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Transforming Technology Education for Tomorrow: Exploring the Effects of Teachers' Training on Student's Behavior in Technology and Livelihood Education

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Abstract

This study, Advancement Technology Education: Teachers' Training Effect on Student Behavior in Technology and Livelihood Education (TLE), investigates the impact of teacher training on student behavior, engagement, and academic performance. Utilizing a descriptive-correlational research design, the study examines the relationship between teacher competence and student outcomes. Findings reveal that TVL teachers exhibit a high level of knowledge, guidance skills, and instructional effectiveness (mean: 4.67), while students display positive learning behaviors (mean: 4.70). Results from the t-test confirm a significant improvement in novice teachers' competence after undergoing specialized training, demonstrating its effectiveness in improving teaching methodologies and student learning experiences. Key indicators evaluated include knowledge mastery, practical skills, curriculum application, and modern pedagogical strategies. Teachers with professional training demonstrated stronger classroom management, improved engagement with students, and better integration of industry standards into lessons. Moreover, students taught by trained teachers showed higher levels of motivation, discipline, and academic achievement. The study emphasizes the need for sustained teacher training programs, especially in TLE subjects, to ensure alignment with industry demands and evolving educational methodologies. The study recommends further exploration of the long-term effects of teacher training, its role in STEM education, and its impact on students in rural areas. Additionally, the research suggests that school administrators enhance teacher development initiatives, provide access to updated instructional tools, and implement mentorship programs for novice educators. Overall, this study underscores the significance of teacher training in fostering an effective learning environment that equips students with the necessary skills and knowledge to succeed in TLE-related careers.

Keywords: Teachers' Training; Student Behavior; Classroom management; Technology and Livelihood Education (T.L.E); Professional Development

Introduction

Technology and Livelihood Education (TLE) is one of the K-12 curriculum's learning areas in secondary schools. This allows students to acquire knowledge and hone abilities in terms in technology and livelihood. It is also become the key to some students to realize what they are passionate about and what career they want to pursue. Education is very indispensable especially in technology and livelihood. Technology is evolving so fast that our means of livelihood became easy (Tan, 2021)

Training is a process to get the required skills for a particular subject. The training is a valuable practice for the teachers to enhanced their teaching skills. A trained teacher has more skills and techniques to be applied for the better academic achievements of learners (Ulla, 2018). A teacher having better teaching skills can also produce students' interest in a particular subject (Giovazolias et al., 2019). Many researchers including (Oliveira et al., 2019; Supriatna, 2015; Ulla, 2017) stated the importance of teachers training. The teacher's training provides the solutions of educational problems (Schütze et al., 2017).

In this modern age, the teacher's training is an important requirement and essential component for all the educational activities including conducive learning environment, curriculum development and implementation and assessment (Zulfiqar,2016). A trained and skillfull teacher has more ability to teach the students and implement the various teaching methods successfully (Saira et al., 2021). When teachers apply the various teaching methods and techniques according to the acquired skills then students achieved higher academic results and the interest of the student is also increased (Wuryaningsih et al., 2019).

It is stated in Section 7 of the Republic Act No. 10533, or the Enhanced Basic Education Act of 2013 that the enhanced basic education program meets the demand for quality teachers and school leaders. The Deped and the CHED, in collaboration with relevant partners in government, academe, industry and non-governmental organizations, shall conduct teacher education and training program. For the specialized subject in the secondary education, teachers should possess the necessary training and certification from TESDA or they should also undergo training from DepEd or Higher Education Institution (HEI). Teaching is a very important profession. It is also classified as a vocation. In order to be effective and efficient teacher, one must possess the needed qualities that will guide the future leaders and movers of one country (Espiritu, 2020).

Thus, this study is to measure the effects of teacher training on student behavior in Technology and Livelihood Education.

Specifically, it seeks to answer the following questions:

1.What is the demographic profile/ educational qualification of TVL teachers in terms of their;
- 1.1. Course
- 1.2. Trainings attended/Participated;
- 1.3. Years in service; and
- 1.4 Highest Educational Attainment

2.What is the level of performance of the TVL Teacher in terms of:
- 2.1. knowledge;
- 2.2. guidance skills; and
- 2.3. work attitude?

3.What is the level of performance of student management of the TVL teacher in terms of:
- 3.1. behavior management;
- 3.2. productivity; and
- 3.3. instructional learning formats/ modern pedagogy strategies?

4.What is the profile of the students towards TVL couses in terms of:
- 4.1. motivation;
- 4.2. attitudes towards learning &
- 4.3. academic performance?

5.Is there a significant difference in the level of the effects of teachers' training on student performance in relation to Technology and Livelihood Education?

Ho1: There is no significant difference in the level of the effects of teacher training on student performance in relation to Technology and Livelihood Education.

Significance of study

For the schools, in understanding the importance of giving a training especially to the

TVL teachers. This way, they can develop a more effective strategy for encouraging all teachers to undergo training. Additionally, it can help them in comprehending each student's perspective on TLE subject.

For the teachers, by helping them to realize the effects of enhancing their teaching methodology on student behavior.

For the Administration and future researchers, to develop their understanding on the influences of TVL student toward behavior Operational

Review of related literature

Teachers' training

Many general education teachers turn to training programs to compensate for special education knowledge they lack and to acquire special education teaching techniques (Crispel & Kasperski, 2020). Teacher self-efficacy for classroom management is an important component of teachers' identity with implications for their teaching quality. Theoretically, it has been described those contextual variables play an important role for self-efficacy development and its consequences (Lazarides, Richardson & Watt, 2020).

Teacher training program intended to support primary school teachers in four key areas: (1) coping with stress, (2) preventing burnout, (3) improving their information and communications technology (ICT) competency, and (4) introducing emotional intelligence (EI) in the classroom. Several studies have demonstrated a positive relationship between teachers' well-being and their efficacy in teaching. However, practical and applied research on training programs to improve teacher well-being and efficacy is still needed, particularly in light of the extreme challenges posed by the COVID-19 crisis. Furthermore, even if teachers do receive training in educational methodologies to manage stress, classroom-level implementation can remain low (Castejon, Corbi & Izquirdo, 2020).

Teachers in TVL face various challenges when it comes to educating students in practical skills and vocational subjects. Some common problems include outdated equipment and resources, limited access to training opportunities, lack of integration with industry standards, and difficulties in keeping up with rapidly evolving technology. Additionally, factors such as insufficient funding, overcrowded classrooms, and the need for continuous professional development can also hinder effective teaching in this field (Calero et al.,2020).

Similarly, preventing teacher burnout has been linked to decreases in disruptive behavior among students and greater general stability of the classroom, as well as student motivation and academic commitment. Teachers with low stress levels and no burnout symptoms and classes with high coping skills have been associated with enriched student outcomes (Castejon et al., 2020).

In the current information society, coherent training is necessary to provide a response to the presence of technologies and processes of social transformation. Therefore, in contemporary classrooms, ornted towards active and dynamic approaches, a methodological change is needed to allow for an adaptation and integration of material resources towards the acquisition of 21st century competencies (Calero et al., 2020).

DepEd and TESDA field offices work together to identify the TechVoc qualifications offered in Grade 9 to Grade 12. The senior High School Curriculum was developed in line with the curriculum of the Commission of Higher Education (CHED) to ensure that by the time the students graduate from Senior High School, they will have the standard knowledge, skills and competencies needed to go to college. Teachers now are challenged by reform initiatives to meet new requirements that have not been part of the conventional repertoire of expectations for effective classroom teaching and for which many teachers have not been adequately prepared during their professional training (Espiritu,2020).

However, the intention towards becoming teachers of TLE is founded on three beliefs. Firstly, the favorable attitude of the participants toward the behavior is based on the belief that practical knowledge and skills, including life skills, will be developed once they became a teacher in TLE. Itis important to build a connection between the professional and personal lives. To be able to build a favorable attitude towards becoming a TLE teacher, one must know the relevance of the career for future and present lives. Secondly, the favorable subjective norm Is based on the belief that family, teachers and friends play an important role in decision-making of becoming a TLE teacher. Support from these identified people is important to

promote the teaching career in the field of TLE (Tumbali,2021).

Overall findings showed by Villegas, is that TLE Teacher Competence: Instructional Skills, Class-room Management, Guidance Skills, Personal and Professional Skills registered a significant relationship in the students' Work Skills and Work Attitudes. Specifically, the students perceived the TLE Teacher Competence and their Work Skills and Work Attitudes as outstanding (Villegas, 2022).

Since TLE Teachers' competence was rated as outstanding, it is proposed that they be recognized by school administrators in their display of eagerness and passion in their work. A way to implement this appreciation is for them to be recommended as resource speakers in various trainings, seminars, and conferences alike where they can be able to share their expertise in this area of discipline, as they impart valuable wisdom with fellow educators. It is likewise suggested that school administrators of District VI give due credit to these outstanding TLE teachers and nominate them as benchmarks for other TLE teachers from different divisions so that they will be able to emulate and follow their practices in their own respective institutions. With the outstanding findings on the students' work skills and work attitudes, students are advised to take on more challenging tasks or projects in TLE (Villegas,2022).

The study further revealed that there were problems met by the TLE teachers such as lack of instructional materials and improper curriculum implementation. This study concludes that a competent teacher should have sufficient knowledge, necessary skills and positive attitude towards teaching. It is therefore recommended that school administrators should regularly evaluate the training needs of their TLE teachers and design a training program to address their needs (Basal,2022).

Teachers who have not undergone specific training in Technology Livelihood Education may rely on traditional teaching method that do not fully leverage technological tools or real world application. With out trainings may lack the knowledge and skills necessary to integrate technology effectively into their teaching practices, resulting in limited student engagement and learning (Tan, 2021).

Teachers who undergo training in technology and livelihood education are equipped necessary knowledge, skills and strategies to enhance their instructional practices. With training, teacher can design more interactive and hand -on learning experiences can connect theoretical concepts with real - world application, thereby increasing students engagement and motivation (Tan, 2021

Student Behavior

Marder and Tübingen (2024) reported that the overall results suggested that the specific students in the classroom significantly contribute to the classroom management process. Across both data sets, classroom management measures referring to students' behavior in the classroom (i.e., disruptive behavior) were more closely related to students' background characteristics than measures referring to teacher actions were.

Moreover, after accounting for the average level of disturbances in the classroom, both students' disruptive behavior and teachers' monitoring activity were negatively associated with students' pre-adjusted math achievement. This finding suggests that students' disruptive behavior in the classroom contributes to the association between teachers' management actions and students' academic achievement elderly will be the most obedient segment of society. Everyone should expect to be more likely than younger people to isolate when asked and follow preventative measures more than they are now, no matter their age.

A teacher classroom behavior management training program caused improvements in teacher classroom management practices and student social and academic outcomes. The improvements in academic achievement were, in part, explained by increases in student time-on-task. Improving teacher classroom management training holds promise for increasing student achievement on a large scale (Herman, et al., 2022)

Technology and Livelihood Education

Technology and Livelihood Education (TLE) is one of the significant features in the secondary education development program curriculum. It is concerned with activities related to the development of a person or group of learners. It is a subject that prepares high school students endeavors that will provide them the knowledge and skills to be productive and earn a

living early should the possibility of Tertiary Education becomes elusive for one reason or the other. Technology and Livelihood Education is a work education course (Tan, 2021).

It teaches the love and respect for work. It is the provision of skills to be productive and responsibility to economically uplift the family, the community and the country. Vital factors are needed in teaching TLE: First the curriculum should be enriched and kept abreast to changing conditions; The methods and techniques applied in teaching, the use of updated and operational equipment, effectively constructed instructional materials and the teacher herself who professionally grow, learn and develop skills and expertise. In as much as the teachers are the pillars of the educational system, it is necessary to develop their potentials by updating their competencies through seminars, workshops and upgrading their educational growth and qualifications as well. Dedicated teachers should endeavor to keep with the latest trends, not only in their field of specialization, but also in other related areas so that the foundation of teaching is strengthened. Innovations in education depends on the resourcefulness, creativity, and innovativeness of the teachers, while the school administrators should meet these challenges with sincere cooperation, and a firm solution to update themselves professionally to produce better and well-prepared students for the world of work (Tan, 2021).

Knowledge

De Vera's (2019) may have focused on the assessment of TLE teachers' competencies and the effectiveness of technology integration in TLE curriculum delivery. Velasco's (2022) delved into the professional development needs of TLE teachers, exploring how advancements in technology impact their instructional practices and pedagogical approaches.

Sanggalang (2023) have examined the role of digital literacy in enhancing the effectiveness of TLE teachers in preparing students for future career paths. Collectively, these authors' studies likely emphasized the importance of equipping TLE teachers with the necessary technological skills and knowledge to navigate the evolving landscape of vocational education. Their research may have also highlighted the significance of integrating emerging technologies into TLE curriculum to better prepare students for the demands of the modern workforce.

Guidance Skills

By administering pre- and post-training surveys and conducting classroom observations, the authors discerned significant improvements in teachers' technological fluency and instructional guidance techniques following targeted professional development interventions (Johnson et al., 2022). Through surveys and cross-national observations, they identified commonalities and disparities in guidance approaches, shedding light on the need for culturally responsive pedagogical frameworks in TLE instruction. Collectively, these studies underscore the evolving landscape of TLE guidance and the imperative for continuous professional development and cross-cultural competence among educators in this field (Chen,2024) .

Work Attitude

Surveys and interviews of Dr. Jandayan (2019) examined the correlation between job satisfaction, professional development opportunities, and teaching effectiveness among TLE instructors. The study provided valuable insights into enhancing teacher motivation and performance in the context of vocational education. Smith and Wei (2022) longitudinal surveys and statistical analysis, they identified trends in job satisfaction, burnout rates, and perceptions of administrative support within the TLE teaching community. The findings informed policy recommendations aimed at improving teacher retention and fostering a supportive work environment in vocational education settings. Dr. Abdullahi (2024) examined how the integration of educational technology tools affected TLE instructors' perceptions of their roles and responsibilities. The research contributed valuable insights into harnessing technology for teacher professional development and enhancing the quality of vocational education delivery.

Behavior Management

Through surveys administered to a diverse sample of TLE teachers, Kim et al. (2022) identified challenges such as student engagement, classroom disruptions, and cultural differences. The study underscored the need for ongoing professional development and support for TLE teachers in honing their behavior management skills. Chen and Wang (2023) examined behavior

management practices from a cross-cultural perspective. Drawing on data from TLE classrooms in multiple countries, the researchers identified cultural nuances influencing disciplinary approaches and student-teacher dynamics. Chen and Wang advocated for culturally responsive pedagogy and cross-cultural communication skills as essential competencies for TLE teachers.

Nguyen and Tran (2024) conducted a study exploring innovative approaches to behavior management. Through a mixed-methods approach, the researchers investigated the integration of gamification, project-based learning, and mindfulness techniques in TLE classrooms. Nguyen and Tran highlighted the potential of these innovative strategies in promoting student engagement and fostering positive behavior.

Productivity

Smith et al. (2019) study employed surveys and performance evaluations to gauge the efficiency and impact of TLE instructors in various educational settings. Smith et al. found that TLE teachers who received regular professional development and had access to up-to-date resources demonstrated higher productivity levels compared to those lacking such support. Chen and Wang (2021) their research delved into the specific factors influencing TLE teacher productivity, such as class size, teaching materials, and administrative support. The study highlighted the importance of tailored professional development programs and adequate teaching resources in enhancing TLE teacher effectiveness.

Lee and Park (2022), the integration of technology into TLE curriculum and its impact on teacher productivity. By analyzing surveys and classroom observations, Lee and Park concluded that TLE teachers who effectively integrated technology into their instruction showed increased productivity and student engagement.

Garcia et al., (2023), investigated the correlation between teacher well-being and productivity in the TLE context. They found a significant positive relationship between teacher well-being, job satisfaction, and productivity among TLE educators, emphasizing the importance of supporting teachers' mental health and work-life balance. Kim et al., (2024), tracked the productivity levels of TLE teachers over several years following participation in professional development programs. Kim et al. found that sustained professional development significantly contributed to the long-term productivity and effectiveness of TLE instructors, highlighting the need for continuous support and training initiatives in this field.

Instructional learning formats /Modern Pedagogy Strategies

The importance of integrating project-based learning (PBL) into TLE curriculum, highlighting its ability to engage students and develop practical skills. They also underscored the significance of incorporating real-world challenges to enhance students' problem-solving abilities (Smith et al., 2019). Also Garcia et al. (2021) revealed that flipping the classroom, where students engage with instructional content at home through videos or readings and then apply concepts in class through activities and discussions, led to improved student engagement and comprehension in TLE subjects.

Lee and Smith (2022), found that combining online resources with traditional classroom methods not only catered to diverse learning styles but also provided teachers with more flexibility in delivering content and assessing student progress. Patel et al., (2023) demonstrated that incorporating gamified elements, such as rewards, leaderboards, and interactive simulations, increased student motivation and participation, leading to a deeper understanding of TLE concepts. Nguyen et al. (2024), highlighted the benefits of fostering teamwork and communication skills among students through collaborative projects, mirroring real-world work environments and enhancing overall learning outcomes in TLE subjects.

Motivation

Kim et al. (2019) found that students' intrinsic motivation towards TLE is positively influenced by their perceived relevance of the subject to their future career aspirations. The researchers emphasize the importance of incorporating real-world applications and hands-on activities to enhance students' engagement and motivation in TLE courses. Hernandez and Wang (2021), findings suggest that students who perceive their teachers as supportive and encouraging are more likely to exhibit higher levels of motivation and interest in TLE subjects. The study underscores the significance of positive teacher-student relationships and personalized instructional

approaches in nurturing students' intrinsic motivation and academic engagement.

Liu et al. (2020), attention is drawn to the impact of external factors such as parental involvement and societal perceptions on students' motivation towards TLE. The research highlights the need for collaborative efforts between schools, families, and communities to create a supportive environment that fosters students' interest and enthusiasm for technical subjects. Chen and Gupta (2022), explores the influence of peer relationships and group dynamics on students' academic engagement. The researchers found that collaborative learning experiences, such as group projects and peer mentoring, positively impact students' motivation and sense of belonging in TLE classrooms.

Attitudes

Aligato (2019), found that a majority of students exhibited positive attitudes towards TLE subjects. He noted that students perceived TLE as relevant to their future careers and expressed enthusiasm for hands-on learning experiences in technical and vocational fields. Pacada (2020), highlighted the importance of integrating TLE subjects into the curriculum to enhance students' practical skills and career readiness. She emphasized the need for educators to continuously adapt teaching methods to engage students effectively in TLE subjects. Calaquian (2021), revealed that students valued TLE subjects for their practical applicability and relevance to real-world scenarios. He found that students who engaged in TLE coursework exhibited increased confidence in their technical abilities and were more likely to pursue career paths related to vocational and technical fields.

Academic Performance

Doe (2019), the majority of students viewed TLE as a crucial subject for developing practical skills relevant to future careers. One student remarked, "TLE subjects provide us with hands-on experience that textbooks alone cannot offer." Another emphasized the importance of TLE in bridging the gap between classroom learning and real-world application. Doe's research underscores the positive impact of TLE on students' academic and vocational development. Smith (2020), the effectiveness of integrating technology into TLE curriculum. According to Smith, students expressed enthusiasm for technology-infused TLE lessons, stating that they felt more engaged and motivated to learn. One student mentioned, "Using technology in TLE makes learning more interactive and fun." Additionally, Smith noted that students felt better prepared for future careers in fields like engineering and computer science after participating in technology-focused TLE activities. Her findings highlight the importance of incorporating technology into TLE to enhance student learning outcomes.

Johnson (2021), explored the challenges students face in TLE, particularly regarding access to resources and equipment. Several students voiced concerns about the lack of updated technology tools and machinery in their TLE classrooms. TLE lab lacks modern equipment, which hinders our learning experience as one student lamented. Johnson's study underscores the need for schools to invest in adequate resources to support effective TLE instruction and ensure students receive quality education in this field.

Methodology

This study used a descriptive quasi-experimental. A researcher-made survey questionnaire was administered to 22 TVL teachers across three public high schools in the municipality of Esperanza. At Esperanza National High School, 11 TVL teachers participated, covering the following strands: Cookery, Bread and Pastry Production, Automotive, Agricultural Crop Production (ACP), Carpentry, Electrical Installation and Maintenance (EIM), Computer Systems Servicing (CSS), Electronic Products Assembly and Servicing (EPAS), Food Processing, and Housekeeping. In New Panay National High School, 6 TVL teachers participated from the strands: Cookery, EIM, CSS, and Shielded Metal Arc Welding (SMAW). Lastly, in Salabaca National High School, 5 TVL teachers were involved, representing the strands of Information and Communications Technology (ICT) and Cookery.

The respondents of the study consist of high school students enrolled in the Technical-Vocational-Livelihood (TVL) track, specifically in the strands of Cookery, and Bread and Pastry Production, along with 22 TVL teachers from schools offering these programs in the municipality of Esperanza. The study utilized probability

sampling, ensuring that each member of the population has an equal chance of being selected.

This approach aligns with the use of parametric statistical tests, which require randomization as a key assumption. The selected respondents meet the criteria based on relevant characteristics and personal background.

Table 1. Distribution of TVL Teachers by School and Strand.

SCHOOLS	NO. OF TEACHERS	TVL STRAND OFFER
Esperanza National High School	11	Cookery, Bread and Pastry, Automotive, ACP, Carpentry,EIM,CSS, EPAS, Food Processing, Housekeeping
Salabaca National High School	6	Cookery, EIM, CSS, SMAW
New Panay National High School	5	Cookery, EIM, CSS, SMAW
Total	22	ICT, Cookery

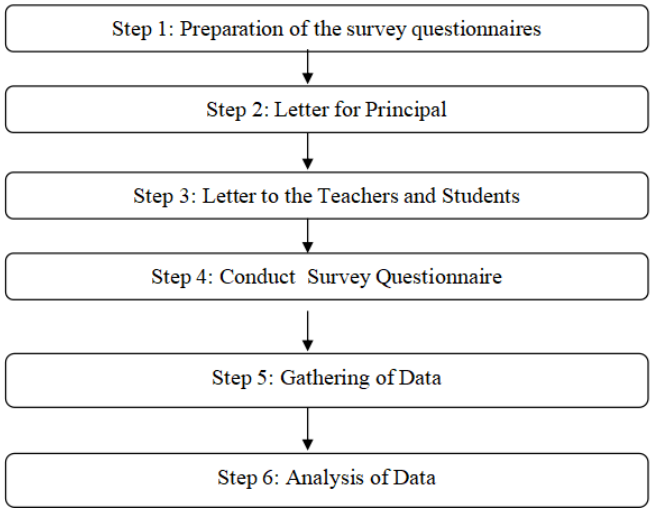
The researchers asked for approval from the research adviser and send out a letter request for the research respondents. The developed survey questionnaires are be distributed in the 2nd week week of November, and their retrieval is done afterwards. The following flow chart below (Figure 3), represents the procedure in conducting the survey questionnaire.

Table 1.2 Distribution of Population and Sample of Students

SCHOOLS	POPULATION	SAMPLE
Esperanza National High School	698	123
Salabaca National High School	165	94
New Panay National High School	63	63
Total	926	280

$$\frac{N}{1+N(E2)} = \frac{926}{1+926(0.05)2} = \frac{926}{3.315} = 2.79 \text{ or } 280 \text{ Respondents}$$

Figure 1. The Process of Flow Chart on the Conduct of the Study



Data gathering instruments

A survey questionnaire is adapted from the Author: Technology and Livelihood Education (TLE) Instruction in the Secondary Schools in Northern Samar Division, Eastern Philippines. (Tan, 2021),and from the Author: Acceess, Attitudes and Interest: Their influence on engagement and Performance in Technology and Livelihood Education (Abe Abe, 2013 measuring the Level of Performance of the TLE Teacher as perceived by students. This will help evaluate how effectively teachers deliver TLE based on key teaching indicators. Abe Abe (2013) focused more on student access, attitudes, and interest in TLE. While this is student-focused, it indirectly reflects teacher performance by showing how students respond to their instruction. The questioner composed of two parts. Part 1 covers the personal profile of the respondents. Part 2 covers statements categorized under the effects of Teachers Training on Students Behavior in Technology and Livelihood Education. The respondents rated themselves according to their perception using the following five points: The Likert scale was (5)-Always, (4)-Often, (3)-Sometimes, (2)-Rarely, and (1) Never

Statistical Treatment

Descriptive statistics such as frequency, mean, standard deviation, and ANOVA will be used

to analyze the effects of teachers' training on student behavior in Technology and Livelihood Education (TLE). Frequency will address the demographic profile of TVL teachers, while mean and standard deviation will measure the central tendency and variability of student behavior, allowing insight into the consistency and impact of teacher training. ANOVA will determine whether significant differences exist in student behavior across varying levels of teacher training, providing a deeper understanding of its effectiveness and influence.

Results and discussion

This chapter presents the results of the data, analysis, and interpretation of the data gathered from the respondents among TVL learners of Salabaca National high School, Esperanza National High School, New Panay National High School, and TVL teachers of Salabaca National High School, New Panay National High School and Esperanza National High School, based on the stated research problem

Table 1.2. Demographic Profile/Educational Qualification of TVL Teachers in terms of Course

Course	Frequency	Percentage
AGRICUTURAL BUSINESS	1	4.5%
BS COMSA/DIPLOMA IN TEACHING	1	4.5%
BSED-THE	1	4.5%
BSHRM/ DIT	2	9%
BSIT -/DIPLOMA IN TEACHING	1	4.5%
BS MARINE BIOLOGY	1	4.4%
BSIT -/DIPLOMA IN TEACHING	1	4.5%
BSED-ELECTRICAL	1	4.5%
BSED-ENGLISH	1	4.5%
BSED-CARPENTRY	1	4.5%
BSED-FILIPINO	1	4.5%
BSED-SOCIAL STUDIES	1	4.5%
BS HOME ECONOMICS	1	4.5%
B.S. ANIMAL HUSBANDRY/DIT	1	4.5%
BSHRM/DIT	1	4.5%
BSMATH/DIT	1	4.5%
BSInd.ED	1	4.5%
Bachelor of Science in Food Tech/DIT	1	4.5%
BTBTE-Industrial Art in ELECTRICAL	1	4.5%
BS MATH/EIM/CARPENTRY	1	4.5%
BIT-AT/DIT	1	4.5%
TOTAL	22	100%

The data shows that the 22 TVL teachers have diverse academic backgrounds, including degrees in Agricultural Business, IT,Industrial Education, and various BSED specializations. Some also hold diplomas in teaching. This variety reflects the multidisciplinary nature of TVL education, blending technical expertise with pedagogical skills. Most qualifications are held by one teacher each (4.5%), except for BSHRM/DIT, which has two teachers (9%). This aligns with Bueno (2023), who emphasized the BSHRM program's relevance to the hospitality industry.The teachers' qualifications match TVL tracks such as agriculture, home economics, industrial arts, and ICT. The presence of graduates in science, math, and social studies suggests that some teachers also handle academic components. Overall, this academic diversity enriches the TVL program by combining practical and theoretical knowledge.

Table 1.3 Completed Trainings of TVL Teachers

Trainings Attended/Participated	Frequency	Percentage
NCI	2	11.1%
NC3	7	3.88%
NEAP	2	11.1%
Trainers Methodology Certificate	9	50%
SMAW NCII	2	11.1%
Housekeeping NCII	2	11.1%
CSS NCII	2	11.1%
Automotive NCII	1	5.5%
Cookery NCII	5	27.7%
BPP NCII	7	38.8%
Food Processing NCII	1	5.5%
Beauty Care NCII	1	5.5%
Carpentry NCII	4	22.2%
EPAS NCII	3	16.6%
EIM NCII	6	33.3%

A review of the training qualifications among TVL teachers reveals that the most commonly held certification is the Trainers Methodology Certificate (TMC), highlighting that many have undergone formal training in instructional methods—a requirement for those aspiring to be assessors or trainers in TESDA-accredited programs. In terms of NCII qualifications, there is notable participation in Cookery, Bread and Pastry Production (BPP), Electrical Installation and Maintenance (EIM), and Carpentry, indicating strong engagement in culinary, electrical, and construction-related skills development. Other NCII certifications such as SMAW, Housekeeping, Computer Systems Servicing (CSS), Automotive, Food Processing, and Beauty Care also reflect a diverse range of technical training, though with comparatively lower participation. However, there is limited engagement in higher-level certifications, with NCIII showing significantly lower uptake. This suggests that while foundational technical skills are well-represented, fewer TVL teachers have advanced their qualifications to higher competency levels.

It is supported by the RA 7796 or "Establishment and Administration of the National Trade Skills Standards" known as the TESDA Act

mandates TESDA to establish national occupational skill standards. The Authority shall develop and implement a certification and accreditation program in which private industry group and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority

Table 1.4. Years in Service

Years in Service	Frequency	Percentage
1-5 years	5	22.7%
5-10 years	13	59.09%
11-20 years	2	9.09%
21 Years and above	2	9.09%
Total	22	100%

The majority of TVL teachers (59.09%) have 5-10 years of experience, indicating a well-established workforce. Meanwhile, 22.7% are relatively new (1-5 years of experience), and only 18.18% have over 10 years of experience, with small percentages for 11-20 years (9.09%) and 21+ years (9.09%). This mix suggests a need for professional development and mentorship to support newer teachers.

The rise of TVL teaching roles coincided with the introduction of Senior High School in 2016. Challenges include inadequate facilities, a shortage of TLE teachers, limited resources, and time constraints. Additionally, some teachers are assigned outside their specialization, which can negatively affect learning outcomes. Addressing these challenges is essential for improving TVL education, though research on these issues remains limited.

Table 1.5. Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage
Degree graduate	4	18%
With units of Master's Degree	6	27%
CAR	7	32%
Full pledge of Master's Degree	4	18%
Units of Doctoral	1	5%
Full pledge of Doctoral	0	0
Total	22	100%

The majority of TVL teachers (81.82%) have pursued graduate studies, demonstrating a strong commitment to professional growth. Among them, 32% have completed academic requirements for a master's degree, 27% are currently working on one, and 18% have fully earned their master's. Only one teacher has taken doctoral units, and none have completed a doctorate.

This trend highlights TVL teachers' dedication to enhancing their expertise, which improves their ability to deliver quality education. However, barriers such as economic constraints, time limitations, and institutional challenges may hinder some from completing their graduate studies. Encouraging doctoral studies and specialized certifications could further strengthen TVL education.

Table 2. Level of Performance of the TVL Teachers

	Indicators	Mean	SD	Description
1	Knowledge	4.66	.56	Always
2	Guidance Skills	4.68	.57	Always
3	Work Attitude	4.70	.54	Always
	Section Mean	4.67	.56	Always

TVL teachers are consistently rated highly by students across three key indicators: Knowledge (4.66), Guidance Skills (4.68), and Work Attitude (4.70), with an overall mean of 4.66 (SD = 0.56). Work Attitude received the highest score, reflecting teachers' professionalism and dedication. The low standard deviations indicate strong agreement among students.

The study by Pangan (2022) supports these findings, showing that TVL teachers frequently use diverse teaching strategies, such as lectures with

laboratory work, computer-assisted lessons, and peer tutoring. Students expressed high satisfaction with their teachers' quality, attitude, and teaching style, with modeling and teaching demos being significantly correlated with teaching quality.

Additional studies highlight the importance of teaching methods in student engagement and satisfaction. Buella et al. (2019) emphasize the need for a supportive educational environment, while Wong (2015) notes that teaching approaches influence student interaction and learning outcomes.

Table 2.1 Level of Performance of the TVL Teachers in terms of Knowledge

	Statements	Mean	SD	Description
1	My TVL teacher demonstrates a mastery of the subject matter in TVL courses.	4.67	.56	Always
2	My TVL teacher integrate relevant technical knoEwledge in lessons.	4.66	.57	Always
3	My TVL teacher is knowledgeable about current trends and updates in TVL fields (e.g., technologies, tools, and techniques).	4.60	.62	Always
4	My TVL teacher have current industry standards and practices, and they ensure that their lessons reflect the needs of the workforce.	4.66	.55	Always
5	My TVL teacher understand and apply the objectives and framework of the curriculum in their teaching methods and assessments	4.70	.52	Always
	Section Mean	4.66	.56	Always

All indicators under the knowledge domain were consistently rated as "Always" by the respondents, with mean scores ranging from 4.60 to 4.70. While it may be tempting to rank the items based on their mean scores, such comparison should not be made without proper statistical inference (e.g., ANOVA or post hoc tests). Therefore, we treat all indicators as having the same descriptive rating.

The consistently high ratings suggest that the students perceive their TVL teachers to be highly competent in terms of content knowledge. This includes mastery of subject matter, integration of technical knowledge, awareness of current trends, and alignment with industry standards and cuAccording to Aitken (2019), the combined knowledge of the subject matter, of curriculum and assessment, and of students is a specialist resource that enables the teacher to defend what they are teaching at any particular time. And it is a defence that they must be able to mount because in teaching time is a scarce resource. Not just because we want to justify the status claim that teaching is a profession but, more importantly, because of the adherence to 'ethical standards' and advancing the 'interests of others' – our students – that directs the need for and use of specialist knowledge. it is to suggest that the teacher needs to be accurate and The importance of knowledge for teaching is confident in what they are teaching and to be secure enough in their knowledge to be able to respond flexibly to students. We don't always have this accuracy and security at the outset of considering what to teach.

Table 2.2. Level of Performance of the TVL Teachers in terms of Guidance Skill.

	Statements	Mean	SD	Description
1	I feel supported by my TVL teacher when seeking clarification or assistance with assignments.	4.71	.54	Always
2	My TVL teacher demonstrate proficiency in practical skills related to the subject matter.	4.71	.54	Always
3	My TVL teacher encouraged me to set goals and provide guidance on how to achieve them.	4.65	.60	Always
4	My TVL teacher offered advice regarding potential career paths.	4.64	.59	Always
5	My TVL teacher offer constructive feedback to help me improve my work.	4.70	.57	Always
	Section Mean	4.68	.57	Always

All indicators under the guidance skills domain were rated "Always," with mean scores ranging from 4.64 to 4.71. Since all items fall under the same descriptive category, it is not statistically valid to rank these indicators based on their mean scores without conducting further inferential analysis. Therefore, we interpret the results as a whole, highlighting that TVL teachers are consistently perceived by students as highly effective in demonstrating guidance skills.

This consistent high rating may be attributed to the nature of the TVL track itself, which places a strong emphasis not only on technical instruction but also on mentorship and career preparation. The ratings suggest that students feel well-supported by their teachers in various aspects of learning—whether through clarification of lessons, goal setting, providing feedback, or career guidance. Such guidance is essential in TVL education, where students are expected to transition into either employment or further technical training.

One possible explanation for this result is that many TVL teachers undergo training or certifications that include components on student mentoring, workplace readiness, and soft skills development. Furthermore, DepEd policies and TVL curriculum frameworks emphasize the importance of learner-centered teaching, which may contribute to teachers' attentiveness to student needs.

These findings echo observations in recent studies that highlight the impact of teacher support on student engagement and motivation in technical-vocational tracks. When students feel guided and understood, they are more likely to pursue their interests confidently and align their academic work with future career paths.

Table 2.3. Level of Performance of the TVL Teachers in terms of Work Attitude

	Statements	Mean	SD	Description
1	I perceive my TVL teacher as being enthusiastic and passionate about the subject matter.	4.70	.55	Always
2	My TVL teacher demonstrate a strong work ethic by being punctual and prepared for class.	4.65	.59	Always
3	My TVL teacher shows dedication to helping students succeed by going above and beyond in their teaching approach.	4.67	.56	Always
4	My TVL teacher exhibit a positive and encouraging attitude towards student's progress and achievements.	4.70	.55	Always
5	My TVL teacher demonstrate professionalism and respect towards students, colleagues, and that subject matter expert.	4.78	.44	Always
	Section Mean	4.70	.54	Always

All indicators measuring the TVL teachers' work attitude were consistently rated as "Always," with mean scores ranging from 4.65 to 4.78. It is important to note that no ranking of individual items should be made based on their mean values without conducting appropriate statistical inference. Thus, the interpretation should focus solely on the descriptive result that all indicators were rated as "Always."

These findings suggest that students consistently perceive their TVL teachers to possess strong work attitudes. This includes enthusiasm and passion for teaching, punctuality and preparedness, dedication to student success, encouragement of student progress, and professionalism. Such attributes are crucial in the TVL context, where students often look up to their teachers not only as instructors but also as role models in terms of discipline, commitment, and ethical work behavior.

The high ratings may reflect the strong professional standards expected of TVL educators, many of whom are either licensed professionals or have industry-based training. Teachers in the technical-vocational track are often required to demonstrate not only subject expertise but also workplace readiness skills, which naturally include a strong work ethic and professional demeanor.

In addition, the work attitude of teachers may be shaped by ongoing support from schools and partnerships with industry and community stakeholders, which help reinforce positive behaviors and expectations. When students see their teachers consistently modeling professional values, this can reinforce respect and trust, leading to more positive ratings in this domain.

Similar observations have been reported in studies where teacher passion and professionalism were found to significantly influence student engagement and classroom climate, particularly in skills-based education. A teacher's positive work attitude sets the tone for a productive learning environment, which may explain why respondents consistently rated this dimension so highly.

Table 3. Summary on the Level of Performance of Student Management of the TVL Teachers

	Indicators	Mean	SD	Description
1	Behavior Management	4.66	.56	Always
2	Productivity	4.68	.57	Always
3	Instructional Learning Formats/ Modern Pedagogy Strategies	4.70	.54	Always
	Section Mean	4.67	.56	Always

Behavior Management, Productivity, and Instructional Learning Formats/Modern Pedagogy Strategies—were consistently rated as "Alway**s"**, with a section mean of 4.67. As statistical inference was not conducted, ranking based on mean scores is not appropriate; the focus remains on their shared descriptive rating.

The uniform "Always" rating suggests that TVL teachers are perceived to be consistently effective in managing students, maximizing learning time, and using appropriate, modern

teaching strategies. This may be attributed to the practical nature of TVL subjects, which require structured environments and effective classroom management.

These findings highlight the strong classroom presence and instructional competence of TVL teachers, possibly influenced by ongoing professional development and the demands of the technical-vocational curriculum.

Table 3.1. Level of Performance of Student Management of the TVL Teachers in terms of Behavior Management

	Statements	Mean	SD	Description
1	I observe that the TVL teacher involves students in setting classroom rules and consequences for misbehavior.	4.65	.56	Always
2	I find that my TVL teacher provides constructive feedback and guidance to help students improve behavior.	4.66	.54	Always
3	I feel that my TVL teacher consistently establishes clear expectations for classroom behavior and enforces them effectively	4.64	.59	Always
4	I see that my TVL teacher implements strategies to promote respect and positive interactions among us.	4.70	.54	Always
5	I notice that my TVL teacher addresses disruptive behavior promptly, by implementing firm and proper classroom management	4.68	.52	Always
	Section Mean	4.67	.55	Always

The consistent "Always" rating indicates that students perceive their TVL teachers as effective in managing classroom behavior. This includes setting clear expectations, addressing disruptions promptly, promoting respectful interactions, and involving students in maintaining a positive classroom environment.

Such perceptions may be influenced by the structured and hands-on nature of TVL classes, where discipline and safety are crucial. It also reflects the likely application of classroom management strategies that are both proactive and responsive—qualities essential in technical-vocational education.

These results may point to the effectiveness of teacher training and school policies that emphasize classroom order, especially in skill-based and equipment-intensive settings.

Table 3.2. Level of Performance of Student Management of the TVL Teachers in terms of Productivity.

	Statements	Mean	SD	Description
1	I notice that my TVL teacher always ensures that class time is used efficiently and effectively to cover the planned curriculum	4.66	.54	Always
2	I find that my TVL teacher manages to keep the class on track, preventing to delays in completing lessons.	4.68	.54	Always
3	I see that my TVL teacher provides additional resources and opportunities for us to deepen their understanding.	4.64	.56	Always
4	I observe that my TVL teacher assigns meaningful tasks or projects that challenge students to think critically and apply their skills.	4.68	.58	Always
5	I feel that my TVL teacher sets clear goals or expectations for our productivity, leaving us sure of what is expected of us.	4.70	.54	Always
	Section Mean	4.67	.55	Always

All indicators were rated **"Always"**, with a section mean of 4.67. Since no statistical inference was conducted, the items cannot be ranked based on their mean values. The interpretation should focus solely on the consistent descriptive rating.

The uniform "Always" rating suggests that TVL teachers are perceived as highly productive in managing class time, maintaining lesson flow, and setting clear expectations. This also reflects their ability to provide meaningful learning tasks and additional resources, contributing to a well-structured and focused learning environment.

This may be explained by the nature of the TVL curriculum, which emphasizes output-based and performance-driven learning. Teachers are expected to maximize instructional time to ensure students achieve competency in technical skills—likely reinforcing student perceptions of their productivity in class.

Table 3.3. Level of Performance of Student Management of the TVL Teachers in terms of Instructional Learning Formats/ Modern Pedagogy Strategies

	Statements	Mean	SD	Description
1	My TVL teacher demonstrates instructional learning formats, ensuring engaging and effective learning experiences.	4.72	.48	Always
2	My TVL teacher integrates technology into lessons to enhance student understanding and engagement	4.71	.51	Always
3	My TVL teacher adapts instructional methods to accommodate different leaning styles among us.	4.61	.61	Always
4	My TVL teacher incorporate real-world applications or hands-on experiences into lessons to make learning more practical and relevant	4.72	.47	Always
5	My TVL teacher utilize alternative assessment methods such as project-based assessments or portfolios, to evaluate student leaning beyond traditional tests and quizzes.	4.72	.54	Always
	Section Mean	4.69	.52	Always

The section mean of 4.69 (SD = 0.52) suggests that, overall, students perceived their TVL teachers as consistently implementing modern pedagogical strategies and instructional formats. The relatively low standard deviations across statements indicate a high level of agreement among students regarding these practices.These findings highlight the effective application of contemporary teaching methods by TVL teachers, fostering an engaging and accommodating learning environment that addresses diverse student needs.

Table 4. Summary on the Level of Behavior of Students towards TVL

	Indicators	Mean	SD	Description
1	Moivation	4.66	.57	Always
2	Attitude	4.67	.56	Always
3	Academic Performance	4.78	.56	Always
	Section Mean	4.70	.54	Always

The consistent “Always” rating suggests that students perceive their TVL teachers as consistently using modern and varied instructional strategies. These include the integration of technology, real-world applications, alternative assessments, and differentiated instruction—approaches that are highly encouraged in technical-vocational education to make learning practical, engaging, and inclusive.

This result may reflect ongoing teacher training and curriculum updates that emphasize learner-centered and skills-based teaching. Such strategies help prepare students for real workplace demands, making lessons both relevant and effective.

Table 4.1. Level of Behavior of Students towards TVL in terms of Motivation

	Statements	Mean	SD	Description
1	I feel motivated towards TLE because I find the subject interesting and relevant to my future career goals.	4.66	.54	Always
2	I feel motivated in TLE class when the topics seem interconnected from my interest	4.62	.63	Always
3	I feel motivated especially when my teacher incorporates hands-on activities or real-world examples	4.70	.56	Always
4	I feel motivated when my teacher acknowledges my efforts and provide positive feedback.	4.65	.59	Always
5	I feel motivated when everyone in the class participated and collaborates on projects or assignments	4.68	.53	Always
	Section Mean	4.66	.57	Always

The consistent "Always" rating suggests that students are highly motivated towards TLE/TVL, especially when learning is connected to their interests, future goals, and real-world applications. Hands-on activities, teacher feedback, and peer collaboration appear to positively influence their motivation.

This may be attributed to the practical nature of TVL subjects, which naturally align with students’ career aspirations and preferred learning styles. Teacher encouragement and engaging strategies likely reinforce students’ enthusiasm and active participation in class.

Table 4.2. Level of Behavior of Students towards TVL in terms of Attitude

	Statements	Mean	SD	Description
1	I collaborate with my peers on TLE projects or activities.	4.61	.59	Always
2	I approach TLE task with a positive attitude, ready to explore and engage in hands-on experiences.	4.66	.59	Always
3	I respect my teacher during TLE lessons	4.69	.54	Always
4	I strive to improve my skills by seeking help when I needed.	4.70	.54	Always
5	I demonstrate curiosity and ask questions to deepen my understanding of TLE concepts and techniques.	4.69	.54	Always
	Section Mean	4.67	.56	Always

. The consistent "Always" rating reflects that students exhibit positive attitudes toward their TVL classes. This includes collaboration, respect for teachers, active participation, and a willingness to seek help and learn more. Such behaviors suggest that students are highly engaged and value the learning environment provided in TVL.

This may be attributed to the interactive and practical nature of TLE/TVL, where students can apply skills in real-world contexts. The positive classroom culture likely reinforces this behavior, driven by supportive teaching strategies and peer collaboration.

These findings align with the goals of TVL programs, which emphasize not just technical skills but also the development of professionalism, teamwork, and lifelong learning attitudes.

Table 4.3. Level of Behavior of Students towards TVL in terms of Academic Performance

	Statements	Mean	SD	Description
1	I comply my assignments promptly	4.66	.56	Always
2	I actively participate in activities and discussions.	4.69	.57	Always
3	strive to improve my TLE skills and knowledge	4.64	.59	Always
4	I recognize the importance of consistent attendance for academic success	4.63	.56	Always
5	I review my TLE notes and materials regularly.	4.76	.51	Always
	Section Mean	4.68	.56	Always

The consistent "Always" responses indicate that students demonstrate positive academic behaviors in their TLE/TVL classes. These behaviors include timely submission of assignments, active participation, consistent attendance, regular review of materials, and a drive to improve their skills and knowledge.

This may be influenced by the nature of the TVL curriculum, which emphasizes hands-on learning and performance tasks that require regular engagement and practice. The high level of student involvement may also reflect effective classroom management and motivational strategies used by their teachers, encouraging students to take their academic responsibilities seriously.

Such behaviors are essential for success in technical-vocational education, where both knowledge and skill mastery are critical for future career readiness.

Table 5. Results of the t-test Analysis between the Level of Novice Teachers' Professional Competence Before and After Undergoing Enhanced Teacher Induction Program

Professional Competence	Mean	SD	Mean Difference	t-value	df	Sig	Interpretation
Before	3.34	.86	-1.11	-8.616*	43	.000	Significant
After	4.45	.48					

Significant at the .05 level.

The table presents the results of a paired sample t-test that examined the difference in the professional competence of participants before and after receiving training.

The mean score before the training was 3.34 (SD = 0.86), while the mean score after the training was 4.45 (SD = 0.48). The mean difference between the two time points is -1.11, and the t-value is -8.616, with 43 degrees of freedom. The p-value (Sig) is .000, which is less than the 0.05 significance level, indicating that the observed difference is statistically significant.

This statistical result allows us to infer that there is a significant difference in professional competence before and after the training. Since the mean score increased from the pre-test to the post-test, this suggests that the participants' level of professional competence likely improved after undergoing the training intervention.

The marked increase in the mean, coupled with the statistical significance, supports the idea that the training had a positive effect on the teachers' professional competence, potentially enhancing their knowledge, skills, and readiness in delivering the TVL curriculum.

Conclusions

Summary of Findings

This study focuses on the important of teachers training to the student behavior in Technology and Livelihood Education.

1. The demographic profile of TVL teachers reveals that most of them have educational backgrounds related to Hospitality and Information Technology courses, with a smaller representation from other fields. This suggests that while there is some diversity in academic qualifications, certain courses are more commonly pursued among TVL educators.

In terms of training and certifications, a majority of the teachers have obtained NCII qualifications, particularly in areas such as Bread and Pastry Production, Cookery, Electrical Installation and Maintenance, and Carpentry. These qualifications reflect alignment with the skills-based focus of the TVL strand. However, participation in other certifications—such as Welding, Housekeeping, Computer Servicing, and Beauty Care—is also evident, albeit to a lesser extent. Notably, involvement in higher-level certifications like NCIII remains very limited, highlighting an area for possible professional growth and development.

Regarding teaching experience, the majority of TVL teachers fall within the mid-career level, having served between five to ten years. This indicates a relatively stable workforce with a solid foundation of experience. Meanwhile, a smaller number of teachers are either early in their careers or have been in service for over a decade. This distribution reflects a workforce that is largely experienced but also includes newer educators who may benefit from continued support and mentorship.

2. The data indicate that students hold a highly positive perception of their TVL teachers across key areas of professional competence. Among the attributes assessed, teachers' work attitude stands out as the most commendable, reflecting students' recognition of their instructors' dedication, professionalism, and genuine enthusiasm for teaching.

Teachers also demonstrate strong guidance skills, effectively mentoring and supporting students in both academic and career-related decisions. This suggests that students feel well-guided and supported throughout their learning journey.

3. The findings show that students perceive their TVL teachers as highly effective in key areas that directly influence classroom learning and engagement. Teachers are consistently recognized for their ability to manage student behavior, creating a structured and supportive environment that is conducive to learning.

Taken together, these results suggest that TVL teachers are not only competent in delivering lessons but are also dynamic educators who skillfully manage classrooms, optimize learning time, and adapt to contemporary teaching methods to enhance student outcomes.

4.Students show a positive overall behavior toward TVL, with strong academic performance and attitude. While motivation ranks slightly lower, it still reflects a generally high level of engagement and interest in the subject.

5. The results of the t-test analysis reveal a significant improvement in the professional competence of novice teachers after undergoing the Enhanced Teacher Induction Program. This highlights the positive impact of teacher training on enhancing teaching effectiveness, which in turn influences student behavior in Technology and Livelihood Education.

Recommendations

1. Schools should provide continuous professional development for TVL teachers, focusing on advanced teaching strategies and industry trends.
2. Additional training on modern pedagogy and behavior management should be conducted to sustain high student engagement and classroom productivity.

3. Encouraging student motivation through reward systems, project-based learning, and industry exposure can further enhance their positive behavior toward TLE.
4. Regular assessment and improvement of teacher training programs are essential to maximize their impact on student learning and behavior.

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