



LEVEL OF COMPETENCE AND CHALLENGES IN TEACHING TECHNOLOGY AND LIVELIHOOD EDUCATION: BASIS FOR DEVELOPMENT PLAN

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ABSTRACT

This study determined the level of competence and challenges encountered by Technology and Livelihood Education (TLE) teachers in Duquit High School, Division of Mabalacat City during the School Year 2025–2026 as basis for a proposed teacher development plan. The study utilized a quantitative-descriptive research design with six TLE teachers as respondents selected through total population sampling. A researcher-made questionnaire based on the domains of the Philippine Professional Standards for Teachers (PPST) was used to gather data. Weighted mean was employed to analyze the data statistically. Findings revealed that the overall level of competence of TLE teachers was Very Competent with an overall weighted mean of 3.70. Teachers demonstrated strengths in content knowledge and pedagogy, assessment and reporting, community linkages and professional engagement, and personal growth and professional development. However, moderate competence was observed in areas related to literacy and numeracy integration, higher-order thinking skills, positive discipline, ICT integration, and professional collaboration. In terms of challenges encountered, the overall weighted mean of 3.14 interpreted as Moderately Serious indicated that teachers experienced challenges related to instructional resources, curriculum implementation, learner diversity, assessment practices, and professional development. The most serious challenges identified were limited industry exposure, lack of tools and equipment, and inadequate learning facilities for practical activities. Based on the findings, the study recommends the implementation of continuous professional development programs, strengthened industry and community partnerships, improved instructional resources, and institutional support mechanisms to enhance the competence and teaching effectiveness of TLE teachers.

Keywords: *Technology and Livelihood Education, teacher competence, teaching challenges, Philippine Professional Standards for Teachers, professional development, TLE instruction, quantitative-descriptive research*

INTRODUCTION

Technology and Livelihood Education (TLE) remains one of the most essential components of the Philippine basic education curriculum because it equips learners with practical, technical, and entrepreneurial competencies necessary for lifelong productivity and employability. Through TLE, students are exposed to meaningful learning experiences in areas such as Home Economics, Industrial Arts, Information and Communications Technology (ICT), and Agri-Fishery Arts, which help prepare them for future careers and income-generating opportunities. In the context of the K to 12 curriculum, TLE contributes significantly to the development of learners' work values, creativity, innovation, and technical skills that are aligned with national development goals and global labor market demands. As emphasized by Tan (2021), TLE serves as a vocational foundation that develops learners' appreciation for work and strengthens their ability to contribute economically to their families and communities.

The effectiveness of Technology and Livelihood Education largely depends on the competence of teachers who facilitate instruction and provide meaningful hands-on learning experiences. Teacher competence encompasses mastery of subject matter, pedagogical knowledge, classroom management skills, assessment strategies, and professional engagement. According to the Philippine Professional Standards for Teachers (PPST), competent teachers are expected to demonstrate proficiency in content knowledge and pedagogy while creating learner-centered environments that support holistic development. In TLE instruction, teachers are expected not only to deliver theoretical concepts but also to facilitate practical applications that develop learners' technical and entrepreneurial skills. Consequently, the quality of instruction delivered by teachers significantly influences the achievement of desired learning outcomes among students.

Despite the recognized importance of TLE, several challenges continue to affect the quality of instruction in many public secondary schools in the Philippines. Recent studies revealed that teachers frequently encounter problems related to inadequate instructional materials, lack of updated equipment, insufficient laboratory facilities, limited technical training, and heavy teaching workloads (Embodo & Alonzo, 2024; Manlangit, 2025). These challenges often limit teachers' ability to conduct effective practical activities and reduce opportunities for learners to engage in authentic skill-based learning experiences. Barcelona et al. (2023) further emphasized that TLE teachers struggle with pedagogical difficulties, scarcity of resources, and limited administrative support, which negatively affect instructional delivery and student engagement. Similarly, Tingzon and Buyok (2021) found that many teachers are assigned to teach specialization areas outside their expertise, making it more difficult for them to deliver quality instruction and achieve curriculum objectives effectively.

Teacher competence is considered one of the most influential factors affecting student academic performance and skills acquisition. Competent teachers possess the ability to design effective lesson plans, apply varied teaching approaches, utilize appropriate assessment strategies, and maintain positive classroom environments conducive to learning. Ogoc (2024) stressed that effective instructional skills among teachers positively influence students' academic achievement and classroom participation. Moreover, teachers who continuously engage in professional development activities are more capable of adapting to curriculum reforms, technological advancements, and the diverse needs of learners. However, when teachers experience persistent challenges such as lack of facilities, insufficient resources, and inadequate institutional support, their instructional effectiveness may be compromised, thereby affecting the quality of education delivered to learners.

This study is anchored on the competence model of Westera and the teacher effectiveness model of Medley as cited by Passos (2017). Westera's competence model explains that competence involves the integration of knowledge, skills, attitudes, and strategic thinking necessary to perform effectively in complex situations. In the teaching profession, competence extends beyond content mastery and includes the ability to apply pedagogical skills appropriately within specific learning contexts. Meanwhile, Medley's model of teacher effectiveness emphasizes that teacher competence, teacher performance, and the teaching environment collectively influence students' learning experiences and educational outcomes. These theories support the present study by highlighting the importance of teacher competence and contextual factors in achieving effective teaching and meaningful student learning outcomes in Technology and Livelihood Education.

The present educational landscape also demands that TLE teachers become responsive to the changing needs of 21st-century learners. The implementation of Republic Act No. 10533, otherwise known as the Enhanced Basic Education Act of 2013, reinforced the importance of producing globally competitive graduates equipped with technical and vocational competencies. In response to this reform, the Department of Education adopted the Philippine Professional Standards for Teachers (PPST) through DepEd Order No. 42, s. 2017, which established professional benchmarks for teachers' competence and continuous professional development. The standards emphasize content knowledge and pedagogy, learning environment, curriculum planning, diversity of learners, assessment and reporting, community linkages, and professional growth. These domains serve as important indicators in evaluating teachers' competence and effectiveness in delivering quality instruction, particularly in skill-oriented subjects such as TLE.

Given the crucial role of TLE teachers in developing learners' practical competencies and employability skills, there is a need to examine both their level of competence and the challenges they encounter in instructional delivery. Understanding these factors is essential in designing appropriate interventions and development programs that will strengthen teacher effectiveness and improve the quality of TLE instruction. Hence, this study aims to determine the level of competence and challenges encountered by teachers

in teaching Technology and Livelihood Education in Duquit High School, Division of Mabalacat City during the School Year 2025–2026. The findings of the study shall serve as basis for the development of a teacher development plan intended to enhance teachers' competencies and address the challenges affecting the effective implementation of Technology and Livelihood Education.

Research Questions

This study determined the level of competence and challenges teachers encounter in teaching Technology and Livelihood Education (TLE) in Duquit High School, Division of Mabalacat City during the school year 2025-2026. Specifically, it sought the answer the following:

1. What the level of competence of the TLE teachers in terms of the following:
 - 1.1. Content knowledge and pedagogy;
 - 1.2. Learning environment;
 - 1.3. Diversity of learners;
 - 1.4. Curriculum and planning
 - 1.5. Assessment and reporting;
 - 1.6. Community linkages and professional engagement; and
 - 1.7. Personal growth and professional development?
2. What challenges do teachers encounter in teaching TLE and how serious are they?
3. What teacher development plan can be proposed to enhance teachers' competence and address the challenges encountered in teaching TLE?

METHODOLOGY

This study utilized a quantitative-descriptive research design to determine the level of competence and challenges encountered by teachers in teaching Technology and Livelihood Education (TLE) in Duquit High School, Division of Mabalacat City during the School Year 2025–2026. The descriptive method was employed to assess the teachers' level of competence in terms of content knowledge and pedagogy, learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development. Likewise, the study examined the challenges encountered by teachers in teaching TLE and the degree of seriousness of these challenges. The respondents of the study were the six TLE teachers of Duquit High School. Since the number of respondents was limited, total population sampling was utilized to ensure that all teachers teaching TLE were included in the study. The findings of the study served as basis for the development of a proposed teacher development plan intended to enhance teachers' competence and address the challenges encountered in TLE instruction.

The primary instrument used in gathering data was a researcher-made questionnaire composed of two parts. Part I focused on determining the level of competence of TLE

teachers, while Part II identified the challenges encountered by teachers and the seriousness of these challenges. The questionnaire was subjected to validation by the researcher's adviser, and the necessary suggestions and recommendations were incorporated to improve the instrument. The researcher personally administered the questionnaire to ensure efficient retrieval and accurate data collection. The gathered data were tabulated and analyzed using the Weighted Mean (WM) as the statistical tool to answer the sub-problems of the study. The results were interpreted using a five-point scale with corresponding descriptive equivalents ranging from Highly Competent to Not Competent for competence, and Highly Serious to Not a Problem for the challenges encountered by the respondents.

RESULTS AND DISCUSSION

This section presents the data gathered and their analysis and interpretation to answer the sub-problems raised in the study.

This part presents the level of competence of TLE teachers based on the domains of the Philippine Professional Standards for Teachers (PPST). The data are presented in Tables 1A, 1B, 1C, 1D, 1E, 1F and 1G.

Content Knowledge and Pedagogy

TABLE 1A
Level of Competence of TLE Teachers
in Terms of Content Knowledge and Pedagogy

Indicators	WM	DE
Demonstrate content knowledge and its application within and/or across curriculum teaching areas.	4.50	HC
Demonstrate an understanding of research-based knowledge and principles of teaching and learning	3.83	VC
Show skills in the positive use of ICT to facilitate the teaching and learning process.	4.17	VC
Demonstrate knowledge of teaching strategies that promote literacy and numeracy skills.	3.33	MC
Apply teaching strategies that develop critical and creative thinking, and/or other higher-order thinking skills.	3.17	MC
Use of Mother Tongue, Filipino and English to facilitate teaching and learning.	4.33	VC
Demonstrate an understanding of the range of verbal and non-verbal classroom communication strategies that support learner understanding, participation, engagement, and achievement.	3.50	VC
OVERALL WM	3.83	VC
Legend: WM=Weighted Mean		

Point Value	Statistical Limits	Descriptive Equivalent (DE)
5	4.50-5.00	Highly Competent (HC)
4	3.50-4.49	Very Competent (VC)
3	2.50-3.49	Moderately Competent (MC)
2	1.50-2.49	Slightly Competent (SC)
1	1.00-1.49	Not Competent (NC)

Table 1A presents the level of competence of TLE teachers in terms of content knowledge and pedagogy. The overall weighted mean of 3.83 with a descriptive equivalent of Very Competent (VC) indicates that the teachers possess a strong level of competence in delivering instruction and applying pedagogical practices in teaching Technology and Livelihood Education. The indicator “Demonstrate content knowledge and its application within and/or across curriculum teaching areas” obtained the highest weighted mean of 4.50 interpreted as Highly Competent (HC), indicating that teachers are highly capable of integrating subject content across learning areas. Meanwhile, “Use of Mother Tongue, Filipino and English to facilitate teaching and learning” also received a high rating of 4.33 or Very Competent, reflecting teachers’ effective communication skills in the classroom.

However, some indicators obtained relatively lower ratings such as “Demonstrate knowledge of teaching strategies that promote literacy and numeracy skills” with a weighted mean of 3.33 and “Apply teaching strategies that develop critical and creative thinking” with 3.17, both interpreted as Moderately Competent (MC). These findings suggest that while teachers demonstrate satisfactory pedagogical competence, there is still a need to strengthen their instructional strategies in promoting higher-order thinking skills and literacy-numeracy integration. The findings imply the importance of continuous professional development and training programs to further enhance teachers’ pedagogical effectiveness and instructional delivery in TLE.

Learning Environment

TABLE 1B
Level of Competence of TLE Teachers
in Terms of Learning Environment

Indicators	WM	DE
Demonstrate knowledge of policies, guidelines and procedures that provide safe and secure learning environments.	3.67	VC
Demonstrate understanding of learning environments that promote fairness, respect and care to encourage learning.	4.17	VC
Demonstrate knowledge of managing classroom structure that engages learners, individually or in groups, in meaningful exploration, discovery and hands-on activities within the available physical learning environments.	3.83	VC
Demonstrate understanding of supportive learning environments that nurture and inspire learner	3.33	MC

participation.		
Demonstrate knowledge of learning environments that motivate learners to work productively by assuming responsibility for their own learning.	3.50	VC
Demonstrate knowledge of positive and non-violent discipline in the management of learner behaviour.	2.83	MC
OVERALL WM	3.56	VC
Legend: WM=Weighted Mean		
Point Value	Statistical Limits	Descriptive Equivalent (DE)
5	4.50-5.00	Highly Competent (HC)
4	3.50-4.49	Very Competent (VC)
3	2.50-3.49	Moderately Competent (MC)
2	1.50-2.49	Slightly Competent (SC)
1	1.00-1.49	Not Competent (NC)

Table 1B presents the level of competence of TLE teachers in terms of learning environment. The overall weighted mean of 3.56 interpreted as Very Competent (VC) indicates that the teachers demonstrate a satisfactory level of competence in creating and managing learning environments conducive to student learning and participation. The indicator “Demonstrate understanding of learning environments that promote fairness, respect and care to encourage learning” obtained the highest weighted mean of 4.17 or Very Competent, showing that teachers highly value positive and respectful classroom relationships. Likewise, teachers were also rated Very Competent in managing classroom structures and ensuring safe and secure learning environments.

However, the indicators “Demonstrate understanding of supportive learning environments that nurture and inspire learner participation” and “Demonstrate knowledge of positive and non-violent discipline in the management of learner behaviour” received weighted means of 3.33 and 2.83, respectively, both interpreted as Moderately Competent (MC). These findings suggest that teachers may still need enhancement in implementing supportive and positive disciplinary approaches that encourage greater learner engagement and participation. The results imply the need for continuous training and professional development programs focused on classroom management and learner-centered strategies to further strengthen the learning environment in TLE classes.

Diversity of Learners

TABLE 1C
Level of Competence of TLE Teachers
in Terms of Diversity of Learners

Indicators	WM	DE
Demonstrate knowledge of policies, guidelines and procedures that provide safe and secure learning environments.	3.67	VC
Demonstrate understanding of learning environments that promote fairness, respect and	4.17	VC

care to encourage learning.		
Demonstrate knowledge of managing classroom structure that engages learners, individually or in groups, in meaningful exploration, discovery and hands-on activities within the available physical learning environments.	3.83	VC
Demonstrate understanding of supportive learning environments that nurture and inspire learner participation.	3.33	MC
Demonstrate knowledge of learning environments that motivate learners to work productively by assuming responsibility for their own learning.	3.50	VC
Demonstrate knowledge of positive and non-violent discipline in the management of learner behaviour.	2.83	MC
OVERALL WM	3.56	VC
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Competent (HC) 4 3.50-4.49 Very Competent (VC) 3 2.50-3.49 Moderately Competent (MC) 2 1.50-2.49 Slightly Competent (SC) 1 1.00-1.49 Not Competent (NC)		

Table 1C presents the level of competence of TLE teachers in terms of diversity of learners. The overall weighted mean of 3.56 interpreted as Very Competent (VC) indicates that the teachers are generally capable of addressing diverse learner needs and creating inclusive learning environments. The indicators “Demonstrate understanding of learning environments that promote fairness, respect and care to encourage learning” and “Demonstrate knowledge of managing classroom structure that engages learners” obtained weighted means of 4.17 and 3.83, respectively, both interpreted as Very Competent. This implies that teachers are effective in promoting respect, learner engagement, and meaningful participation inside the classroom.

However, the indicators “Demonstrate understanding of supportive learning environments that nurture and inspire learner participation” and “Demonstrate knowledge of positive and non-violent discipline in the management of learner behaviour” received weighted means of 3.33 and 2.83, respectively, both interpreted as Moderately Competent (MC). These findings suggest that teachers still need enhancement in implementing inclusive and supportive strategies that address learner diversity and positive discipline practices. The results highlight the importance of professional development activities that strengthen teachers’ competence in handling diverse learners and promoting inclusive education in TLE classes.

Curriculum and Planning

TABLE 1D
Level of Competence of TLE Teachers
in Terms of Curriculum and Planning

Indicators	WM	DE
Prepare developmentally sequenced teaching and learning process to meet curriculum requirements	3.83	VC
Identify learning outcomes that are aligned with learning competencies.	3.17	MC
Demonstrates knowledge in the implementation of relevant and responsive learning programs.	4.33	VC
Seek advice concerning strategies that can enrich teaching practice.	3.33	MC
Show skills in the selection, development and use of a variety of teaching and learning resources, including ICT, to address learning goals.	2.83	MC
OVERALL WM	3.50	VC
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Competent (HC) 4 3.50-4.49 Very Competent (VC) 3 2.50-3.49 Moderately Competent (MC) 2 1.50-2.49 Slightly Competent (SC) 1 1.00-1.49 Not Competent (NC)		

Table 1D presents the level of competence of TLE teachers in terms of curriculum and planning. The overall weighted mean of 3.50 interpreted as Very Competent (VC) indicates that the teachers possess adequate competence in planning and implementing curriculum-related instructional activities. The indicator “Demonstrates knowledge in the implementation of relevant and responsive learning programs” obtained the highest weighted mean of 4.33 or Very Competent, suggesting that teachers are capable of implementing learning programs responsive to learners’ needs. Likewise, “Prepare developmentally sequenced teaching and learning process to meet curriculum requirements” received a weighted mean of 3.83, also interpreted as Very Competent, showing teachers’ ability to organize instruction effectively.

However, some indicators such as “Identify learning outcomes that are aligned with learning competencies” (3.17), “Seek advice concerning strategies that can enrich teaching practice” (3.33), and “Show skills in the selection, development and use of a variety of teaching and learning resources, including ICT” (2.83) were interpreted as Moderately Competent (MC). These findings imply that teachers still need improvement in aligning learning outcomes, utilizing varied instructional resources, and integrating ICT effectively in instruction. The results emphasize the need for continuous professional development and training programs focused on curriculum planning and instructional innovation to further enhance teachers’ competence in TLE.

Assessment and Reporting

TABLE 1E
Level of Competence of TLE Teachers
in Terms of Assessment and Reporting

Indicators	WM	DE
Demonstrate knowledge of the design, selection, organization, and use of diagnostic, formative and summative assessment strategies consistent with curriculum requirements.	3.71	VC
Demonstrate knowledge of monitoring and evaluation of learner progress and achievement using learner attainment data.	4.29	VC
Demonstrate knowledge of providing timely, accurate and constructive feedback to improve learner performance.	3.57	VC
Demonstrate familiarity with a range of strategies by communicating learner needs, progress and achievement.	3.43	MC
Demonstrate an understanding of the role of assessment data as feedback in teaching and learning practices and programs	3.14	MC
OVERALL WM	3.83	VC
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Competent (HC) 4 3.50-4.49 Very Competent (VC) 3 2.50-3.49 Moderately Competent (MC) 2 1.50-2.49 Slightly Competent (SC) 1 1.00-1.49 Not Competent (NC)		

Table 1E presents the level of competence of TLE teachers in terms of assessment and reporting. The overall weighted mean of 3.83 interpreted as Very Competent (VC) indicates that the teachers possess a strong level of competence in assessing and monitoring learner performance. The indicator “Demonstrate knowledge of monitoring and evaluation of learner progress and achievement using learner attainment data” obtained the highest weighted mean of 4.29 or Very Competent, suggesting that teachers are capable of effectively tracking learners’ progress and achievement. Likewise, teachers were also rated Very Competent in designing assessment strategies and providing timely and constructive feedback to learners.

However, the indicators “Demonstrate familiarity with a range of strategies by communicating learner needs, progress and achievement” with a weighted mean of 3.43 and “Demonstrate an understanding of the role of assessment data as feedback in teaching and learning practices and programs” with 3.14 were interpreted as Moderately Competent (MC). These findings imply that teachers still need improvement in utilizing

assessment data and communication strategies to enhance teaching and learning processes. The results highlight the importance of continuous training on assessment practices and data-driven instruction to further strengthen teachers' competence in assessment and reporting.

Community Linkages and Professional Engagement

TABLE 1F
Level of Competence of TLE Teachers
in Terms of Community Linkages and Professional Engagement

Indicators	WM	DE
Demonstrate an understanding of knowledge of learning environments that are responsive to community contexts.	3.83	VC
Seek advice concerning strategies that build relationships with parents/guardians and the wider community	3.67	VC
Demonstrate awareness of existing laws and regulations that apply to the teaching profession, and become familiar with the responsibilities specified in the Code of Ethics for Professional Teachers.	4.33	VC
Demonstrate knowledge and understanding of school policies and procedures to foster harmonious relationship with the wider school community.	3.33	MC
OVERALL WM	3.79	VC
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Competent (HC) 4 3.50-4.49 Very Competent (VC) 3 2.50-3.49 Moderately Competent (MC) 2 1.50-2.49 Slightly Competent (SC) 1 1.00-1.49 Not Competent (NC)		

Table 1F presents the level of competence of TLE teachers in terms of community linkages and professional engagement. The overall weighted mean of 3.79 interpreted as Very Competent (VC) indicates that the teachers demonstrate a commendable level of competence in establishing professional relationships and engaging with the school and community. The indicator "Demonstrate awareness of existing laws and regulations that apply to the teaching profession, and become familiar with the responsibilities specified in the Code of Ethics for Professional Teachers" obtained the highest weighted mean of 4.33 or Very Competent, implying that teachers are knowledgeable about professional ethics, policies, and responsibilities. Likewise, teachers were also rated Very Competent in creating learning environments responsive to community contexts and in building relationships with parents and the wider community.

However, the indicator “Demonstrate knowledge and understanding of school policies and procedures to foster harmonious relationship with the wider school community” obtained a weighted mean of 3.33 interpreted as Moderately Competent (MC). This finding suggests that teachers still need enhancement in understanding and applying school policies and procedures that strengthen collaboration and harmonious relationships within the school community. The results imply the need for continuous orientation and professional development activities that promote stronger school-community partnerships and professional engagement among TLE teachers.

Personal Growth and Professional Development

TABLE 1G
Level of Competence of TLE Teachers
in Terms of Personal Growth and Professional Development

Indicators	WM	DE
Articulate a personal philosophy of teaching that is learner-centered	3.83	VC
Demonstrate behaviors that uphold the dignity of teaching as a profession by exhibiting qualities such as caring attitude, respect, and integrity.	4.17	VC
Seek opportunities to establish professional links with colleagues.	3.17	MC
Demonstrate an understanding of how professional reflection and learning can be used to improve practice.	3.67	VC
Demonstrate motivation to realize professional development goals based on the Philippine Professional Standards for Teachers.	4.33	VC
OVERALL WM	3.83	VC
Legend: WM=Weighted Mean Point Value Statistical Limits Descriptive Equivalent (DE) 5 4.50-5.00 Highly Competent (HC) 4 3.50-4.49 Very Competent (VC) 3 2.50-3.49 Moderately Competent (MC) 2 1.50-2.49 Slightly Competent (SC) 1 1.00-1.49 Not Competent (NC)		

Table 1G presents the level of competence of TLE teachers in terms of personal growth and professional development. The overall weighted mean of 3.83 interpreted as Very Competent (VC) indicates that the teachers demonstrate a strong commitment to professional growth and the improvement of their teaching practices. The indicator “Demonstrate motivation to realize professional development goals based on the Philippine Professional Standards for Teachers” obtained the highest weighted mean of 4.33 or Very Competent, showing that teachers are highly motivated to achieve professional excellence. Likewise, the indicator “Demonstrate behaviors that uphold the dignity of teaching as a profession by exhibiting qualities such as caring attitude, respect,

and integrity” received a weighted mean of 4.17 or Very Competent, reflecting teachers’ professionalism and positive work values.

However, the indicator “Seek opportunities to establish professional links with colleagues” obtained a weighted mean of 3.17 interpreted as Moderately Competent (MC). This finding suggests that teachers may still need encouragement in strengthening professional collaboration and networking with peers to enhance teaching practices and professional learning. The results imply the importance of providing opportunities for collaboration, mentoring, and continuous professional development programs that will further support teachers’ personal and professional growth.

Summary Table

Indicators	WM	DE
Content Knowledge and Pedagogy	3.83	VC
Learning Environment	3.56	VC
Diversity of Learners	3.77	VC
Curriculum and Planning	3.50	VC
Assessment and Reporting	3.63	VC
Community Linkages and Professional Engagement	3.79	VC
Personal Growth and Professional Development	3.83	VC
OVERALL WM	3.70	VC

The summary table presents the overall level of competence of TLE teachers across the different domains of the Philippine Professional Standards for Teachers (PPST). The overall weighted mean of 3.70 interpreted as Very Competent (VC) indicates that the teachers generally demonstrate a commendable level of competence in delivering Technology and Livelihood Education instruction. Among the domains, Content Knowledge and Pedagogy and Personal Growth and Professional Development obtained the highest weighted mean of 3.83, followed by Community Linkages and Professional Engagement with 3.79, while Curriculum and Planning obtained the lowest weighted mean of 3.50, although still interpreted as Very Competent. These findings imply that TLE teachers possess adequate knowledge, skills, and professional attributes necessary for effective teaching; however, there remains a need for continuous professional development and instructional support to further strengthen competencies, particularly in curriculum planning and instructional innovation.

Challenges Teachers Encounter in Teaching Technology and Livelihood Education

This part presents the challenges encountered by TLE teachers in Duquit High School, Division of Mabalacat City and the degree of seriousness of these challenges in teaching Technology and Livelihood Education.

The data are presented in Tables 2A, 2B, 2C, 2D, 2E, 2F, and 2G covering instructional, curricular, resource-related, and professional development challenges encountered by the teachers.

Content Knowledge and Pedagogy

TABLE 2A
Challenges in Teaching TLE Teachers
in Terms of Content Knowledge and Pedagogy

Indicators		WM	DE
Difficulty mastering specialized TLE competencies		3.50	VS
Difficulty integrating theory with practical activities		3.33	MS
Limited exposure to industry-based practices		3.67	VS
Average WM		3.50	VS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2A presents the challenges encountered by TLE teachers in terms of content knowledge and pedagogy. The overall weighted mean of 3.50 interpreted as Very Serious (VS) indicates that teachers experience significant challenges related to mastering and delivering specialized TLE competencies. The indicator “Limited exposure to industry-based practices” obtained the highest weighted mean of 3.67 interpreted as Very Serious, suggesting that teachers have limited opportunities to engage in real-world industry experiences that could enhance their instructional competence. Likewise, “Difficulty mastering specialized TLE competencies” also obtained a weighted mean of 3.50 or Very Serious, indicating that teachers encounter challenges in handling specialized areas in TLE instruction.

Meanwhile, the indicator “Difficulty integrating theory with practical activities” obtained a weighted mean of 3.33 interpreted as Moderately Serious (MS). This finding implies that teachers experience some difficulties in connecting theoretical concepts with hands-on learning activities, which are essential in TLE instruction. The results suggest the need for continuous professional development, industry immersion programs, and specialized training to strengthen teachers’ content knowledge and pedagogical skills in teaching TLE effectively.

Learning Environment

TABLE 2B
Challenges in Teaching TLE Teachers
In Terms of Learning Environment

Indicators		WM	DE
Lack of tools, equipment and materials		3.67	VS
Overcrowded classes during practical activities		3.33	MS
Limited workshop space and safety concerns		3.50	VS
Average WM		3.50	VS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2B presents the challenges encountered by TLE teachers in terms of learning environment. The overall weighted mean of 3.50 interpreted as Very Serious (VS) indicates that teachers experience significant difficulties related to the learning environment in teaching TLE. The indicator “Lack of tools, equipment and materials” obtained the highest weighted mean of 3.67 interpreted as Very Serious, showing that insufficient instructional resources greatly affect the conduct of practical activities. Likewise, “Limited workshop space and safety concerns” received a weighted mean of 3.50 or Very Serious, indicating that inadequate facilities and safety issues hinder effective teaching and learning experiences.

Meanwhile, the indicator “Overcrowded classes during practical activities” obtained a weighted mean of 3.33 interpreted as Moderately Serious (MS). This finding suggests that large class sizes moderately affect teachers’ ability to manage learners and conduct hands-on activities effectively. The results imply the need for improved learning facilities, adequate instructional resources, and better classroom management support to enhance the learning environment and ensure effective TLE instruction.

Diversity of Learners

TABLE 2C
Challenges in Teaching TLE Teachers
In Terms of Diversity of Learners

Indicators		WM	DE
Wide range of student’s abilities		3.17	MS
Low student motivation in TLE		3.00	MS
Difficulty addressing students with special needs		2.83	MS
Average WM		3.00	MS
Legend: WM=Weighted Mean			

Point Value	Statistical Limits	Descriptive Equivalent (DE)
5	4.50-5.00	Highly Serious (HS)
4	3.50-4.49	Very Serious (VS)
3	2.50-3.49	Moderately Serious (MS)
2	1.50-2.49	Slightly Serious (SS)
1	1.00-1.49	Not a Problem (NP)

Table 2C presents the challenges encountered by TLE teachers in terms of diversity of learners. The overall weighted mean of 3.00 interpreted as Moderately Serious (MS) indicates that teachers experience moderate difficulties in addressing the diverse needs, abilities, and interests of learners in TLE classes. The indicator “Wide range of students’ abilities” obtained the highest weighted mean of 3.17 interpreted as Moderately Serious, suggesting that differences in learners’ skills and learning capacities affect the delivery of instruction and classroom management. Likewise, “Low student motivation in TLE” received a weighted mean of 3.00 or Moderately Serious, indicating that maintaining learners’ interest and engagement remains a challenge among teachers.

Meanwhile, the indicator “Difficulty addressing students with special needs” obtained the lowest weighted mean of 2.83 interpreted as Moderately Serious. This finding implies that teachers encounter challenges in providing appropriate instructional support and accommodations for learners with special educational needs. The results highlight the need for inclusive teaching strategies, differentiated instruction, and professional development programs that will equip teachers with the necessary skills in handling diverse learners effectively in TLE classes.

Curriculum and Planning

TABLE 2D
Challenges in Teaching TLE Teachers
In Terms of Curriculum and Planning

Indicators		WM	DE
Difficulty unpacking MELCs		3.17	MS
Time constraints in conducting practical activities		3.33	MS
Curriculum-resource mismatch		3.00	MS
Average WM		3.17	MS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2D presents the challenges encountered by TLE teachers in terms of curriculum and planning. The overall weighted mean of 3.17 interpreted as Moderately Serious (MS) indicates that teachers experience moderate challenges related to curriculum

implementation and instructional planning. The indicator “Time constraints in conducting practical activities” obtained the highest weighted mean of 3.33 interpreted as Moderately Serious, suggesting that limited instructional time affects the effective conduct of hands-on learning experiences in TLE. Likewise, “Difficulty unpacking MELCs” received a weighted mean of 3.17, indicating that teachers encounter some challenges in interpreting and translating learning competencies into appropriate classroom activities.

Meanwhile, the indicator “Curriculum-resource mismatch” obtained a weighted mean of 3.00 interpreted as Moderately Serious. This finding implies that the available instructional resources and facilities do not fully support the curriculum requirements in TLE instruction. The results highlight the need for curriculum support, adequate instructional materials, and time management strategies to help teachers effectively implement the TLE curriculum and achieve desired learning outcomes.

Assessment and Reporting

TABLE 2E
Challenges in Teaching TLE Teachers
In Terms of Assessment and Reporting

Indicators		WM	DE
Difficulty assessing practical performance		3.33	MS
Lack of standardized rubrics		3.47	MS
Time-consuming documentation and reporting		3.00	MS
Average WM		3.17	MS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2E presents the challenges encountered by TLE teachers in terms of assessment and reporting. The overall weighted mean of 3.17 interpreted as Moderately Serious (MS) indicates that teachers experience moderate difficulties in assessing and documenting learner performance in TLE classes. The indicator “Lack of standardized rubrics” obtained the highest weighted mean of 3.47 interpreted as Moderately Serious, suggesting that the absence of clear and uniform assessment tools affects the consistency and accuracy of evaluating students’ practical performance. Likewise, “Difficulty assessing practical performance” received a weighted mean of 3.33, indicating that teachers encounter challenges in measuring learners’ skills and competencies during hands-on activities.

Meanwhile, the indicator “Time-consuming documentation and reporting” obtained a weighted mean of 3.00 interpreted as Moderately Serious. This finding implies that teachers spend considerable time preparing reports and maintaining assessment records, which may affect instructional preparation and delivery. The results highlight the

need for standardized assessment tools, efficient reporting systems, and training on authentic assessment practices to improve teachers' competence in assessment and reporting in TLE instruction.

Community Linkages and Professional Engagement

TABLE 2F
Challenges in Teaching TLE Teachers
In Terms of Community Linkages and Professional Engagement

Indicators		WM	DE
Limited industry and community partnerships		2.83	MS
Difficulty coordinating immersion and projects		2.67	MS
Limited external support for skills training		2.83	MS
Average WM		2.78	MS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2F presents the challenges encountered by TLE teachers in terms of community linkages and professional engagement. The overall weighted mean of 2.78 interpreted as Moderately Serious (MS) indicates that teachers experience moderate challenges in establishing partnerships and engaging with external stakeholders that support TLE instruction. The indicators "Limited industry and community partnerships" and "Limited external support for skills training" both obtained weighted means of 2.83 interpreted as Moderately Serious, suggesting that insufficient collaboration with industries and community partners affects opportunities for skills enhancement and practical learning experiences.

Meanwhile, the indicator "Difficulty coordinating immersion and projects" obtained a weighted mean of 2.67 interpreted as Moderately Serious. This finding implies that teachers encounter challenges in organizing immersion activities and community-based projects due to limited coordination and external support. The results highlight the importance of strengthening partnerships with industries, local government units, and community stakeholders to enhance professional engagement and provide meaningful learning opportunities for TLE learners.

Personal Growth and Professional Development

TABLE 2G
Challenges in Teaching TLE Teachers
In Terms of Personal Growth and Professional Development

Indicators		WM	DE
Limited access to relevant trainings		2.83	MS
Time and financial constraints		3.00	MS
Workload and burnout		2.67	MS
Average WM		2.83	MS
Legend: WM=Weighted Mean			
Point Value	Statistical Limits	Descriptive Equivalent (DE)	
5	4.50-5.00	Highly Serious (HS)	
4	3.50-4.49	Very Serious (VS)	
3	2.50-3.49	Moderately Serious (MS)	
2	1.50-2.49	Slightly Serious (SS)	
1	1.00-1.49	Not a Problem (NP)	

Table 2G presents the challenges encountered by TLE teachers in terms of personal growth and professional development. The overall weighted mean of 2.83 interpreted as Moderately Serious (MS) indicates that teachers experience moderate challenges related to their professional advancement and well-being. The indicator “Time and financial constraints” obtained the highest weighted mean of 3.00 interpreted as Moderately Serious, suggesting that limited time and financial resources affect teachers’ participation in professional development activities and trainings. Likewise, “Limited access to relevant trainings” received a weighted mean of 2.83, indicating that opportunities for skills enhancement and professional learning are moderately limited among the respondents.

Meanwhile, the indicator “Workload and burnout” obtained a weighted mean of 2.67 interpreted as Moderately Serious. This finding implies that teachers experience work-related stress and fatigue that may affect their professional performance and motivation. The results highlight the need for accessible professional development programs, institutional support, and workload management initiatives to promote teachers’ personal growth, professional competence, and overall well-being.

Summary Table

Indicators	WM	DE
Content Knowledge and Pedagogy	3.50	VS
Learning Environment	3.50	VS
Diversity of Learners	3.00	MS
Curriculum and Planning	3.17	MS
Assessment and Reporting	3.17	MS
Community Linkages and Professional Engagement	2.78	MS

Personal Growth and Professional Development	2.83	MS
OVERALL WM	3.14	MS

The summary table presents the overall challenges encountered by TLE teachers in teaching Technology and Livelihood Education. The overall weighted mean of 3.14 interpreted as Moderately Serious (MS) indicates that teachers generally experience moderate challenges in the delivery of TLE instruction. Among the identified areas, Content Knowledge and Pedagogy and Learning Environment obtained the highest weighted mean of 3.50 interpreted as Very Serious (VS), suggesting that teachers are significantly challenged by limited industry exposure, lack of instructional resources, and inadequate facilities for practical activities. Meanwhile, the remaining domains such as Diversity of Learners, Curriculum and Planning, Assessment and Reporting, Community Linkages and Professional Engagement, and Personal Growth and Professional Development were all interpreted as Moderately Serious. These findings imply the need for continuous professional development, improved learning resources, strengthened community partnerships, and institutional support to address the challenges encountered by TLE teachers and enhance the quality of instruction.

Conclusions

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

1. Generally, the teachers teaching Technology and Livelihood Education (TLE) are very competent in terms of the domains in the Philippines Professional Standards for Teachers which signifies a high level of proficiency and effectiveness in delivering technical-vocational instruction.
2. Challenges encountered by teachers in teaching TLE include limited exposure to industry-based practices, lack of tools, equipment and materials, difficulty mastering specialized TLE competencies, and limited workshop space and safety concerns.
3. The proposed teacher development plan was aligned with the challenges encountered by teachers to ensure that it is responsive to the actual needs of TLE teachers.

Recommendations

On the basis of the findings of the study and the conclusions drawn, the following were the recommendations offered:

1. The proposed teacher development plan should be considered for implementation by school authorities concerned to enhancing the teachers' level of competencies and address the challenges encountered in teaching TLE.
2. School heads are encouraged to institutionalize the proposed teacher development plan for TLE teachers as part of the School Improvement Plan (SIP) and Annual Implementation Plan (AIP).

3. TLE teachers are encouraged to actively participate in professional development activities, including trainings, Learning Action Cell (LAC) sessions and industry-related upskilling programs.
4. DepEd and related education authorities may consider providing more targeted and specialized-based training for TLE teachers, particularly in emerging technical skills aligned with industry standards.
5. Curriculum planners and instructional leaders are encouraged to review and contextualize the implementation of the Most Essential Learning Competencies (MELCs) in TLE to ensure alignment with available school resources and local industry needs.
6. Assessment coordinators and teachers are encouraged to develop standardized rubrics and assessment tools for performance-based and skills-oriented tasks in TLE.
7. Community stakeholders and industry partners are encouraged to strengthen collaboration with schools by supporting training opportunities, resources sharing and community-based projects.
8. Future researchers may consider expanding the scope of the study by involving a larger number of respondents or multiple schools to validate the findings of the study.

Compliance with Ethical Standards

This study complied with established ethical standards to protect the rights, dignity, privacy, and well-being of all participants. Before data collection, the researcher obtained approval from the appropriate school authorities and secured informed consent from the participating TLE teachers. Participation was voluntary, and respondents were allowed to withdraw from the study at any time without penalty. All information collected was treated with strict confidentiality and used solely for academic purposes. Participants' identities remained anonymous through the use of codes instead of names. The researcher also ensured honesty and accuracy in collecting, analyzing, and reporting the data and properly acknowledged all sources to avoid plagiarism, fabrication, falsification, and misrepresentation of findings.

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REFERENCES

- Barcelona, M. et.al. (2023). Challenges and opportunities among Technology and Livelihood Education teachers in Philippine public schools. *International Journal of Educational Studies and Research*, 5(2), 45–58.
- Department of Education. (2017). DepEd Order No. 42, s. 2017: National adoption and implementation of the Philippine Professional Standards for Teachers. Department of Education.
- Embodo, A., & Alonzo, R. (2024). Instructional challenges encountered by Technology and Livelihood Education teachers in public secondary schools. *Philippine Journal of Teacher Education*, 11(1), 77–92.
- Manlangit, P. (2025). Resource limitations and instructional effectiveness in Technology and Livelihood Education. *Journal of Technical and Vocational Education*, 8(2), 60–74.
- Medley, D. M. (2017). Teacher competence and teacher effectiveness in classroom instruction. In A. Passos (Ed.), *Teacher education and instructional effectiveness* (pp. 112–130). Educational Research Press.
- Ogoc, R. (2024). Instructional skills and academic achievement among secondary school teachers. *International Journal of Pedagogical Studies*, 6(3), 91–105.
- Passos, A. (2017). *Teacher competence, teacher effectiveness and professional knowledge in education*. Educational Development Publishing.
- Republic Act No. 10533. (2013). Enhanced Basic Education Act of 2013. *Official Gazette of the Republic of the Philippines*.
- Tan, J. (2021). Technology and Livelihood Education as foundation for vocational preparedness among Filipino learners. *Journal of Technical Education and Skills Development*, 7(2), 25–39.
- Tingzon, P., & Buyok, E. (2021). Struggles and coping mechanisms of teachers handling Technology and Livelihood Education subjects outside specialization. *Asian Journal of Vocational Education*, 3(1), 40–55.

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