Organizational Support and Teaching Effectiveness on Teachers' Technical Competence in Technology and Livelihood Education

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ABSTRACT

This study examined the influence of organizational support and teaching effectiveness on the technical competence of Technology and Livelihood Education (TLE) teachers amid demands for industry-standard vocational instruction. A quantitative descriptive-correlational design was employed among 245 TLE teachers from public secondary schools in Don Carlos, Maramag, and Quezon Districts, in the Division of Bukidnon, Philippines, during School Year 2025–2026, selected via total enumeration sampling.

Findings revealed high organizational support, very high teaching effectiveness, and high technical competence across all TLE strands (ICT, AFA, FCS, Industrial Arts). Significant positive correlations existed among technical competence, organizational support, and teaching effectiveness. Regression analysis identified assessment strategies, instructional delivery, professional development, partnerships, and curriculum management as key predictors of technical competence, with assessment strategies showing the strongest influence. Schools may prioritize targeted professional development, hands-on training, and refined assessment practices to enhance TLE teachers' technical proficiency and instructional quality.

Keywords: technical competence, organizational support, teaching effectiveness

INTRODUCTION

Technology and Livelihood Education (TLE) is one of the major components of the Philippine K–12 curriculum under the Enhanced Basic Education Act of 2013. It equips the students with practical skills in information and communication technology (ICT), agriculture, fisheries and aquaculture (AFA), family and consumer sciences (FCS), and industrial arts (IA) that are in line with the standards of the Technical Education and Skills Development Authority (TESDA). The success of TLE training depends on the technical competence of teachers, the ability to demonstrate tools, apply industry principles and adjust delivery to meet workforce demands. However, research shows there are persistent gaps. Salvador (2025) related professional development to improved teaching and student outcomes, Dordas & Accad (2025) found moderate technical proficiency of teachers due to the traditional techniques and resource limitations, and Reyes et al. (2025) reported that TLE teachers had excellent competencies but lacked the integration of 21st-century skills.

In the face of these challenges, organizational support and competent instruction are critical enablers. Sanza & Asparin (2025) and Basanes & Dagol (2020) associated it with lower burnout and engagement, and Villanueva (2024) found that perceived high support in schools enhances performance through improved management and participation in training. Salvador (2025) and Mendoza et al. (2025), who emphasized training in emerging technologies, showed that effective teaching, which includes practical planning, lab management, and TESDA-aligned assessment, provides bridged support to competency. According to Villegas (2022), deficits are more

pronounced in rural schools due to a lack of materials and disjointed systems. This study explored such dynamics among teachers of TLE in Don Carlos, Maramag, and Quezon Districts, in the Division of Bukidnon, during the SY 2025–2026 to establish correlations and predictions for focused strategies in professional development and resources.

Objectives of the Study

The study examined the effect of organizational support and teaching effectiveness on the technical competence of Technology and Livelihood Education (TLE) teachers in public secondary schools of Don Carlos, Maramag and Quezon Districts, in the Division of Bukidnon, Philippines. Specifically, it sought to: 1) determine the levels of organizational support received by TLE teachers; 2) Identify the level of teaching effectiveness of TL teachers; 3) Assess the level of technical competence of TLE teachers in four strands; 4) examine the significant relationships between technical competence and organizational support and teaching effectiveness; 5) and find out the variables singly or in combination that best predict technical competence.

METHODOLOGY

Research Design and Locale

The study employed a descriptive-correlational design to describe the current situation and examine correlations among variables. The descriptive design helps describe the level of organizational support, teaching effectiveness, and technical competence of TLE teachers. A correlational design was used to examine the relationship between the independent and dependent variables. Regression analysis was used to determine the extent to which organizational support and instructional efficacy predict technical competence. The study was conducted in the public secondary schools in Quezon districts, Don Carlos districts, and Maramag districts, in the division of Bukidnon (Region X), Philippines, to provide context-specific insights for local educational improvement.

Research Respondents and Sampling

The respondents of this study consist of public secondary school TLE teachers in selected districts in the Division of Bukidnon during the School Year 2025–2026. Respondents were selected using total enumeration sampling (census), in which every TLE teacher in the identified districts was included as a respondent to ensure complete coverage and accurate representation of the population.

Research Instruments

In obtaining the needed data, structured, adapted questionnaires were used and distributed to respondents. The authors' consent to use the questionnaire was requested, and pilot testing was conducted to ensure the instrument's reliability. The questionnaire comprises 3 parts: Organizational Support, Teaching Effectiveness, and Teachers' Technical Competence. Part I measured Organizational Support using three sub-variables (curriculum management, professional development, partnerships and linkages), adapted from the study of Cezar (2024), with a Cronbach alpha of 0.94. Part II focused on four dimensions of teaching effectiveness: Knowledge of the Subject Matter, Classroom Management, Instructional Delivery, and Assessment Strategies, adapted from the study of Capili (2024), with a Cronbach alpha of 0.96. Lastly, part III examined technical competence in four specialized areas: information and communication technology, agriculture, fisheries and aquaculture, family and consumer science, and industrial arts, and was researcher-constructed primarily based on the DepEd TLE Curriculum Guide with a Cronbach alpha 0.95.

Data Analysis

Data Analysis Means were used to describe levels of organizational support received, teaching effectiveness perceived and technical competence of teachers. Pearson Product-Moment Correlation was applied to determine the strength of relationships, and Multiple Regression was used to identify the best predictor of technical competence.

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RESULTS AND DISCUSSION

After gathering the data, it is being analyzed using SPSS to find the total mean score, Pearson Product-Moment Correlation (r) and regression analysis results.

TABLE 1: Summary Table on the Level of Organizational Support Received by TLE Teachers

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Professional Development	4.24	Agree	High
Partnerships and Linkages	4.24	Agree	High
Curriculum Management	4.00	Agree	High
Overall mean	4.18	Agree	High

Legend:

Rating	Scale	Descriptive Rating	Qualitative Interpretation
5	4.51-5.00	Strongly Agree	Very high organizational support
4	3.51-4.50	Agree	High organizational support
3	2.51-3.50	Neutral	Average organizational support
2	1.51-2.50	Disagree	Low organizational support
1	1.00-1.50	Strongly Disagree	Very low organizational support

Both professional development and partnerships/linkages had the highest means of 4.24, which implies that they are important in promoting skill enhancement, external collaborations, and access to TESDA-aligned resources. The TLE teachers perceived a high level of organizational support with an overall mean of 4.18, interpreted as "Agree/High". Curriculum management closely followed with a mean of 4.00, implying strong administrative support for instructional alignment. It implies that educators value integrated support systems that promote development and connectedness over discrete initiatives.

The findings underscore the significance of long-term organizational strategies that include curriculum supervision, professional training, and linkages to support TLE delivery. Furthermore, administrators should prioritize partnerships and development when allocating resources to improve support. Other studies have also found high perceived support to be associated with higher motivation and performance, owing to its positive effects on teacher engagement and efficacy (Göksel et al., 2017; Ahmed et al., 2018).

TABLE 2: Summary Table on the Level of Teaching Effectiveness perceived by TLE teachers

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Classroom Management	4.64	Always	Very High
Instructional Delivery	4.64	Always	Very High
Assessment Strategies	4.60	Always	Very High
Knowledge of the subject matter	4.57	Always	Very High
Overall mean	4.61	Always	Very High

Legend:

Rating	Scale	Descriptive Rating	Qualitative Interpretation
5	4.51-5.00	Always	Very high teaching effectiveness
4	3.51-4.50	Usually	High teaching effectiveness
3	2.51-3.50	Sometimes	Average teaching effectiveness
2	1.51-2.50	Seldom	Low teaching effectiveness
1	1.00-1.50	Never	Very low teaching effectiveness

The TLE teachers have a very high degree of teaching effectiveness with an overall mean of 4.61, which is interpreted as "Always/Very High". The highest means of 4.64 were both classroom management and instructional delivery, which manifested their extraordinary ability to maintain orderly learning environments

and effectively deliver practical TLE content. The proximity of the two constructs, assessment strategies with a mean of 4.60 and subject-matter knowledge with a mean of 4.57, showed strong TESDA-aligned evaluation procedures and topic mastery. It means that teachers are always using inclusive teaching strategies in all subjects.

This study's results underscore the importance of teaching excellence in delivering TLE, particularly in the form of effective classroom management and helpful teaching strategies. Administrators should build upon these attributes to improve the depth of subject matter. Research on effective teaching in vocational education reveals the link between high teaching effectiveness and improved technical competence and students' outcomes (Darling-Hammond et al., 2017; Salvador, 2025).

TABLE 3: Summary Table on the Level of Technical Competence of Teachers

Indicators	**Mean**	**Descriptive Rating**	**Qualitative Interpretation**
Information and Communication Technology	4.41	Usually	High
Family and Consumer Science	4.37	Usually	High
Agriculture, Fisheries and Aquaculture	4.14	Usually	High
Industrial Arts	4.14	Usually	High
Overall mean	4.26	Usually	High

Legend:

Rating	**Scale**	**Descriptive Rating**	**Qualitative Interpretation**
5	4.51-5.00	Always	Very high Technical Competence
4	3.51-4.50	Usually	High Technica Competence
3	2.51-3.50	Sometimes	Moderate Technical Competence
2	1.51-2.50	Seldom	Low Technical Competence
1	1.00-1.50	Never	Very low Technical Competence

TLE teachers revealed a high level of technical competence in all four strands with an average mean of 4.26, which is interpreted as "Usually/High". Of the aspects, Information and Communication Technology has the highest mean of 4.41, which shows strong proficiency in the use of digital tools and ICT applications that are necessary in the teaching of TLE in the contemporary world. Family and Consumer Science was close behind at 4.37. Agriculture, Fisheries and Aquaculture and Industrial Arts all scored 4.14, which indicates a continued proficiency in practical hands-on vocational areas in spite of the resource limitations typical of rural areas.

The findings reveal the high level of preparedness of TLE teachers in delivering technical instruction that is in line with TESDA, particularly the technology-driven strands. Schools should focus on professional development with equipment and practical instruction to improve practical areas with lower scores. Studies that relate teacher skill mastery to students' employability and industry readiness show that high technical proficiency improves successful vocational education outcomes (Reyes et al., 2025; Salvador, 2025).

TABLE 4: Correlation Analysis on Instructional Competence of Teachers

	r-value	**Probability**
Organizational Support	.437	.000**
Curriculum Management	.243	.000**
Professional Development	.350	.000**
Partnerships and Linkages	.361	.000**
Teaching Effectiveness	.600	.000**
Knowledge of the subject matter	.535	.000**
Classroom Management	.467	.000**
Instructional Delivery	.590	.000**
Assessment Strategies	.584	.000**

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

The findings indicated that the technical competence of TLE teachers was significantly and positively related to instructional effectiveness (r =.600, p <.001) and organizational support (r =.437, p <.001). Teachers with excellent instructional skills also consistently demonstrate higher technical competency across TLE strands, as evidenced by the significant positive association between teaching effectiveness. Instructional delivery (r =.590) and evaluation strategies (r =.584) had the strongest relationships, highlighting their importance in promoting the development of practical technical skills.

Organizational support is somewhat more positively correlated with partnerships/linkages (r =.361) and professional development (r =.350) than with curriculum management (r =.243). These findings suggest that external partnerships and training opportunities are very helpful in enhancing technical competence, but the main driver is educational excellence, particularly efficient execution and evaluation. It is in line with research indicating that targeted support networks and instructional proficiency are strong predictors of vocational teacher success (Darling-Hammond et al., 2017; Eisenberger et al., 1986).

TABLE 5: Regression Analysis on Instructional Competence of Teachers

Variable	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	-1.727	.419		-4.126	.000
Assessment Strategies	.473	.136	.335	3.487	.000
Instructional Delivery	.330	.143	.222	2.299	.022
Professional Development	.265	.061	.221	4.353	.000
Partnerships and Linkages	.165	.072	.120	2.290	.023
Curriculum Management	.114	.052	.110	2.178	.030
R = 0.689e	R2 = 0.474	F-value = 43.151		Probability = .000f	

The R2 of the regression model is 0.474, indicating that the five variables combined explain about 47.4% of the variance in technical ability. The model was statistically significant, F-value = 43.151, p = .000, suggesting that the set of predictors significantly predicts technical competence at the 0.000 level. Assessment strategies (β =.335, B =.473, p <.000), instructional delivery (β =.222, B =.330, p =.022), professional development (β =.221, B =.265, p <.000), partnerships/linkages (β =.120, B =.165, p =.023), and curriculum management (β =.110, B =.114, p =.030) were significant predictors of TLE teachers' technical competency.

Assessment strategies were the best predictor, followed by professional development and instructional delivery. It implies that the most effective technical knowledge was due to the TESDA- aligned evaluation procedures and practical teaching techniques. Organizational support elements such as collaborations, professional development and curriculum management all have a positive impact, even though they have less impact. Regression equation is $Y = -1.727 + 0.473X_1 + 0.330X_2 + 0.265X_3 + 0.165X_4 + 0.114X_5$ where; (Y = technical competence, X_1 = Assessment strategies, X_2 = Instructional delivery, X_3 = Curriculum Management, X_4 = Professional development, and X_5 = Partnerships and linkages).

These findings suggest that instructional coaching, assessment training and long-term professional development partnerships should be a priority for schools. The dominance of instructional success characteristics over organizational support (Dela Rosa & Cadiente, 2022; Albido, 2023) is reflected in the vocational education research's emphasis on practical skill display and evaluation as major competence drivers.

CONCLUSION

Based on the findings, the study concludes that TLE teachers in Bukidnon show strong organizational support with linkages/partnerships, professional development, and curriculum management, but there is room for more formal training to increase capacity. They consistently apply competency-based practical techniques that connect theory and workplace skills across all TLE strands, demonstrating extremely high teaching effectiveness in subject matter knowledge, classroom management, instructional delivery and assessment strategies.

Equipment troubleshooting highlights areas for improvement. Teachers have strong technical skills in ICT, agriculture/fisheries/aquaculture, family/consumer sciences and industrial arts, with particular strengths in

multimedia applications and safety regulations. There is a strong positive correlation between technical competence, organizational support and teaching effectiveness. Regression analysis shows that assessment strategies, instructional delivery, professional development, partnerships/linkages and curriculum management are significant predictors.

The findings show that teaching excellence, particularly assessment and hands-on delivery, is the main motivation for technical proficiency, accentuated by organizational support systems, to maximize TLE teacher performance and student vocational readiness. It provides an empirical basis for strategic professional development focusing on instructional coaching, TESDA-aligned evaluation training, and strategic partnerships.

RECOMMENDATION

For TLE Teachers: Utilize extremely high teaching effectiveness through continuous improvement of instructional delivery and assessment techniques for technical competence. Strengths in the use of multimedia tools, food preparation evaluation, pest control and workshop safety are maintained while identified deficiencies in equipment troubleshooting (ICT, Industrial Arts) are targeted through self-directed learning, online tutorials and peer mentoring. Keep participating in community collaborations and trainings occurring at schools to maintain organizational support.

For school administrators: Improve curriculum management by increasing external seminars and developing strong formal training programs, building on existing strong professional development and collaborations. Use community connections (Parent Teacher Associations, other organizations) to support targeted professional development for advanced technical skills and equipment maintenance. Maintain very high levels of achievement through ongoing evaluation of the quality of teaching, particularly in relation to assessment and practical teaching.

For Policymakers: Institutionalize specialized technical training modules to complement existing high levels of competency to fill gaps in machinery operation, network configuration, animal husbandry and equipment maintenance. Identify sources of financing for innovative curriculum programs and improved external seminars. “Develop policy frameworks that will strengthen the relationship among DepEd-TESDA-local government-industry so that we can provide updated curriculum guides, practical learning tools and long-term professional development routes.

Future Researchers: Study the impact of technical competence on students’ preparedness for the workforce based on industry employer input and outcome achievements. Investigate the moderating effects of school resources and teacher experience. Longitudinal study to follow the long-term impact of organizational assistance on the skill development of TLE instructors and comparative divisional studies to determine scalable best practices.

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