply that Technology teachers demonstrate resilience in addressing classroom challenges, enabling them to maintain effective teaching performance despite difficulties and changes in the instructional environment. This also indicates that resilience serves as a vital personal resource that helps teachers cope with stress, adapt to changing demands, and remain committed to their instructional responsibilities.

Table 9. Level of Technology Teachers' Motivation in terms of Innovation

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...develop creative instructional materials suited to the current learning conditions.	4.47	0.73	Strongly Agree
...experiment with different approaches to address students' diverse learning needs.	4.50	0.50	Strongly Agree
...incorporate project-based learning to encourage creativity and problem-solving.	4.38	0.62	Strongly Agree
...design unique classroom activities that promote active student participation.	4.50	0.65	Strongly Agree
...continue exploring new ideas to adapt to the evolving challenges of TLE instruction.	4.52	0.71	Strongly Agree
Weighted Mean	4.47		
SD	0.65		
Verbal Interpretation	Very Highly Motivated		

Table 9 exhibits the level of Technology Teachers' motivation in terms of Innovation.

The respondents strongly agree that they continue exploring new ideas to adapt to the evolving challenges of TLE instruction. They also experiment with different approaches to address students' diverse learning needs and design unique classroom activities that promote active student participation. Moreover, they develop creative instructional materials suited to the current learning conditions and incorporate project-based learning to encourage creativity and problem-solving.

The level of Technology Teachers' motivation in terms of Innovation attained the weighted mean of 4.47 with a standard deviation of 0.65, verbally interpreted as Very Highly Motivated, indicating that the respondents demonstrate strong motivation to introduce creative and innovative practices in their teaching. This suggests that teachers are proactive in enhancing instructional methods and are willing to adopt new strategies to improve student engagement and learning outcomes.

In summary, the results imply that Technology teachers are highly motivated to implement innovative instructional strategies that enhance student participation, creativity, and problem-solving skills in TLE learning experiences.

Extent of Challenges Encountered by Technology Teachers in the current Teaching Conditions of the TLE Curriculum

In this study, the extent of challenges encountered by technology teachers was described in terms of resource-related challenges, technology challenges, student-related challenges, workload and administrative challenges and was determined using the mean and standard deviation. The challenges experienced by teachers in the current teaching conditions of the Technology and Livelihood Education (TLE) curriculum were measured through mean scores and standard deviations, providing a quantitative assessment of the degree to which these challenges are encountered. This statistical analysis helped determine how respondents perceived the difficulties they face in delivering the TLE curriculum effectively.

The following tables present the extent of challenges encountered by technology teachers across the identified dimensions.

Table 10. Extent of Challenges Encountered by Technology Teachers in the current Teaching Conditions of the TLE Curriculum in terms of Resource-related Challenges

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...utilize functional tools and equipment in conducting class activities.	4.40	0.73	Strongly Agree
...perceive TLE resources are updated and suitable for current learning competencies.	4.19	0.58	Agree
...have sufficient consumable materials (e.g., tools, supplies, and raw materials) to support hands-on TLE activities.	4.24	0.76	Strongly Agree
...provide meaningful hands-on activities with available laboratory resources.	4.19	0.88	Agree
...observe that TLE equipment is well maintained and usable during instruction.	4.33	0.75	Strongly Agree
Weighted Mean	4.27		
SD	0.75		
Verbal Interpretation	Very Lowly Challenged		

Table 10 exhibits the extent of challenges encountered by Technology Teachers in the current teaching conditions of the TLE curriculum in terms of Resource-related Challenges.

The respondents strongly agree that they utilize functional tools and equipment in conducting class activities. They also observe that TLE equipment is well maintained and usable during instruction and have sufficient consumable materials such as tools, supplies, and raw materials to support hands-on TLE activities.

The extent of challenges encountered by Technology Teachers in terms of Resource-related Challenges attained the weighted mean of 4.27 with a standard deviation of 0.75, verbally interpreted as Very Lowly Challenged, indicating that the respondents generally experience minimal difficulties related to the availability and usability of instructional resources in TLE.

In summary, the results imply that despite minor limitations, Technology teachers are generally able to utilize available tools, materials, and equipment effectively in delivering hands-on learning experiences aligned with the TLE curriculum.

Table 11 exhibits the extent of challenges encountered by Technology Teachers in the current teaching conditions of the TLE curriculum in terms of Technology Challenges.

The respondents strongly agree that they integrate modern technology in classroom teaching with accessible resources and are able to manage technology-based activities despite differences in students' technology skill levels. They also strongly agree that they deal with the difficulty of keeping lessons updated due to rapid changes in technology trends and have reliable internet connectivity to support technology-integrated teaching. Moreover, they agree that they have adequate access to computers and digital devices for technology-based lessons.

Table 11. Extent of Challenges Encountered by Technology Teachers in the current Teaching Conditions of the TLE Curriculum in terms of Technology challenges

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...integrate modern technology in classroom teaching with accessible resources.	4.38	0.70	Strongly Agree
...have adequate access to computers and digital devices for technology-based lessons.	4.11	0.88	Agree
...have reliable internet connectivity to support technology-integrated teaching.	4.28	0.74	Strongly Agree
...deal with difficulty keeping lessons updated due to rapid changes in technology trends.	4.44	0.70	Strongly Agree
...able to manage technology-based activities despite differences in students' technology skill levels.	4.34	0.76	Strongly Agree
Weighted Mean	4.31		
SD	0.77		
Verbal Interpretation	Very Lowly Challenged		

The extent of challenges encountered by Technology Teachers in terms of Technology Challenges attained the weighted mean of 4.31 with a standard deviation of 0.77, verbally interpreted as Very Lowly Challenged, indicating that the respondents experience minimal challenges in integrating and utilizing technology in TLE instruction.

In summary, the results imply that Technology teachers are generally capable of incorporating technological tools and strategies into their teaching, effectively managing digital resources and adapting to technological changes despite minor limitations.

Table 12. Extent of Challenges Encountered by Technology Teachers in the current Teaching Conditions of the TLE Curriculum in terms of Student-Related Challenges

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...observe active participation of students during TLE classes.	4.60	0.56	Strongly Agree
...encourage learners with diverse abilities to contribute positively to classroom activities.	4.47	0.75	Strongly Agree
...witness students showing motivation and interest in practical activities.	4.34	0.78	Strongly Agree
...facilitate learners' openness to using new methods, tools, and technologies in lesson.	4.25	0.72	Strongly Agree
...promote collaboration among students to enhance classroom learning.	4.40	0.71	Strongly Agree
Weighted Mean	4.41		
SD	0.72		
Verbal Interpretation	Very Lowly Challenged		

The respondents strongly agree that they observe active participation of students during TLE classes and encourage

learners with diverse abilities to contribute positively to classroom activities. They also strongly agree that they witness students showing motivation and interest in practical activities, promote collaboration among students to enhance classroom learning, and facilitate learners' openness to using new methods, tools, and technologies in lessons.

The extent of challenges encountered by Technology Teachers in terms of Student-Related Challenges attained the weighted mean of 4.41 with a standard deviation of 0.72, verbally interpreted as Very Lowly Challenged, indicating that the respondents generally face minimal difficulties in managing student participation, motivation, and collaboration during TLE instruction.

In summary, the results imply that students actively engage in TLE classes, and teachers are able to foster a collaborative and motivating learning environment, encountering only minor challenges related to student-related factors.

Table 13. Extent of Challenges Encountered by Technology Teachers in the current Teaching Conditions of the TLE Curriculum in terms of Workload and Administrative Challenges

Statements	Mean	SD	Remarks
As Technology teacher, I...			
...organize teaching workload efficiently alongside administrative tasks.	4.43	0.73	Strongly Agree
...receive adequate support from school administrators in handling responsibilities.	4.34	0.71	Strongly Agree
...balance classroom instruction and paperwork without major difficulties.	4.44	0.64	Strongly Agree
...accomplish administrative requirements on time while maintaining teaching quality.	4.43	0.65	Strongly Agree
...experience satisfaction in fulfilling both teaching and administrative duties.	4.53	0.60	Strongly Agree
Weighted Mean	4.43		
SD	0.67		
Verbal Interpretation	Very Lowly Challenged		

Table exhibits the extent of challenges encountered by Technology Teachers in the current teaching conditions of the TLE curriculum in terms of Workload and Administrative Challenges.

The respondents strongly agree that they organize their teaching workload efficiently alongside administrative tasks and balance classroom instruction and paperwork without major difficulties. They also strongly agree that they accomplish administrative requirements on time while maintaining teaching quality, receive adequate support from school administrators in handling responsibilities, and experience satisfaction in fulfilling both teaching and administrative duties.

The extent of challenges encountered by Technology Teachers in terms of Workload and Administrative Challenges attained the weighted mean of 4.43 with a standard deviation of 0.67, verbally interpreted as Very Lowly Challenged, indicating that the respondents experience minimal difficulties in managing both instructional and administrative responsibilities.

In summary, the results imply that Technology teachers are capable of effectively handling their workload and administrative tasks, maintaining teaching quality, and achieving professional satisfaction despite challenges. This

further suggests that their competence, adaptability, and commitment enable them to sustain effective performance in the delivery of the Technology Education curriculum.

Significant Relationship between attributes of Technology Teachers and challenges in the current teaching conditions of Technology Education Curriculum

In this study, the significant relationship between attributes of Technology Teachers and challenges in the current teaching conditions of the Technology Education curriculum were analyzed applying the Pearson Correlation Coefficient using Minitab 14. The computed correlation values were interpreted to determine the strength and direction of the relationship between the variables providing a

Table 14. Significant Relationship between attributes of Technology Teachers and challenges in the current teaching conditions of Technology Education Curriculum

Attributes of Technology Teachers		Teaching Conditions of Technology Education Curriculum			
		Resource-related challenges	Technology challenges	Student-related challenges	Workload and administrative challenges
Subject Matter Expertise	Pearson Correlation	0.314*	0.286*	0.421*	0.312*
	Sig. (2-tailed)	.000	.000	.000	.000
	N	131	131	131	131
Pedagogical Competence	Pearson Correlation	0.362*	0.334*	0.488*	0.246*
	Sig. (2-tailed)	.000	.000	.000	.000
	N	131	131	131	131
Innovativeness	Pearson Correlation	0.350*	0.217*	0.276*	0.303*
	Sig. (2-tailed)	.000	.013	.000	.000
	N	131	131	131	131
Classroom Management Ability	Pearson Correlation	0.335*	0.391*	0.384*	0.304*
	Sig. (2-tailed)	.000	.000	.000	.000
	N	131	131	131	131
Professional Commitment	Pearson Correlation	0.259*	0.360*	0.345*	0.341*
	Sig. (2-tailed)	.003	.000	.000	.000
	N	131	131	131	131

Table 14 presents the correlation between attributes of Technology Teachers and challenges in the current teaching conditions of Technology Education Curriculum. The results include Pearson correlation coefficients (r-values), p-values, and sample size (N=131) for each relationship.

A significant correlation of every attributes of Technology Teachers with the identified challenges in the current teaching conditions of Technology Curriculum was revealed in the above table. All obtained p-values are lower than 0.05 level of significance which affirms that Technology Teachers is significantly associated to challenges in the current teaching conditions of Technology Curriculum which implies that

various teachers' attributes are meaningfully associated with the level of challenges experienced in implementing the Technology Education Curriculum.

In summary, the findings imply that strong teacher attributes, particularly in terms of pedagogical competence, subject matter expertise, classroom management ability, innovativeness, and professional commitment, play a crucial role in addressing the challenges encountered in implementing the Technology Education Curriculum. Teachers who possess these attributes are more likely to respond effectively to student needs, manage technological and instructional difficulties, and sustain quality teaching despite workload and administrative demands.

Table 15. Significant Relationship between Motivations of Technology Teachers and challenges in the current teaching conditions of Technology Education Curriculum

Attributes of Technology Teachers		Teaching Conditions of Technology Education Curriculum			
		Resource-related challenges	Technology challenges	Student-related challenges	Workload and administrative challenges
Professional Growth	Pearson Correlation	0.250*	0.164	0.201*	0.222*
	Sig. (2-tailed)	.004	.062	.022	.011
	N	131	131	131	131
Personal Growth	Pearson Correlation	0.151	0.059	0.172*	0.016
	Sig. (2-tailed)	.085	.504	.049	.860
	N	131	131	131	131
Resilience	Pearson Correlation	0.289*	0.100	0.199*	0.216*
	Sig. (2-tailed)	.000	.258	.023	.013
	N	131	131	131	131
Innovation	Pearson Correlation	0.270*	0.233*	0.341*	0.321*
	Sig. (2-tailed)	.002	.007	.000	.000
	N	131	131	131	131

Note * $p < .05$

Table 15 presents the significant relationship between the motivations of Technology Teachers and the challenges in the current teaching conditions of the Technology Curriculum. The table includes Pearson correlation coefficients (r-values), p-values, and sample size (N = 131) for each relationship.

The results reveal that several aspects of teachers' motivation are significantly correlated with the challenges they encounter. Specifically, Professional Growth, Resilience, and Innovation showed significant positive correlations with Resource-related Challenges, Student-related Challenges, and Workload and Administrative Challenges ($p < 0.05$). Innovation also demonstrated a significant relationship with Technology Challenges ($r = 0.233, p = 0.007$). Meanwhile, Personal Growth was only significantly correlated with Student-related Challenges ($r = 0.172, p = 0.049$).

These findings indicate that teachers who are motivated to pursue professional and personal development, demonstrate

resilience, and engage in innovative practices are more likely to recognize, adapt to, or manage challenges in implementing the Technology Curriculum.

The relationships that are statistically significant at $p < 0.05$ confirm that certain teacher attributes are meaningfully associated with the teaching conditions of the Technology Education Curriculum. However, the non-significant relationships also indicate that some dimensions, particularly technology challenges, may be influenced more by external factors such as infrastructure, equipment availability, and institutional support rather than by individual teacher attributes alone.

In summary, the findings imply that innovation, professional growth, and resilience play important roles in helping technology teachers address the challenges encountered in implementing the Technology Education Curriculum. Teachers who are innovative, professionally developing, and resilient are more likely to manage student-related concerns, resource limitations, and workload demands effectively. Meanwhile, personal growth appears to have a more limited role, being significantly linked only to student-related challenges.

IV. CONCLUSION AND RECOMMENDATIONS

The results showed that the attributes of TLE teachers play an important role in how they face and manage the challenges in teaching TLE. Their subject matter expertise, pedagogical competence, innovativeness, classroom management ability, and professional commitment were found to be connected with the different challenges they encounter, such as lack of resources, technology-related concerns, student-related difficulties, and workload or administrative demands. This means that teachers who possess stronger professional qualities are more prepared to adjust, respond, and find ways to handle the difficulties present in the teaching-learning process. Therefore, the null hypothesis stating that there is no significant relationship between the attributes of TLE teachers and the challenges in the current teaching conditions of the TLE curriculum is rejected. This further implies that enhancing the professional attributes of TLE teachers can help improve their readiness and effectiveness in addressing the demands of the curriculum.

The study also revealed that the motivations of TLE teachers are significantly related to the challenges they face in implementing the TLE curriculum. Motivation factors such as professional growth, resilience, and innovation help teachers cope with resource-related, student-related, and workload or administrative challenges. Thus, the null hypothesis stating that there is no significant relationship between the motivations of TLE teachers and the challenges in the current teaching conditions of the TLE curriculum is also rejected.

Although personal growth showed limited significance in relation to student-related challenges, the overall findings still suggest that motivated teachers are more likely to remain committed, flexible, and resourceful despite the difficulties they experience in the classroom.

Based on the drawn conclusions resulted to the following recommendations:

The TLE curriculum should continue to integrate industry-aligned practices, experiential learning opportunities, and innovative teaching strategies. Ensuring access to updated resources, technology, and practical exposure can enhance both teacher effectiveness and student engagement.

Schools should provide adequate resources, updated technological tools, and supportive learning environments to help teachers deliver TLE lessons effectively. Administrative support in managing workload and balancing instructional and paperwork responsibilities can further improve teacher performance and job satisfaction.

Teachers should continue to strengthen their subject matter expertise, pedagogical competence, innovativeness, classroom management, and professional commitment. Participation in professional development activities, trainings, workshops, and collaborative learning communities is encouraged to enhance

teaching effectiveness and address challenges in TLE instruction.

Further studies may explore the impact of teacher motivation and attributes on student learning outcomes in TLE, or investigate interventions that strengthen teacher resilience, innovation, and professional growth in different educational contexts. Longitudinal studies could also examine how sustained professional development influences the ability to overcome teaching challenges over time.

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