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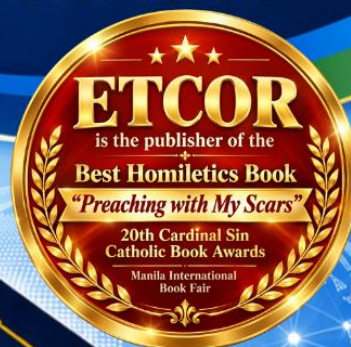
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Professional competency of Technical-Vocational-Livelihood teachers in suburban senior high schools: Perspectives of teachers and school heads

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Abstract

Aim: This study aimed to evaluate the professional competency profiles of Technical-Vocational-Livelihood (TVL) teachers in suburban senior high schools by examining competency assessments obtained from TVL teachers and school heads across six competency domains and determining how demographic and professional variables influence these competencies.

Methodology: The study employed a quantitative descriptive-comparative research design involving 39 TVL teachers and 8 school heads from eight public secondary schools. Using complete enumeration of the eligible TVL teachers, data were gathered through validated parallel assessment instruments based on the National Competency-Based Teacher Standards (Department of Education, 2009). Frequency counts, weighted means, t-tests, and One-Way ANOVA were used to assess competency levels and determine significant differences across demographic and professional profiles.

Results: The findings showed that TVL teachers demonstrated high level competency overall, particularly in teaching techniques, student motivation, and instructional improvisation. However, competency was lower in domain-specific technical areas, including Industrial Arts and Agriculture and Fishery Arts, as well as in the application of statistical techniques for data analysis. Significant differences in competency were found according to sex, civil status, undergraduate degree, specialization, and years of teaching TVL, whereas no significant differences were observed according to age, plantilla position, and teaching assignment. The findings also suggested a competency-anchor pattern in which teachers' pedagogical expertise remained relatively stable despite assignments outside their formal areas of specialization.

Conclusion: Based on the identified competency areas with relatively lower ratings, targeted domain-specific training, mentorship initiatives, and Professional Learning Communities may be considered as potential strategies for future professional development. The effectiveness of these interventions was not evaluated in the present study.

Keywords: Technical-Vocational-Livelihood (TVL) education; teacher competency; vocational educators; teacher self-efficacy; professional development

INTRODUCTION

Education serves as the cornerstone of social equity and national progress, functioning as a primary driver of sustainable human development. Globally, the United Nations Sustainable Development Goal 4 (SDG 4) mandates the provision of inclusive, equitable, and quality education, asserting that cultural diversity and localized contexts act as catalysts for meaningful pedagogical engagement rather than impediments (Corbett & Guilherme, 2021). However, vocational education systems worldwide face a persistent structural challenge: how vocational educators can simultaneously maintain dynamic pedagogical expertise, data-informed instruction, and the specialized technical and industry-aligned competencies demanded by rapidly changing occupations (UNESCO-UNEVOC, 2024). Operating at the

complex intersection of formal education, occupational practice, digital transformation, and industry standards, modern vocational teachers are central to bridging the gap between theoretical schooling and workforce readiness. This international crisis in teacher recruitment, training, and competency development magnified by projected global teacher shortages underscores that vocational educator quality is not merely a local concern, but a critical international imperative.

Within contemporary literature, the professional identity of the educator has transcended traditional instructional delivery, evolving into a multifaceted role characterized by instructional leadership, student mentorship, technology-enhanced vocational instruction, and a commitment to systemic organizational improvement (Galdames-Calderón, 2023). Driven by the rapid evolution toward Industry 4.0 and 5.0, competency-based education requires educators to master work-based learning models, assessment literacy, and digital tools. Recent research on educators in competency-based educational settings likewise emphasizes the importance of assessing teachers' professional competencies and identifying professional development needs to support effective implementation of competency-oriented education (Jacob et al., 2026). Despite these demands, a profound gap often persists between systemic mandates and classroom realities, with vocational programs frequently contending with structural undervaluation and fragmented professional development frameworks (Naelgas & Maloniso, 2022). While global literature consistently affirms the importance of teacher quality to educational outcomes, empirical research concerning the professional trajectory, digital competence, and multifaceted competency development of Technical-Vocational-Livelihood (TVL) practitioners remains sparse.

In the Philippines, the enactment of the Enhanced Basic Education Act of 2013 (Republic Act No. 10533) initiated a paradigm shift in the national curriculum, repositioning TVL from a supplemental subject to a vital vehicle for socioeconomic development. This legislative foundation has continuously evolved; recent Department of Education curriculum reviews have streamlined Senior High School frameworks to expand opportunities for work immersion and industry-relevant preparation, while strategic initiatives by the Technical Education and Skills Development Authority (TESDA) such as free national certification assessments for graduating TVL students directly link school-based competencies to workforce readiness. Consequently, Philippine TVL educators operate within a demanding professional environment that requires mastery of specialized content, adherence to curricular standards, and the technical expertise needed to prepare students for industry-recognized National Certificates (Basal, 2022).

Locally, these national imperatives manifest acutely within the suburban senior high school context of Kalibo, Aklan. Characterized by distinct resource constraints, localized community-industry linkages, and a reliance on secondary institutions where teaching assignments frequently stretch across diverse vocational specializations, these suburban schools offer a vital lens for examining systemic educational challenges. In settings like Linabuan National High School, Aklan National High School for Arts and Trades, and surrounding public institutions, TVL teachers navigate unique operational hurdles where administrative support and localized resource availability are associated with variations in instructional delivery. Examining this suburban landscape is essential, as the interplay between institutional constraints and teacher preparation directly shapes the efficacy of vocational training programs at the grassroots level.

Notwithstanding these structural reforms, a critical research void exists in the literature. While prior investigations have separately examined teacher competency, school leadership, professional performance, and demographic factors, they have largely treated these dimensions in isolation. Specifically, there is a lack of empirical work examining competency assessments reported by TVL teachers and school administrators across core competency domains, including curriculum mastery, technological integration, data-informed instruction, and community engagement.

To address this gap, the present study departs from generic, one-size-fits-all professional development models by introducing a robust, multi-perspective, competency-based diagnostic approach. By utilizing teacher and school-head assessment instruments across six distinct competency domains within a suburban Philippine TVL framework, this study answers the call for evidence-based diagnostics. Ultimately, this research aims to provide actionable insights for educational leadership, curriculum developers, and teacher education institutions, ensuring that professional development interventions are systematically targeted to elevate vocational instruction and foster sustainable human development.

Review of Related Literature and Studies

The professional competency of Technical-Vocational-Livelihood (TVL) educators is a multi-dimensional construct shaped by the intersection of global vocational demands, specialized technical-pedagogical requirements, institutional leadership, and individual demographic profiles. Modern vocational and technical education systems worldwide are undergoing rapid transformation driven by evolving labor-market demands, technological disruptions,

and the imperative for sustainable economic development. Contemporary literature underscores that vocational programs can no longer rely on static, classroom-bound instruction; rather, they demand deep industry placement, robust work-based learning models, and flexible curricula capable of adapting to shifting occupational competencies (UNESCO-UNEVOC, 2024). Recent research in technical-vocational education has also identified equipment mismatch as a challenge associated with competency development and national competency performance, highlighting the importance of alignment between the resources available in vocational settings and the competencies expected of learners and educators (Ong & Dumalig, 2026). As industries transition toward advanced digital and automated frameworks, vocational education functions as a primary driver of youth employability and national productivity, requiring educators who can seamlessly bridge theoretical schooling with authentic workplace standards. Unlike general academic teachers, vocational educators operate within an exacting dual role that mandates both advanced pedagogical skill and specialized occupational expertise. The professional competence of TVL teachers encompasses technical proficiency, practical industry experience, and competency-based instruction (Basal, 2022). Scholars emphasize that vocational teacher competence extends beyond curriculum delivery to include the mastery of specialized trade skills, safety protocols, and modern technological tools, representing a persistent global challenge where teachers must continuously update their technical know-how to match rapidly changing workplace standards while retaining high pedagogical efficacy.

Grounded in social cognitive theory, teacher self-efficacy, an individual's belief in their capability to execute the courses of action necessary to accomplish specific teaching tasks plays a foundational role in professional performance. High teacher self-efficacy is consistently correlated with instructional resilience, openness to innovative teaching strategies, and enhanced student outcomes. In the context of vocational instruction, self-perceived competence is associated with teachers' confidence in delivering practical lessons, managing specialized equipment, and fostering student skill acquisition. Understanding these internal psychological drivers is essential for examining how teachers perceive their own professional strengths and limitations. Effective educational leadership and performance evaluation processes are also important factors influencing instructional improvement. Recent literature highlights the importance of obtaining sufficient assessment information to support a comprehensive understanding of teacher capability. The "Leadership-Performance Nexus Theory" introduced by Bingat and Herrera (2025) identifies a significant positive relationship between school head management practices and teaching effectiveness, noting that administrative monitoring and supportive leadership is significantly associated with classroom execution.

Furthermore, the professional competency of teachers is inextricably linked to the quality of school leadership and institutional support systems. Expanding beyond traditional administrative oversight, contemporary research emphasizes distributed leadership, teacher leadership, and the establishment of professional learning communities (PLCs) (Galdames-Calderón, 2023). Research examining teacher readiness, practices, and competencies in Philippine secondary-school settings likewise underscores the importance of examining teacher capability in relation to the demands of specific educational programs (Perlas, 2026). When school heads actively foster supportive working environments, provide structured mentoring and coaching, and manage resources effectively, they provide favorable conditions for teacher development. For vocational teachers who often face unique resource constraints, organizational support and targeted mentoring may be important for sustaining instructional innovation and professional confidence. As modern education embraces digitalization, data-informed instruction and technological competence have also become core pillars of teacher quality. Contemporary vocational classrooms increasingly utilize digital platforms, computer-aided design, and data-analytics tools to track student progress and optimize instruction. However, empirical studies frequently highlight gaps in educators' statistical and data-analysis competencies. Integrating digital and data literacy into vocational teacher evaluation ensures that educators are equipped not only to impart manual and technical trades but also to interpret assessment data and leverage technology-enhanced instructional methods effectively.

Teacher competency may vary according to demographic and professional background variables. Research indicates that personal and professional factors such as years of teaching experience, educational attainment, specialized pre-service training, teaching assignments, and professional rank may be associated with an educator's adaptability and confidence (Abou Hashish et al., 2025; Bacus et al., 2024). In vocational education, a critical factor is the alignment between a teacher's specialized pre-service training and actual teaching assignments, as mismatches may create instructional challenges. Recent research on teachers assigned beyond their areas of specialization further highlights teacher adaptation as an important consideration in examining instructional practice across different teaching assignments (Ochoa, 2026). Examining these demographic and professional variables provides more granular insights into how professional competence may vary across diverse school settings. Locally, the Philippine vocational landscape has evolved significantly following the enactment of the Enhanced Basic Education Act of 2013 (Republic Act No. 10533), which institutionalized the Senior High School TVL track. Recent national policy developments have further

reinforced this framework; the Department of Education has streamlined the curriculum to expand work immersion and industry-relevant preparation, while the Technical Education and Skills Development Authority (TESDA) has implemented initiatives such as providing free national certification assessments for graduating TVL students to directly link school-based competencies to workforce readiness. Despite these progressive reforms, empirical studies (e.g., Naelgas & Maloniso, 2022) note that TVL programs in public secondary institutions continue to grapple with structural challenges, resource limitations, and fragmented professional development opportunities, particularly within suburban educational settings like those in Kalibo, Aklan.

Ultimately, the reviewed literature establishes that the professional competency of TVL educators is a complex, multi-dimensional construct driven by the interplay between global vocational standards, specialized technical-pedagogical demands, institutional leadership, digital literacy, and individual demographic characteristics. While existing literature has extensively examined teacher competency, school leadership, professional development, and demographic factors independently, limited research has simultaneously investigated TVL teachers' self-assessed competency and school-head evaluations across multiple core domains within a suburban Philippine senior high school context. This study addresses this critical gap by providing a comprehensive, multi-perspective evaluation designed to inform targeted professional development and elevate vocational instruction.

Theoretical Framework

The theoretical architecture of this study is anchored in the integration of the Dreyfus Model of Skill Acquisition (Dreyfus, 2004) and Albert Bandura's Self-Efficacy Theory (Bandura, 1977), providing a robust lens through which to analyze the professional trajectory and developmental competence of vocational educators.

The Dreyfus Model posits that the acquisition and development of professional competence occur across five progressive stages: Novice, Advanced Beginner, Competent, Proficient, and Expert. This model offers a developmental framework to interpret how background characteristics, such as years of service and professional rank, relate to the competency levels of Technical-Vocational-Livelihood (TVL) teachers. However, it is essential to recognize that experience alone does not automatically equate to expertise; rather, professional growth requires deliberate practice, critical reflection, and ongoing adaptation to changing technological and pedagogical demands.

Complementing this developmental perspective, Bandura's Self-Efficacy Theory addresses the psychological dimension of professional performance. A critical theoretical distinction must be maintained between actual competence—what an educator is technically and pedagogically equipped to demonstrate—and self-efficacy, which refers to the teacher's subjective belief in their capability to execute specific teaching and technical tasks. While self-efficacy significantly shapes instructional resilience, motivation, and the willingness to adopt innovative practices, self-assessments provide information regarding teachers' perceived capability in performing specific teaching and technical tasks.

By synthesizing these two frameworks, the study establishes a powerful explanatory mechanism: the Dreyfus Model answers how professional expertise and operational competence develop along a continuum, while Bandura's theory explains how perceived self-belief influences professional behavior, self-evaluation, and performance. Together, this dual-theoretical approach provides a foundation for examining competency assessment data collected across multiple core domains. This framework provides a rigorous foundation for identifying specific competency gaps and informing targeted professional development within suburban senior high school contexts.

Conceptual Framework

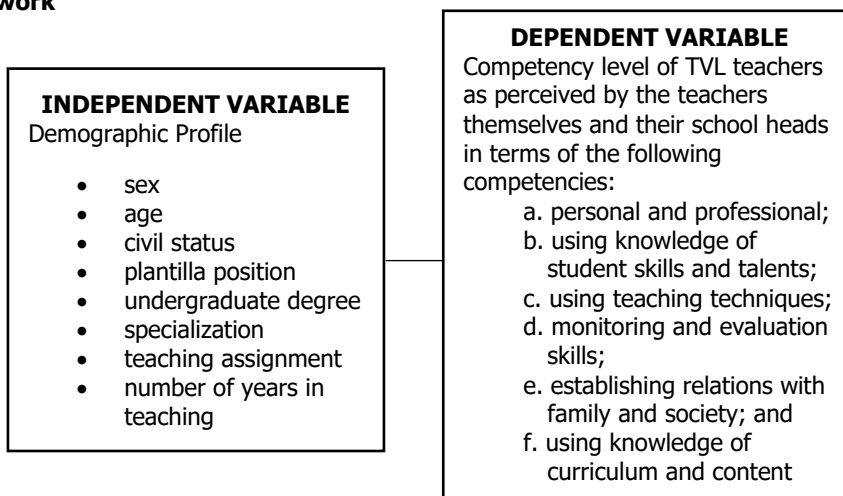


Figure 1. Research Paradigm

The application of the independent variable–dependent variable (IV–DV) model serves as the analytical backbone of this research, providing a structured framework for both statistical inquiry and the interpretation of findings. Within this paradigm, the independent variables encompass the teachers' demographic and professional profiles—specifically sex, age, civil status, highest educational or undergraduate degree, official government-authorized teaching position/rank (plantilla position), area of specialization, teaching assignment, and years teaching Technical-Vocational-Livelihood (TVL) courses. Data were obtained through teacher self-assessment instruments and school-head assessment instruments that measured the same competency domains. Furthermore, the dependent variables comprise the professional competency levels measured across six core domains: personal and professional competence, student talent utilization, teaching techniques, monitoring and evaluation, community relations, and curriculum/content mastery.

By categorizing teacher profiles as independent variables and competency levels as dependent variables, this framework establishes a descriptive analysis of teacher demographic and professional profiles and their measured competency levels. This ensures internal consistency by directly connecting the research questions to the statistical data analysis plan, where independent variables served as grouping variables and dependent variables provide the measurable outcomes. Through the application of descriptive statistics, independent samples t-tests, and analysis of variance (ANOVA), the framework guides the research in identifying which demographic or professional factors are significantly associated with or differed according to pedagogical proficiency. Ultimately, this paradigm facilitates a rigorous examination of instructional performance, identify competency areas and demographic subgroups that may benefit from further professional development initiatives.

Statement of the Problem

Technical-Vocational-Livelihood (TVL) education plays an important role in preparing senior high school learners for further education, employment, entrepreneurship, and industry-related occupations. The quality of TVL education depends substantially on teachers' professional competency, including their pedagogical skills, technical knowledge, assessment practices, and curriculum mastery to establish meaningful connections with learners, families, communities, and other stakeholders. Despite the strategic importance of TVL in the Philippine basic education system, there remains a need for empirical evidence concerning the competency profiles of TVL teachers, particularly in suburban senior high school settings.

A further concern is the need for additional empirical evidence regarding teacher competency across multiple professional domains. Teacher self-assessment instruments and school-head assessment instruments generate competency-related information across the identified domains based on supervisory observation and professional assessment. Examining competency assessment data across multiple domains may provide a broader basis for identifying areas of professional strength and areas requiring further development. In addition, demographic and

professional characteristics, including sex, age, civil status, educational background, plantilla position, specialization, teaching assignment, and years of teaching TVL, may be associated with differences in competency levels.

However, limited empirical evidence is available concerning the competency levels of TVL teachers as assessed through teacher and school-head assessment instruments across multiple professional domains within the suburban senior high school context. Addressing this gap may provide evidence that can inform targeted professional development, mentoring, instructional support, and school-level strategies for strengthening TVL teaching practice. Thus, this study sought to assess the professional competency levels of TVL teachers and determine whether these levels differ according to their demographic and professional profiles.

General Objective

The study aimed to evaluate the professional competency levels of Technical-Vocational-Livelihood (TVL) teachers in suburban senior high schools based on teachers' self-assessments and school heads' evaluations and to determine whether competency levels differ according to selected demographic and professional characteristics.

Specific Objectives

Specifically, the study aimed:

1. To describe the demographic and professional profile of TVL teachers in terms of:
 - a. sex;
 - b. age;
 - c. civil status;
 - d. educational attainment or undergraduate degree;
 - e. plantilla position;
 - f. area of specialization;
 - g. actual teaching assignment; and
 - h. number of years teaching TVL.
2. To assess the competency levels of TVL teachers using teacher and school-head assessment instruments across the following domains:
 - a. personal and professional qualities;
 - b. knowledge and utilization of student skills and talents;
 - c. teaching techniques;
 - d. monitoring and evaluation;
 - e. family and community relations; and
 - f. curriculum and content mastery.
3. To determine whether significant differences exist in the competency levels of TVL teachers when grouped according to their demographic and professional profiles.

Research Questions

Specifically, the study sought to answer the following questions:

1. What is the demographic and professional profile of the TVL teachers in the suburban senior high schools in terms of:
 - a. sex;
 - b. age;
 - c. civil status;
 - d. educational attainment or undergraduate degree;
 - e. plantilla position;
 - f. area of specialization;
 - g. actual teaching assignment; and
 - h. number of years teaching TVL?
2. What is the competency level of the TVL teachers based on assessment data collected through teacher and school-head assessment instruments across the following domains:
 - a. personal and professional qualities;
 - b. knowledge and utilization of student skills and talents;
 - c. teaching techniques;
 - d. monitoring and evaluation;

- e. family and community relations; and
- f. curriculum and content mastery?
3. Is there a significant difference in the competency levels of TVL teachers when they are grouped according to their demographic and professional profiles?

Hypothesis

At the 0.05 level of significance, the following null hypothesis was tested:
H₀: There is no significant difference in the competency levels of TVL teachers when they are grouped according to their demographic and professional profiles.

METHODOLOGY

Research Design

This study employed a quantitative descriptive-comparative research design. The descriptive component was used to determine the demographic and professional profiles of Technical-Vocational-Livelihood (TVL) teachers and to assess their competency levels across six professional domains. The comparative component was used to determine whether significant differences existed in teachers' competency levels when they were grouped according to selected demographic and professional characteristics. The design was appropriate because the study collected quantitative ratings and used descriptive and inferential statistical procedures to address the research questions.

Population and Sampling

The study involved 39 senior high school TVL teachers from eight public secondary schools in the suburban districts of Kalibo. The participating schools were selected based on the study's inclusion criteria, after which complete enumeration was used to include all eligible TVL teachers within the selected schools. The teacher participants comprised 15 males and 24 females.

Eight school heads or immediate supervisors from the participating schools also served as evaluators of the TVL teachers. Each school head evaluated the eligible TVL teachers under his or her supervision using the parallel assessment instrument. The supervisory ratings provided assessment data regarding the teachers demonstrated professional competencies.

Research Instruments

The study utilized researcher-developed assessment instruments designed for Technical-Vocational-Livelihood (TVL) teachers and their respective school heads. The instrument was derived from selected competency indicators under the National Competency-Based Teacher Standards (NCBTS) (Department of Education, 2009) and were modified to align specifically with the technical and professional competencies required by the TVL curriculum. The teacher and school-head instruments used parallel items to obtain assessments of the identified competency domains from the respective respondent groups. Part I gathered the respondents' demographic and professional profile, including age, sex, civil status, highest educational attainment, plantilla position, area of specialization, teaching assignment, and years of experience teaching TVL. Part II evaluated teacher performance across six core domains: personal and professional qualities, knowledge and utilization of student skills and talents, teaching techniques, monitoring and evaluation, family and community relations, and curriculum and content mastery.

To establish content validity, the draft instrument was reviewed by a panel of five subject-matter experts comprising three educational specialists and two TVL master teachers. To prevent evaluation bias, these validators were selected from a non-participating school within the Division of Aklan, and their qualitative feedback and suggestions were integrated into the final revision of the tool. The TVL teacher instrument was pilot-tested with 15 teachers who were not included in the main study, yielding an overall Cronbach's alpha coefficient of 0.87 which indicated internal consistency. Conversely, the instrument for school heads was validated through face and content validity by a panel of experts to ensure construct and item clarity. A formal pilot test was omitted for the school heads' instrument due to the limited total population in the study area, thereby preventing potential sample contamination for the main study.

Data Collection Procedure

Before data collection, formal administrative permission was obtained from the Office of the Schools Division Superintendent and the respective school heads of the participating institutions. After approval was secured, the

researcher coordinated with the participating schools and provided the teachers and school heads with information about the purpose and procedures of the study.

Informed consent was obtained from all participants before the administration of the instruments. The researcher administered the teacher and school-head questionnaires according to a standardized procedure. Completed questionnaires were retrieved within the designated data-collection period and checked for completeness before encoding. The responses were coded and encoded into a data file for statistical analysis. Participant identifiers were separated from the research data, and the completed instruments and electronic data were handled in accordance with the approved data-protection procedures.

Treatment of Data

The collected data were analyzed using descriptive and inferential statistics. Frequency counts and percentages were used to describe the demographic and professional profiles of the TVL teachers. Weighted means and standard deviations were used to summarize the competency levels across the six domains.

The independent-samples t-test was used to determine whether significant differences existed between two-category profile variables, while One-Way Analysis of Variance (ANOVA) was used for profile variables with three or more categories. The assumptions underlying the selected inferential procedures were examined before interpretation, where applicable. All inferential tests were evaluated at the 0.05 level of significance.

Table 1

The competency levels were interpreted using the following scale:

Range	Description	Interpretation
4.50–5.00	Excellent	Highest Level
3.50–4.49	Good	High Level
2.50–3.49	Moderate	Medium Level
1.50–2.49	Fair	Low Level
1.00–1.49	Poor	Lowest Level

The Likert scale and interpretation range were adopted from Suwanreang et al. (2026).

Ethical Considerations

The study adhered to applicable ethical principles concerning voluntary participation, informed consent, confidentiality, privacy, and responsible handling of research data. Before participation, each respondent was informed of the purpose of the study, the procedures involved, the intended use of the data, and the voluntary nature of participation. Participants were informed that they could decline or discontinue participation without penalty.

Administrative permission was obtained from the Office of the Schools Division Superintendent and the participating school heads before data collection. Measures were implemented to protect the confidentiality of participant responses and to prevent individual teachers from being identified in the research report. The collected data were de-identified and accessed only for research purposes.

The study also observed the applicable provisions of the Data Privacy Act of 2012 (Republic Act No. 10173, 2012) concerning the collection, processing, storage, and protection of personal information.

RESULTS and DISCUSSION

This section presents and discusses the results of the study based on research questions.

Table 2

Demographic profile of the TVL teachers

Indicators	f n=39	%
Sex		
Male	15	38.46
Female	24	61.54
Age		
26 – 30	5	12.82
31 – 35	13	33.33
36 – 40	9	23.08
41 – 45	8	20.51
46 - 50	4	10.26
Mean = 37.10 years old		
Civil Status		
Single	15	38.46
Married	24	61.54
Plantilla Position		
Teacher I	18	46.15
Teacher II	10	25.64
Teacher III	10	25.64
Master Teacher I	1	2.57
Undergraduate Degree		
Secondary Education	24	61.54
Industrial Education	7	17.95
Industrial Technology	3	7.69
Information Technology	5	12.82
Specialization		
Technical-Vocational-Livelihood (TVL)	24	61.54
Industrial arts/garments technology	10	25.64
Information and communication tech	5	12.82
Teaching assignment*		
Agri-fishery	3	7.69
Industrial Arts	2	5.13
Food and Beverages Services	6	15.38
Housekeeping	7	17.95
Information and communication tech	5	12.82
Bread and pastry production	4	10.26
Dress-making/tailoring	5	12.82
Hairdressing	3	7.69
cookery	4	10.26
Number of years in teaching TVL		
1-5 years and 11 months	7	17.95
6-10 years and 11 months	24	61.54
11-15 years and 11 months	5	12.82
16-20 years	3	7.69
Mean =8.51 years		

The findings indicate that the TVL teacher workforce was primarily composed of educators in the early-to-mid-career stage, with a mean age of 37.10 years and an average of 8.51 years of teaching experience in TVL. Nearly half of the respondents occupied Teacher I positions (46.15%), while only one respondent held a Master Teacher I position (2.57%). These descriptive results suggest that a substantial proportion of the teaching workforce remains in the early stages of formal career progression.

The demographic profile may be considered in relation to literature describing professional growth as a developmental process that evolves across varying levels of expertise over time (Howard et al., 2023). However, the present study did not directly measure professional growth processes, deliberate practice, mentoring, institutional support, preparedness, self-efficacy, or other factors that may influence professional development. Consequently, such factors should not be interpreted as explanations for the observed demographic distribution.

The findings provide a descriptive profile of the participating TVL teachers and may serve as a basis for examining whether demographic and professional characteristics are associated with competency levels in subsequent analyses. The observed distribution of teaching experience and plantilla positions may also be considered in future studies that directly investigate factors related to professional growth, career advancement, and competency development among TVL teachers. Consistent with the literature, professional development approaches such as mentoring, peer coaching, and collaborative learning communities have been discussed as strategies for teacher development (Howard et al., 2023; Xu et al., 2026); however, the present study did not evaluate the effectiveness of these approaches and therefore cannot establish their relationship to the competency levels observed in this study.

Table 3

The present competency level of the TVL teachers as perceived by the teachers and their supervisor in terms of personal and professional competence

Indicators	Mean	Standard Deviation	Interpretation
The teacher demonstrates competence in handling of tools for critical self-assessment.	4.35	0.83	High Level
Participating/contributing to technical conferences and symposia.	4.24	0.69	High Level
Conducting assessments regularly	4.32	0.81	High Level
Applying new technologies, arts, and designs that are attuned to the times and which will find useful in the classroom.	4.26	0.71	High Level
Current trends and demands in the environment and market, particularly in the areas of technology education and training, as well as arts, fashion, home economics, and culture	4.28	0.73	High Level
Acquiring new information and ideas for self-development	3.58	0.59	High Level
Conducting research to improve the learning-teaching process	4.18	0.62	High Level

Knowing all the TVL learning areas such as needed tools, materials, and furniture for use in:

Industrial Arts	3.26	0.55	Medium Level
Home Economics	4.19	0.63	High Level
Computer and Entrepreneurship	3.17	0.52	Medium Level
Agriculture and Fishery Arts	3.19	0.53	Medium Level
Section Mean	3.91	0.66	High Level

The statistical findings demonstrate that TVL teachers maintain a high overall level of personal and professional competence ($M = 3.91$). High performance is consistently reflected across general professional practices, specifically self-assessment ($M = 4.35$), regular assessment implementation ($M = 4.32$), and tracking contemporary market trends ($M = 4.28$).

However, the data reveals variability across specific TVL specialization areas. While teachers demonstrate high competence in Home Economics ($M = 4.19$), their perceived competence drops to a medium level when evaluated on technical tools and materials in Computer and Entrepreneurship ($M = 3.17$), Agriculture and Fishery Arts ($M = 3.19$), and Industrial Arts ($M = 3.26$). The low standard deviations across these medium-level indicators ($SD = 0.52$ to 0.55) reflect a high degree of consensus among respondents regarding this disparity.

These results align with earlier observations by Basal (2022), who reported that TVL educators frequently display uneven competency levels when measured across distinct, non-overlapping technical strands. The descriptive data indicates that while general pedagogical self-evaluation and trend awareness remain strong, specialized technical familiarity differs significantly depending on the specific TVL learning area. Targeted capacity-building interventions focused specifically on Industrial Arts, Agriculture and Fishery Arts, and Computer and Entrepreneurship the observed strand-specific mean differences may be considered in future professional development initiatives.

Table 4

The present competency level of the TVL teachers as perceived by the teachers and their supervisor in terms of competence in using knowledge of student skills and talents

Indicators	Average	Standard Deviation	Interpretation
The teacher demonstrates competence in Measuring and evaluating the talents, skills and interests of students	4.53	0.84	Highest Level
Planning and conducting outdoor activities	4.06	0.79	High Level
Conducting interviews/conferences with the students, previous teachers, and their parents to identify their talents, skills, and interests in the different learning areas of TVL	3.18	0.53	Medium Level
Section Mean	3.92	0.72	High Level

The statistical findings show that TVL teachers demonstrate an overall high level of competence in utilizing knowledge of student skills and talents ($M = 3.92, SD = 0.72$). The highest mean score ($M = 4.53$) reflects that teachers are perceived to perform at the highest level when directly measuring and evaluating student talents, skills, and interests. Additionally, planning and conducting outdoor activities is sustained at a high level ($M = 4.06$).

Conversely, a lower rating was observed in conducting interviews and conferences with students, prior teachers, and parents ($M = 3.18, SD = 0.53$), which registered at a medium level. The relatively low standard deviation

($SD = 0.53$) indicates strong agreement among respondents regarding this lower evaluation relative to the other indicators.

Similar patterns have been noted in previous studies. The framework outlined by Halfon (2026) noted that educator competence often varies between direct classroom assessment methods and broader stakeholder-involved profiling techniques. Based strictly on these statistical results, while direct evaluation and activity implementation are strong, multi-stakeholder conferencing yields a moderate rating. Addressing this specific area through targeted capacity building may be considered in future capacity-building activities across all indicators of learner profiling.

Table 5

The present competency level of the TVL teachers as perceived by the teachers and their supervisor in terms of competence in using teaching techniques

Indicators	Average	Standard Deviation	Interpretation
The teacher demonstrates competence in Utilizing the latest tools and techniques concerning teaching TVL.	4.42	0.81	High Level
Using resource management strategies.	4.24	0.80	High Level
Using technological sources related to teaching-learning (database, online sources, etc.) materials	4.17	0.72	High Level
Motivating students to improve themselves	4.65	0.84	Highest Level
Finding alternative means if the school has no provisions for a laboratory site in the area/school	4.38	0.79	High Level
Developing new ideas, new designs, and skills in doing project-making activities	4.45	0.82	High Level
Improvising tools to supplement the available tools in the school.	4.48	0.83	High Level
Section Mean	4.40	0.80	High Level

The statistical findings demonstrate that TVL teachers maintain a high overall level of competence in applying teaching techniques ($M = 4.40, SD = 0.80$). The highest mean score ($M = 4.65$) highlights that student motivation is perceived at the highest level among the evaluated teaching techniques. High mean scores were also consistently recorded for practical and adaptive instructional techniques, such as tool improvisation ($M = 4.48$), project design development ($M = 4.45$), and finding alternative laboratory solutions ($M = 4.38$).

While all measured indicators fell within the upper interpretation tiers, using technological sources and databases registered the relatively lowest mean ($M = 4.17$). The narrow spread of standard deviations across all indicators ($SD = 0.72$ to 0.84) shows consistent agreement among respondents regarding these high ratings.

These descriptive outcomes reflect patterns noted by Xu et al. (2026), Halfon (2026), and Balancio and Accad (2026), who examined teacher competencies and the use of digital, simulation, and electronic training tools in educational settings. The present findings show that TVL teachers scored high across all surveyed teaching techniques, with scores highest in student motivation and practical tool adaptation, while digital database integration received a comparatively lower, though still high, mean score. This pattern may be considered alongside research emphasizing the role of simulation tools and electronic trainers in developing practical troubleshooting skills (Balancio & Accad, 2026). Strengthening technological source integration may therefore be considered in future professional development initiatives to complement the teachers' already strong practical instructional techniques.

Table 6

The present competency level of the TVL teachers as perceived by the teachers and their supervisor in terms of competence in monitoring and evaluation

Indicators	Average	Standard Deviation	Interpretation
The teacher demonstrates competence in			
Preparing valid and reliable tests	4.48	0.83	High Level
Preparing diversified and alternative testing tools for students.	4.43	0.80	High Level
Using evaluation results to improve the teaching process.	4.58	0.85	Highest Level
Preparing test results in visual form such as tables and graphs.	4.04	0.74	High Level
Selecting and applying the proper statistical technique in data analysis	3.39	0.67	Medium Level
Using computer software and other information and communication technologies in analyzing test results.	4.06	0.73	High Level
Establishing the validity and reliability of testing instruments and tools	3.88	0.72	High Level
Section Mean	4.15	0.76	High Level

The statistical findings indicate that TVL teachers maintain a high overall competency level in monitoring and evaluation ($M = 4.15, SD = 0.76$). The highest mean score ($M = 4.58$) indicates that applying assessment results to instructional improvement is perceived at the highest level. Similarly, test preparation and tool diversification scored consistently high ($M = 4.48$ and $M = 4.43$, respectively).

Conversely, a lower rating was observed in selecting and applying proper statistical techniques in data analysis ($M = 3.39, SD = 0.67$), which registered at a medium level. The narrow standard deviation ($SD = 0.67$) reflects consistent agreement among respondents regarding this lower relative performance.

These empirical results reflect patterns discussed by Corbacho et al. (2021) and Berces (2026), who noted that educator competence metrics often show variations between applied classroom evaluation practices and formal quantitative data processing. Based strictly on the statistical outputs, while TVL teachers score high in utilizing evaluation data for teaching and preparing assessment tools, their perceived competence drops to a medium level when applying specific statistical techniques. Providing educational statistics may be considered an area for professional development on this specific statistical analysis indicator.

Table 7

The Present Competency Level of the TVL Teachers as Perceived by the Teachers and their Supervisor in Terms of Competence in Establishing Relations with Family and Society.

Indicators	Average	Standard Deviation	Interpretation
The teacher demonstrates competence in..			
Organizing meetings and seminars in accordance with the interests and needs of families and students	4.14	0.71	High Level
Inviting professionals from fields such as industry, trade, agriculture, etc., within the same environment to give lectures/talks on lessons related to their professions	3.77	0.66	High Level

Tapping institutions and organizations in the vicinity for educational purposes	4.24	0.73	High Level
Membership/leadership of any non-governmental organizations, society and educational groups, and other technology-related organizations	3.71	0.62	High Level
Section Mean	3.96	0.68	High Level

The statistical findings demonstrate that TVL teachers maintain an overall high level of competence in establishing relations with family and society ($M = 3.96, SD = 0.68$). Stronger performance was reported for institutional tapping ($M = 4.24$) and organizing student/family-oriented meetings ($M = 4.14$).

While all evaluated indicators received a high-level interpretation, inviting industry/trade professionals ($M = 3.77$) and holding memberships or leadership positions in external organizations ($M = 3.71$) yielded relatively lower mean scores within the section. The low standard deviations across these items ($SD = 0.62$ to 0.66) indicate consistent agreement among respondents regarding these relative mean differences.

These descriptive outcomes reflect observations by Halfon (2026), who highlighted that educator competence metrics frequently vary between localized institutional outreach and direct external organizational participation. Based strictly on the empirical data, while TVL teachers score high across all indicators of community and family relations, direct engagement with external industry speakers and formal association leadership yield lower relative means. Institutional initiatives aimed at facilitating professional networking and industry involvement these indicators may be considered in future development initiatives.

Table 8

The Present Competency Level of the TVL Teachers as Perceived by the Teachers and their Supervisor in Terms of Competence in using Knowledge of Curriculum and Content.

Indicators	Average	Standard Deviation	Interpretation
The teacher demonstrates competence in..			
Awareness of the objectives of TVL	4.51	0.84	Highest Level
Awareness of the learning competencies to be developed among the students in each of the following learning areas:			
Industrial Arts	3.32	0.67	Medium Level
Home Economics	4.21	0.79	High Level
Computer and Entrepreneurship	3.62	0.69	High Level
Agriculture and Fishery Arts	3.22	0.66	Medium Level
Section Mean	3.77	0.73	High Level

The statistical findings demonstrate that TVL teachers maintain an overall high level of competence in applying knowledge of curriculum and content ($M = 3.77, SD = 0.73$). The highest mean score ($M = 4.51$) indicates that awareness of overarching TVL objectives is perceived at the highest level among the respondents.

However, mean scores vary when evaluating awareness of competencies across specific TVL learning areas. While teachers demonstrate high content awareness in Home Economics ($M = 4.21$) and Computer and Entrepreneurship ($M = 3.62$), their perceived competency drops to a medium level in Industrial Arts ($M = 3.32$) and

Agriculture and Fishery Arts ($M = 3.22$). The low standard deviations observed across these medium-level indicators ($SD = 0.66$ to 0.67) show consistent agreement among respondents regarding these relative mean differences.

The findings are consistent with findings reported by Basal (2022) and Berces (2026), who noted that educator curriculum knowledge metrics often show variance when comparing general educational goals against specialized cross-strand learning areas. Based strictly on the statistical results, while TVL teachers score high in general curricular objective awareness and Home Economics content, scores are comparatively lower in Agriculture & Fishery Arts and Industrial Arts. Targeted professional development focused specifically on these lower-rated strands may be considered priority areas for future professional development in curriculum content awareness.

Table 9

The difference in the present competency level of TVL teachers according to their demographic profile

Profile	Statistical Test	Competency Level		Decision
		Value	p-value	
Sex	T-test	6.21	0.01*	Reject Ho
Age	F test	1.79	0.27 ^{ns}	Fail to reject Ho
Civil Status	T-test	7.11	0.01*	Reject Ho
Plantilla Position	F-test	1.09	0.43 ^{ns}	Fail to reject Ho
Undergraduate Degree	F test	7.85	0.01*	Reject Ho
Specialization	F test	6.98	0.01*	Reject Ho
Teaching Assignment	F test	0.98	0.59 ^{ns}	Fail to reject Ho
Number of years in teaching TVL	F test	8.02	0.01*	Reject Ho

^{ns} Not significant, *Significant at 0.01 and 0.05

The statistical findings demonstrate that teachers' perceived competency levels differ significantly based on specific demographic variables. Specifically, the rejection of the null hypotheses for sex ($p = 0.01$), civil status ($p = 0.01$), undergraduate degree ($p = 0.01$), specialization ($p = 0.01$), and number of years teaching TVL ($p = 0.01$) confirms that competency ratings are not uniform across these subgroups.

Conversely, the failure to reject the null hypotheses for age ($p = 0.27$), plantilla position ($p = 0.43$), and teaching assignment ($p = 0.59$) indicates that perceived competency levels do not differ significantly based on these factors. The measured scores remained statistically comparable regardless of the teachers' age group, administrative rank/position, or assigned teaching load.

These empirical outcomes align with observations by Basal (2022) and Darling-Hammond et al. (2020), who noted that measured teacher competency levels frequently show significant variance across academic specialization and years of teaching experience, while showing non-significant variance across age and job title.

Conclusions

Based on the research findings and discussions presented, the following conclusions are drawn:

1. TVL teachers were predominantly female and married. The mean age was 37.10 years, and the mean number of years teaching TVL was 8.51 years. Nearly half of the respondents occupied Teacher I positions, while only one respondent held a Master Teacher I position.
2. TVL teachers demonstrated a High Level of personal and professional competence. High ratings were obtained for self-assessment, regular assessment practices, participation in professional activities, and awareness of current trends. Home Economics was rated at a High Level, whereas Industrial Arts and Agriculture and Fishery Arts were rated at a Medium Level. Computer and Entrepreneurship was rated at a High Level.
3. TVL teachers demonstrated a High Level of competence in using knowledge of student skills and talents. The highest rating was obtained in measuring and evaluating students' talents, skills, and interests, while conducting interviews and conferences with students, previous teachers, and parents received a Medium Level rating.
4. TVL teachers demonstrated a High Level of competence in teaching techniques. The highest-rated indicator was motivating students to improve themselves. High ratings were also obtained for improvising tools, developing project designs, and finding alternative laboratory arrangements. The use of technological sources related to teaching and learning received the lowest mean within the domain, although it remained at a High Level.

5. TVL teachers demonstrated a High Level of competency in monitoring and evaluation. The highest-rated indicator was using evaluation results to improve the teaching process. Selecting and applying appropriate statistical techniques in data analysis received a Medium Level rating.
6. TVL teachers demonstrated a High Level of competence in establishing relations with family and society. Higher ratings were obtained for tapping institutions and organizations for educational purposes and organizing student- and family-oriented meetings. Lower ratings within this domain were obtained for inviting industry professionals and participation in organizations, although both remained at a High Level.
7. TVL teachers demonstrated a High Level of competence in curriculum and content knowledge. Awareness of the objectives of Technology and Livelihood Education received the highest rating. Home Economics and Computer and Entrepreneurship were rated at a High Level, whereas Industrial Arts and Agriculture and Fishery Arts were rated at a Medium Level.
8. Statistical analysis indicated significant differences in competency levels according to sex, civil status, undergraduate degree, specialization, and years teaching TVL. No significant differences were found according to age, plantilla position, and teaching assignment.

Recommendations

Based on the findings, the following recommendations are proposed:

1. To address the observed competency gaps in Industrial Arts and Agriculture and Fishery Arts, the Division Office and school heads may implement targeted cross-strand training and facilitate TESDA National Certificates (NC) or National TVET Trainer Certificates (NTTC) for out-of-field TVL teachers.
2. Given the severe promotional bottleneck where nearly half of the population remains at Teacher I, local educational authorities may create career-progression pathways and establish formal peer-coaching networks led by Master Teachers to bridge the gap between competent and expert practice.
3. To address lower ratings in engaging trade experts and professional associations, school administration may establish formal Memoranda of Understanding (MoU) with local trade industries to streamline guest lectures, industry immersion, and facility sharing without overburdening teachers.
4. To address the moderate ratings in statistical analysis, school heads may conduct specialized capacity-building workshops on educational statistics, quantitative data processing, and computerized grading tools.
5. To address the weakness in conducting student-parent-teacher conferences, schools may establish structured profiling protocols and qualitative diagnostic tools at the start of each school year to support the vocational placement process of students.
6. Building on teachers' strong practical resourcefulness, instructional supervisors may provide targeted training on integrating specialized online learning repositories, smart databases, and modern digital tools into daily TVL instruction.

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