**PROGRAM IMPLEMENTATION AND COMPETENCE OF STUDENTS OF TECHNICAL VOCATIONAL AND LIVELIHOOD (TVL) TRACK**

**Loriene Y. Garra\***

The Faculty of the School of Graduate Studies, Colegio de la Purisima Concepcion, Roxas, 5800, Philippines

garraloriene@gmail.com

**Glenn B. Baes**

The Faculty of the School of Graduate Studies, Colegio de la Purisima Concepcion, Roxas, 5800, Philippines

sgs@purisima.edu.ph

**Abstract**

This study was conducted to determine the extent of TVL program implementation and the level of competence of Grade 12 students in the province of Capiz. A mixed-method research design employing quantitative and qualitative approaches in gathering data was used. A random sample of 754 Grade 12 TVL students from public and private schools was chosen as respondents of the study. For quantitative, the researcher utilized a descriptive-correlational. Proportionate random sampling was employed to determine the number of respondents per school. A researcher-made questionnaire and in-depth interviews were used to gather the data. Statistical tools used to analyze and interpret data were frequency count, percentage, mean, t-test, f-test, Analysis of Variance, and Pearson-r. For qualitative, an in-depth interview was conducted. The study revealed that the extent of TVL program implementation in the province of Capiz was high as a whole and in terms of teacher and instruction, facility and equipment, and work immersion preparedness. Also, the level of competence of Grade 12 students as a whole and in terms of knowledge, skills, and attitude was high. There were no significant differences found in the extent of TVL program implementation and the level of competence of Grade 12 students when grouped according to their selected profiles. Lastly, there was a significant relationship between the extent of TVL program implementation and the level of competence of Grade 12 students in the province of Capiz.

**Keywords:** Teacher and Instruction, Facility and Equipment, Work Immersion Preparedness,

 Knowledge, Skills and Attitude

# 1. Introduction

The Technical Vocational and Livelihood track is designed to equip students with necessary competencies or known as the essential knowledge, skills, and attitudes that students need to acquire through the TVL program in order to be effective and successful in their future careers before entering the workforce labor. The Technical Vocational and Livelihood track's educational program follows TESDA's competency-based assessment and consists of four strands: Information and Communications Technology (ICT), Home Economics (HE), Agricultural and Fisheries Arts (AFA), and Industrial Arts (IA), as stated in the Department of Education Order No. 21, s. 2019. The objective of this reform is to develop globally competitive individuals who possess the necessary competencies and essential skills. According to the Department of Education in the Philippines, the implementation of the K to 12 program, which includes the Technical Vocational and Livelihood track, aims to produce graduates who are "globally competitive, innovative, and morally upright" (Department of Education, 2016). Thus, the program aids in the advancement of the economy and the alleviation of poverty in the country. The TVET program is linked to the advancement of the economy and the alleviation of poverty in the sense that it aims to equip individuals with the necessary skills and competencies that are required in the workforce. By producing skilled workers, the program contributes to the development of industries and the economy as a whole. Additionally, by providing individuals with the necessary skills and competencies, the TVET program helps to address the problem of unemployment and poverty. This is because individuals who have acquired relevant skills and competencies are more likely to find gainful employment and earn a decent living, thereby improving their quality of life and contributing to the overall economic development of the country. This means that they should increase our skilled workers to help rebuild the country's growth. Amid the rising need for skilled workers, issues and problems around the globe, educational institutions are under pressure to fulfill the requirements of the work industry. They found that there is a mismatch between education systems and the sector's needs in producing skilled workers. Further, majority of the high school graduates found to have lack of skills and right attitude to be part of the workforce (Imperial, 2017). The TVET implementation in Nigeria revealed insufficient and outdated infrastructure and equipment, poor competency evaluation in the training centers, the study disclosed that the implementation has issues with immersion program, immigration of individuals, the prevalence of cultism, examination irregularities, unregulated school schedule, staff shortages, and a toxic working environment (Serumu,2014). It is stated that the implementation of the TVL track will only be successful if a curriculum is patterned to the industry's needs and if there is sufficient funding for tools and equipment and qualified implementers, particularly the TVL teacher who will handle specialized subjects. With these, The researcher, who was also employed in a TVL school, was motivated to conduct this research to evaluate the implementation of the program and identify any gaps that may impact the competence of Grade 12 students and their relationships. The findings of this study would serve as basis and may be used to enhance the implementing guidelines, as it would directly benefit the TVL students. One related study that supports the potential benefit of using research findings to enhance implementing guidelines is the article by Dizon, de Guzman, and dela Rosa (2018) which discusses the importance of evidence-based policy-making in the Philippines. The authors argue that research should be used to inform policy decisions and improve the implementation of government programs, particularly in the education sector. They emphasize the need for policymakers to be equipped with relevant and timely research data in order to make informed decisions that will benefit students and improve educational outcomes.

## Statement of the Problem and Hypothesis of the Study

 This study aims to assess TVL program implementation and Grade 12 students' competence in public and private schools in Capiz. Specifically, this study sought to answer the following questions:

1. What is the extent of TVL program implementation in the province of Capiz as a whole and in terms of teacher and instruction, facility and equipment and work immersion preparedness ("Work immersion preparedness" refers to how well students are prepared for the work immersion component of the TVL program, which involves on-the-job training in relevant industries. "Program intervention plan" refers to specific strategies or actions that can be taken based on the study's findings to improve TVL program implementation and student competence)?

2. What is the level of competence of grade 12 students as a whole and in terms of knowledge, skills, and attitude?

3. Is there a significant difference in the level of competence of grade 12 students when grouped according to sex, strand, home location and type of school?

4. Are there significant differences in the competence levels of grade 12 students based on their sex, strand, home location, and type of school?

5. Is there a significant relationship between the extent of TVL program implementation and the level of competence of grade 12 students in the province of Capiz?

6. What program intervention plan (A program intervention plan refers to a proposed set of actions or strategies aimed at addressing identified gaps or problems in a particular program. In this case, it pertains to the recommendations for improving the TVL program implementation and enhancing the level of competence of Grade 12 students based on the findings of the study. The plan may include specific steps, resources, and timelines for implementation) can be recommended based on the results of the study?

**1.1 Hypotheses of the Study**

The hypotheses of the study are the following:

1. There is no significant variation in the extent of TVL program implementation in the province of Capiz based on the students' sex, strand, home location, and type of school.

2. There is no significant difference in the competence level of grade 12 students based on their sex, strand, home location, and type of school.

3. There is no significant relationship between the extent of TVL program implementation and level of competence of grade 12 students in the province of Capiz.

**1.2 Theoretical Framework**

Program Theory (Weis, 1972) defines, explains how, and identifies prerequisites for a program's effectiveness, anticipated results, and desired outcomes. Program Theory, defined as "a systematic process of understanding the nature of programs and the factors that underlie their effectiveness" (Chen, 1990), is intended to define a program, explain why, how, and under what settings the program could be effective, anticipate the program's results, and identify the prerequisites required to accomplish the desired outcomes (Weis, 1972). Sedani and Sechrest (1999) further explain that Program Theory details how an action is perceived to affect and result outcomes, including other aspects that influence outcomes, such as context and other initiatives. Further, it details how an action is perceived to affect and result outcomes (negative or positive). This includes other aspects that influence outcomes, such as context and other initiatives.

It describes the program in three parts: the inputs (program activities); expected outcomes or outputs; and mechanism or processes for achieving the envisioned outcomes (Reynolds, 2000). In the context of program evaluation, "program factors" refer to the various elements that make up a program and contribute to its overall effectiveness. These factors can include the program's goals, objectives, activities, resources, personnel, and other components that are essential for achieving desired outcomes. The inputs of a program theory are used to identify and describe these factors in detail, including what is required, sufficient, and suitable to achieve the program's goals. For example, inputs might include details on the specific activities that need to be carried out, the resources needed to carry out those activities, the qualifications and training required for staff, and so on. This information helps to ensure that the program is well-designed and well-implemented to achieve its intended outcomes.

The citation provided in the statement, Lipsey (1993), further elaborates on the concept of program inputs and their role in program evaluation. The mechanism or process refers to the stages of process, as well as the timing and mode of delivery (Lipsey, 1993). This explains what happens to the implementers who oversee achieving the desired results (Rosen & Proctor, 1978). The expected output denotes the impact or consequences that the program is expected to have. Once the program is implemented, the theory explains the type of results, the timing of the changes, the projected outcomes and any relationships that occurs. In this study, the inputs define the program's curriculum, the teacher and instruction, the facility and equipment, and the work immersion program. "Stages of process" refer to the various steps or phases involved in implementing a program, including the timing and mode of delivery. It involves the specific actions or procedures that are taken to achieve the desired results. For example, a program might involve a series of workshops or training sessions, each of which is designed to build on the previous one and move participants closer to the desired outcomes. The mechanism or process describes the specific steps or procedures that need to be taken to achieve the desired results, as well as the timing and mode of delivery.

In the context of the study mentioned, the inputs refer to the various program factors that are necessary to produce the desired results, such as the curriculum, teacher and instruction, facility and equipment, and work immersion program. The TVL program's implementation mechanisms or processes, explains the offered services, the accomplishments to be done, or the measures to be taken, as well as the degree, quantity, consistency, and duration of intervention in attaining the high competence among the TVL students. It is also a fusion of descriptive, explanatory, and prescriptive theories (Chen, 1990). The descriptive aspect of a program theory describes the issues for which a program is offered, defines the environment under which the processes take place, and predicts the desired results, and. The prescriptive section of a program theory stipulates: (1) the kind, degree, and length of the tasks to accomplish the program's purposes; (2) the people and means required; and (3) the procedures to be undertaken.

Likewise, this study is reinforced by Self-Efficacy Theory (Bandura, 1997) and utilize to assess the desired output. It discusses how people assess their skills to achieve specific results by evaluating their capabilities to perform or execute a task. Self-efficacy is developed by influence of (1) mastery experiences give insight into one's accomplishments and shortcomings (2) vicarious experiences give information about accomplishments and its effect (3) social persuasion explains how other individuals affect others and, (4) emotional states disclose details regarding physiological and affective stimulation when domain's competence is manifested. Furthermore, self-efficacy is utilized to assess the level of competence of the grade 12 TVL students and explain their acquired skills in regards of knowledge, skills, and attitude. It describes students’ assessment on their capacity to perform on a specific task, their behaviors, motivations, and social environment engagement influenced by intrinsic and extrinsic factors.

In doing so, findings on the level of competence determine the effectiveness of the inputs (i.e., teacher and instruction, facility and equipment, and work immersion preparedness) and processes or mechanisms. Also, to analyze how significantly related is the TVL implementation to the acquired competence acquisition of the students. With this, the researcher identified what particular implementing guidelines and mechanisms need to provide emphasis to achieve the desired output. The theories proposed were designated as the framework for the study to explain how a program works and affects in regard to the target beneficiaries of the TVL program's offerings, designing methodologies, and evaluating the principles to be assessed as well as the timeframe. Furthermore, the idea demonstrates that a well-planned and organized program and/or intervention plan can improve the competence of its receiving end beneficiaries. If this research study proves that there is a significant relationship between program implementation and the acquisition of students' competencies, it could provide valuable insights for enhancing the competence of TVL students through program implementation.

**1.2 Conceptual Framework**



Figure 1. Schematic diagram showing the framework of the study.

# 2. Literature review

In the context of globalization, there is a need for effective curriculum development and delivery in technical-vocational education. However, some studies have shown negative feedback from stakeholders on the TVL SHS curriculum in Sorsogon State University, indicating a lack of readiness for implementation and funding for additional facilities and teachers (Caballero & Cabahug, 2015). Lack of awareness on the needs of globalization also affects how implementers view the new curriculum. Nevertheless, technical-vocational education and training (TVET) institutions play a vital role in developing global competence among students by teaching enterprising skills and attitudes to train future employees and businesspersons competitively (Anaele et al., 2014).

Globalization has led to the standardization of competence in technical and vocational education. TVET trains people to become economically productive and improve their quality of life. They may become entrepreneurs, employable citizens, and informed citizens, thereby contributing to a country's economic development. Thus, to improve one’s economic life, TVET institutions should prioritize teaching enterprising skills and attitudes to train the new breed employees and future businesspersons competitively. Competence requires strength, resilience, and awareness amongst students (O’Neill & Stephenson, 2012). Competence has three different acquisitions: First, competence is viewed as a notion that receives meaning in response to circumstances (Grønborg, 2013); Second, competence is learnable (Dorozhkin et al., 2016); and third, competence is linked with action. This acquisition demonstrates a crucial prerequisite for competence initiation (Tarekegne et al., 2017). These well-defined acquisitions foster a more aligned workforce and establish key competitive differentiators that would lead to professional competence among students.

Competence acquisition requires strength, resilience, and awareness among students, and it can be learned and linked with action. This acquisition fosters a more aligned workforce and establishes key competitive differentiators that would lead to professional competence among the students (O’Neill & Stephenson, 2012; Grønborg, 2013; Dorozhkin et al., 2016; Tarekegne et al., 2017). The lack of competent people in technical-vocational education is linked to a misalignment between schools and universities and industrial demands, with the need to be more effective in modern industry contexts (Tijdens et al., 2012). Problem-based and inquiry-based training were found to be effective in obtaining local market skills in Portugal, Netherlands, and Germany (Hasanefendic et al., 2016).

Moreover, globalization has had a massive influence on education and the economic climate, which necessitates technical-vocational providers to confront new issues to stay relevant because of industrialization and digitalization. TVET providers and business sectors work together to provide training that is effective and relevant to the local market (Tijdens et al., 2012). Despite the challenges, TVET students in Taiwan evaluated the curriculum positively, with teaching style being the second most satisfying factor, and equipment being the least satisfactory (Wu & Jia-Jen-Hu, 2015).

Regarding your request for specific examples of teaching methodologies that have been shown to be effective in technical-vocational education, one such method is problem-based learning. A study conducted in Portugal, the Netherlands, and Germany found that problem-based and inquiry-based training were effective in obtaining local market skills (Hasanefendic et al., 2016). This approach encourages students to learn by solving real-world problems, which helps them develop critical thinking and problem-solving skills.

Another effective teaching methodology in technical-vocational education is project-based learning. This approach involves students working on a project that simulates a real-world problem, and it requires them to use a variety of skills to solve it. The project-based learning approach has been found to be effective in technical-vocational education as it provides students with practical skills and helps them apply what they have learned to real-world problems (Wu & Jia-Jen-Hu, 2015).

Regarding accommodating different learning styles, it is essential to note that students have different ways of learning, and the use of different teaching methodologies can help to address this issue. For example, some students may be visual learners and may benefit from the use of visual aids such as diagrams or videos, while others may prefer hands-on learning activities. Using a variety of teaching methodologies can help to accommodate different learning styles and ensure that all students are engaged in the learning process.

Technical-Vocational Education is considered essential for long-term technological development (Medugu & Bappah, 2013). It aims to improve the human capital of a nation by providing workforce education that enables the adaptation of skills and knowledge to changing social needs. Globalization has significantly impacted education and the economic climate, as it involves the exchange of ideologies, ethnicities, and ideals. Technical-vocational providers face new challenges in staying on track and relevant due to industrialization and digitalization. The lack of competent people is attributed to the misalignment between schools and universities and industrial demands, with the need to be more effective in modern industry contexts. Problem-based and inquiry-based training have been found effective in obtaining local market skills in Portugal, Netherlands, and Germany. Technical-vocational education providers and business sectors primarily work together to provide training. The Technical Vocation Education program focuses on enhancing labor workers with a high level of skills and attitude through competency-based training (Salleh & Sulaiman, 2015).

An effective curriculum provides teachers, students, and other stakeholders with a measurable and structured plan in delivering quality technical-vocational education. In fact, adapting and connecting the curriculum and its delivery should be in localized and real-life settings (Pecson, 2014). Teachers are urged to employ a variety of teaching methodologies to suit different learning types (Bostrom & Hallin, 2013). Likewise, teachers must consider students' learning styles even before developing an appropriate teaching design. To compete globally, providers must have qualified trainers with updated and upgraded skills that will enable them to handle real-world issues personally and professionally (Salleh, 2014).

In conclusion, technical-vocational education and training play a critical role in providing individuals with the skills and knowledge needed to succeed in the modern workforce. The three different acquisitions of competence - knowledge, skills, and attitudes - are all essential in technical-vocational education, as they contribute to the development of a well-rounded and competent workforce. TVET institutions can foster a more aligned workforce by designing curricula that incorporate industry-specific skills and competencies, offering internships and work-based learning opportunities, and providing career counseling services to their students.

Furthermore, TVET institutions can establish key competitive differentiators among their students by prioritizing the development of enterprising skills and attitudes. This includes encouraging entrepreneurship and innovation among students, providing mentorship and coaching services, and offering networking opportunities with industry leaders. Additionally, TVET institutions can collaborate with local industries to design training programs that align with their specific needs and requirements, thus contributing to the economic development of their communities.

Overall, technical-vocational education and training have a critical role to play in building a skilled workforce and promoting economic development. By prioritizing the development of competencies that align with industry needs, fostering enterprising skills and attitudes, and collaborating with local industries, TVET institutions can ensure that their graduates are well-equipped to succeed in today's fast-changing job market.

# 3. Research Method

The researcher used a mixed-method research design to determine the relationship between the extent of TVL program implementation and the competence level of grade 12 students in the Province of Capiz. A quantitative method was used to gather data through a researcher-made questionnaire with 754 participants enrolled in public and private schools. A descriptive-correlational design was utilized to describe the students' perceptions on TVL program implementation and their competence level, while correlational research design was used to determine if a significant relationship existed between the two variables. A qualitative approach was also employed to corroborate and verify the results obtained from the quantitative data through in-depth interviews among the participants. The questionnaire included socio-demographic variables and multi-item measures of program implementation and grade 12 students' competence level.

The inclusion criteria for selecting participants in the study were: (1) public schools that have at least 100 currently enrolled grade 12 students for the TVL Track, (2) public schools registered as national high schools, and (3) four participating private schools situated in Roxas City. The exclusion criteria were: (1) intergraded public schools and (2) public schools with only two registered TVL tracks. For qualitative data, the criteria for selecting 12 participants for in-depth interviews were: (1) participant must be a grade 12 TVL student, (2) chosen by the school heads of the participating school to represent the TVL track, (3) with no failing grade in all subjects.

The questionnaire was validated through a panel of experts, which included an English critic, research expert, and statistician. The members of the panel examined each item thoroughly to determine if it measures the variables of the research study. The experts provided feedback on the content and wording of the questions to ensure their clarity and comprehensibility. Additionally, the reliability of the questionnaire was established through pilot-testing with 30 respondents from Marciano M. Patricio National High School. The questionnaire is said to be reliable if the computed reliability coefficient is equal to 0.80 or more but not more than 1.0. The reliability coefficient of the questionnaire was 0.959, which indicated that it was highly reliable.

A qualitative approach was also employed to corroborate and verify the results obtained from the quantitative data through in-depth interviews among the participants and it was clarified that the qualitative data was used to corroborate and verify the numerical results on the extent of TVL program implementation and the level of competence of Grade 12 students through in-depth interviews among the participants in the Province of Capiz. However, there is no mention of specific themes or patterns in the qualitative data that supported or contradicted the quantitative findings.

Overall, the study employed rigorous methods in data collection, validation, and analysis to ensure the accuracy and reliability of the results.

# 4. Result and Discussion

**Extent of TVL Program Implementation as whole**

Table 2. Extent of TVL Program Implementation

|  |  |  |
| --- | --- | --- |
| **Factors/Variables** | **Mean** | **Verbal Interpretation** |
| Facility and Equipment | 3.93 | High |
| Work Immersion Preparedness | 3.83 | High |
| Teacher and Instruction | 3.77 | High |
| **Grand Mean** | 3.84 | High |
| **Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Components are presented from highest to lowest.*  |

Table 2 presents the perception of 754 respondents towards the extent of TVL program implementation in Capiz. The grand mean score for the overall perception was 3.84, indicating that the TVL students had a "High" perception of the extent of TVL program implementation in Capiz. The highest mean score was for facility and equipment (3.93), followed by work immersion preparedness (3.83). The teacher and instruction component obtained the lowest mean score (3.77). These mean scores all indicated a "High" perception. These results suggest that the TVL program implementation in Capiz is of high quality. The success of the Technical Vocational and Livelihood track relies heavily on a well-crafted curriculum that meets industry needs.Suppose there is sufficient funding for material resources and qualified implementers, particularly the TVL teacher who will handle specialized subjects (Alferez & Palmes, 2012).

Table 2.1 Qualitative data on extent of TVL Program Implementation

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Questions** | **Theme Code** | **Sub-Theme** | **Frequency****N=12** |
| What is your idea about the Technical Vocational and Livelihood (TVL) Track program implementation? | Teacher and Instruction | Never invites an industry expert Create positive relationshipObserve competency standards No chart/checklist for the for monitoring of competenciesStudents perform in massive groupings | 12 (100%)11(91.67%)10 (83.34%)10 (83.34%)8 (66.67%) |
|  | Facility and Equipment | Tools and Equipment are Insufficient Laboratory Time is InsufficientMaintenance is ObservedBasic First Aid is conductedFacility and Laboratory is not Conducive | 10 (83.34%)8(66.67%)7(58.34%)6(50%)5(41.67%) |
|  | Work Immersion Preparedness | HesitantFinancial ProblemNot sure to be on time and present all the timesParents are SupportiveReady Duration is Not Sufficient | 7(58.34%)7(58.34%)6(50%)6(50%)5(41.67%)5(41.67%) |

Table 2.1 presents qualitative data on the TVL program implementation in Capiz, with 100% of participants reporting that their TVL teachers did not invite resource persons from industry for lectures and practical classes. Most participants believed that their TVL teachers had positive relationships with students and observed industry-aligned standards, but 83.34% claimed that no chart/checklist was used to monitor student progress and 66.67% performed in large groups during laboratory practices. Additionally, 83.34% reported insufficient tools and equipment, and 58.34% were not prepared for work immersion due to concerns about budget, location, and timing. Despite satisfactory implementation, private and public SHS in Capiz lacked sufficient tools and equipment, which hindered students' preparedness for the immersion program. The study recommends investing in facilities and equipment to improve the training experience for TVL students. Table 3 shows the extent of four-fold function implementation in terms of extension.

Table 2.2 Qualitative data on effects of TVL Program Implementation

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Questions** | **Theme Code** | **Sub-Theme** | **Frequency****N=12** |
| How TVL program Implementation affects the competence of the students? | Student’s Competence | Improves Students’ Motivation and DeterminationPrepare Students for Real-Life SettingOpportunities | 8 (66.67%)7 (58.34%)5(41.67%) |

Table 2.2 provides qualitative data on the effects of the TVL program implementation, showing that the program improved motivation and determination to achieve goals for 66.67% of in-depth interview participants, prepared 58.34% of participants for real-life settings, and revealed opportunities for 41.67% of participants after completing the program. The results indicate that students were able to identify opportunities and were determined to achieve their goals in different industries. The TVL program in Capiz was deemed satisfactory and served its purpose, with quality inputs such as teacher and instruction, facility and equipment, and work immersion programs, along with support from administrators, TVL teachers, and parents. Public and private schools in Capiz can implement the program in line with TESDA competency standards.

However, there were gaps in monitoring student progress, grouping students based on resource availability, and inviting an expert. The study suggests that the TVL program requires competent teachers to produce competitive graduates. Investing in human capital, such as skilled TVL teachers, and facilities and equipment is necessary for the program's success. In conclusion, teaching and learning must respond to the call of time and situation.

Table 3. Extent of TVL Program Implementation in terms of Teacher and Instruction

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual number as indicated in the Research instrument.*

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|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
| 1. I believe that TVL specialized subjects are aligned with industry operation standards. | 3.94 | High |
| 2. I observe that students have a progress /chart/worksheet record to monitor skills. | 3. 17 | Good |
| 3. I notice that every practical demonstration is graded. | 4.06 | High |
| 4. I notice that the National Assessment conducted by TESDA is only optional. | 4. 34 | Very High |
| 5. I notice that teachers relate subject into real-life situations. | 4.08 | High |
| 6. I notice that the TVL teacher gives students another chance to demonstrate skills whenever they fail on their first try. | 2. 58 | Fair |
| 7. I notice my TVL teacher uses various practical teaching strategies. | 4.21 | Very High |
| 8. I believe that the TVL teachers are well-trained  and have a TESDA National Certificate (NC). | 4. 62 | Very High |
| 9. I am sure that the school invites a resource person or expert from the industry to share work-related expertise. | 2. 43 | Fair |
| 10. I notice that TVL teachers provide performance standards to students by which their work will be evaluated. | 4.23 | Very High |
| **Grand Mean** |  3.77 | High |

Table 3 reveals that the respondents had a "High" perception towards the extent of TVL program implementation in terms of teacher and instruction, with a grand mean score of 3.77. Four statements received a "Very High" interpretation, indicating a high level of quality in teaching. Among these, the statement "I believe that the TVL teachers are well-trained and have a TESDA National Certificate (NC)" obtained the highest mean score of 4.62. The results show that TVL teachers are qualified to provide performance standards based on the TESDA curriculum and have relevant training and seminars before teaching specialized subjects. Qualitative data supports the findings, with 83.34% of participants believing that their specialized subject teachers observed competency standards and 58.34% affirming that the TVL program trained them to enter the real-life working industry. The findings suggest that teachers have vast knowledge of the subject matter and can convey competencies effectively. It is important to provide feedback to students and acknowledge their output and performance, as this increases motivation.

Table 4. Extent of TVL Program Implementation in terms of Facility and Equipment

|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
| 1. I am certain that there are safety precautions, warnings, and emergency exits that are properly labeled in school.
 | 4. 65 | Very High |
| 1. I notice basic first aid is integrated into the lesson.
 | 4.23 | Very High |
| 1. I am sure that the school facilities are conducive to learning.
 | 3.39 | Good |
| 3. I am sure that the fire extinguishers  are available in case of an emergency.  | 4.66 | Very High |
| 5. I notice that the school facilities are kept clean. | 3.21 | Good |
| 6. I am sure that the laboratories/workshops and equipment are operational. | 4.25 | Very High |
| 7. I have observed that there are extra tools available when others are damaged. | 3.48 | High |
| 8. I observe that each student is given enough time to practice in the laboratory/workshop to acquire skills. | 3.27 | Good |
| 9. I notice that the school and TVL teachers conduct maintenance on the laboratories/workshops. | 4.48 | Very High |
| 10. I am sure that the tools are in good condition and functional. | 3.62 | High |
|  **Grand Mean** | 3.93 | High |

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual number as indicated in the research instrument.*

According to Table 4, the TVL program had a "High" extent of implementation regarding facility and equipment, with a grand mean score of 3.93. Five statements scored "Very High," indicating high quality implementation. These statements were related to fire safety, safety precautions, laboratory maintenance, equipment functionality, and first aid integration. The in-depth interviews supported the quantitative data, with the majority of students reporting adequate and functional tools, equipment, and PPEs, as well as orientation and training on first aid and emergency procedures. The findings suggest that the school, teachers, and students followed safety protocols to provide a safe learning environment. The school's facilities, including classrooms, libraries, workshops, and restrooms, were reported to be motivating for students. However, secondary schools run by the government are recommended to improve their physical facilities to enhance the teaching-learning process. (Akomolafe & Adesua, 2016).

Table 5. Extent of TVL Program Implementation in terms of Work Immersion Preparedness

|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
| 1. I believe that the 80-hour work  immersion is enough for me to gain  workplace familiarization. | 3. 69 | High |
| 2. I believe that the school has industry  partners where I can do my immersion. | 4.52 | Very High |
| 3. I agree that hands-on experience is  provided during work immersion. | 4. 39 | Very High |
| 4. I am certain that I will always be on  time for the immersion program,  regardless of the location. | 4. 11 | High |
| 5. I am certain that I will always be on  time for the immersion program,  regardless of the location. | 3.38 | Good |
| 6. I believe that my parent/guardian will  support me financially for the work  immersion program. | 3.78 | High |
| 7. I am sure that my performance will be  evaluated by the  supervisors/managers during the work  immersion. | 4.15 | High |
| 8. I am confident in my abilities to  collaborate with others in the  workplace. | 3.42 | High |
| 9. I am confident that I can meet the  demands and expectations of the  industry. | 3.37 | Good |
| 10. I know how to handle and resolve  customer concerns. | 3.46 | High |
|  **Grand Mean** | 3.83 | High |

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual statement number as indicated in the research instrument.*

*umber as indicated in the Research instrument.*

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Table 5 presents the extent of the TVL program in terms of work immersion preparedness had a grand mean of 3.83, implying that the TVL students had a “High” perception of work immersion preparedness. The result means that there is additional evidence to prove that they are consistently demonstrated with high quality. The data reveals two (2) statements verbally interpreted as “Very High.” These are on the statements, “I believe that the school has industry partners where I can do my immersion,” and “I agree that hands-on experience is provided during work immersion.” This implies that the school's work immersion preparation is demonstrated with very high quality.

**Level of Competence of Grade 12 students as a whole**

Table 6. Level of Competence of Grade 12 students

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Components are presented from highest to lowest.*

*r.*

|  |  |  |
| --- | --- | --- |
| **Factors/Variables** | **Mean** | **Verbal Interpretation** |
| Attitude | 4.03 | High |
| Knowledge | 3.92 | High |
| Skills | 3.81 | High |
| **Grand Mean** | 3. 92 | High |
|  |

Tavble 6 presents the Level of Competence of Grade 12 students as a whole.When all respondents were taken as a whole, the data reveals that the grand mean score on the respondent’s perceived level of competence was 3.92. This implies that the grade 12 TVL students had a “High” level of competence. Results further indicated that respondents had a “High” level of competence in all components. The highest means score obtained was on their attitude, which had a 4.03 grand mean, while had the lowest mean score of 3.81 on skill but still interpreted as a “High” level of competence. The data imply that the grade 12 TVL students demonstrated competence with quality most of the time. Further, they satisfactorily manifested competence in terms of attitude. However, lowest in terms of skills, which may still be the effect of the pandemic, students did not receive proper training in grade 11. Aside from these, the proportion of tools and equipment to the number of students and time allotment could be a factor that limits skills improvement.

Table 6.1 Qualitative data on the level of Competence of grade 12 students

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Questions** | **Theme Code** | **Sub-Theme** | **Frequency****N=12** |
| How do you find the competence of the grade 12 TVL students? | Knowledge | Wear PPE’sHave Difficulties in English LanguageFamiliar with the Tools and EquipmentUnderstand the TVL Program | 10 (83.34%)9 (75%)6 (50%)6 (50%) |
|  | Skills | Not CompetentCompetent | 8 (66.67%)4 (33.34%) |
|  | Attitude | Irresponsible and not SeriousCooperation Accept feedbacks positivelyInitiativeAfraid to take challengesConfident | 11 (91.67%)9 (75%)7 (58.34%)6 (50%)6 (50%)3 (25%) |

Table 6.1 presents qualitative data on the level of competence of grade 12 students. In terms of knowledge, 83.34% wear PPEs in the laboratory, but 75% have difficulties in English language. 50% are familiar with tools and equipment and understand the TV program. For skills, 66.67% are not competent, and only 33.34% believe they are competent, indicating that students lack technical or hard skills and need more intensive training. In terms of attitude, 91.67% believe the majority of students are irresponsible and not serious with their studies. However, 75% cooperate during laboratory practices, and 58.34% practice accepting feedback. 50% believe they have developed initiative, but 50% are afraid to take challenges and risks, and only 25% are confident enough. Overall, students show empathy, help others, and are resourceful in providing their needs, developing their financial literacy skills. However, the majority are still irresponsible, lack confidence, and rely too much on their group members.

Table 6.2 Qualitative data on Challenges and Problems Encountered

|  |  |  |  |
| --- | --- | --- | --- |
| **Key Questions** | **Theme Code** | **Sub-Theme** | **Frequency****N=12** |
| What are the challenges or problems encountered by the TVL students? | Student | Not able to practice due to pandemicStudents Tardiness and AbsenteeismMassive Groupings during laboratoryHome Location is Far from the School and IndustryTVL is not students’ choiceStudents who have already a Family | 8 (66.67%)7 (58.34%)6 (50%)6 (50%)5 (41.67%)4 (33.34%) |

Table 6.2 presents the qualitative data during the in-depth interview, the qualitative data analysis on the challenges encountered by the students showed that 8 (66.67%) pandemic affects students’ competence acquisition. More than half, 7(58.34%) of the participants affirmed that tardiness and absenteeism are often practiced.  They also believed that they are not able to practice and often not finish their task due more members in a group as confirmed by 6(50%) participants. In addition, 6 (50%) believed that location of their houses also had a negative impact, especially when it’s raining and limited vehicle visibility in their areas. In truth, 5 (41. 67%) affirmed there are students who have no choice but to enroll in TVL track.  Further, 4 (33.34%) already have a family of their own that is why they need to work and in some instances were absent. Overall, the data from quantitative and qualitative results revealed that the grade 12 TVL students are competent despite the adjustment of teaching-learning in a new normal setup. Also, the results suggest that knowledge and skills are as necessary as attitude. This means that the students should focus on one particular component and develop themselves holistically to attain high competence levels in technical and non-technical competencies.

Table 7. Level of Competence of Grade 12 students in terms of Knowledge

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual number as indicated in the research instrument.*

|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
|  |  |  |
| 1. I can recognize the use of different tools used in specialized subjects. | 4.04 | High |
| 2. I can interpret signage, drawings, graphics, and tables. | 3.54 | High |
| 3. I understand the TVL strand that I have chosen. | 3.83 | High |
| 4. I find the best method to complete a given output/project. | 3.75 | High |
| 5. I can explain processes and procedures clearly and logically. | 3.70 | High |
| 6. I can assess the condition of equipment based on a manual. | 3.74 | High |
| 7. I can estimate the expenses of an expected product/output. | 4.10 | High |
| 8. I can understand both oral and written communication. | 3.19 | Good |
| 9. I do understand why I need to wear PPE when in a laboratory/workshop. | 4.62 | Very High |
| 10. I can classify the 3Rs – reduce, reuse, and recycle. | 4.61 | Very High |
| **Grand Mean** | 3.92 | High |

Table 7 reveals the level of competence of grade 12 students in terms of knowledge with a grand mean obtained was 3.92, indicating that the grade 12 TVL students had a "High" level of competence in knowledge. Two (2) statements received a verbal interpretation of "Very High" on the statement "I do understand why I need to wear PPE when in a laboratory/workshop," with the highest mean score of 4.62, followed by "I can classify the 3Rs-reduce, reuse, and recycle," which obtained a mean score of 4.61. While the statement "I can understand both oral and written communication" ranked as the lowest mean score of 3.19, which was verbally interpreted as a "Good" level of competence. The result implies that the grade 12 TVL students demonstrated a high level of competence in knowledge. They understand the TVL track they have taken and possess enough knowledge in their respective specialization. However, they lacked communication skills, which is also necessary for work immersion and job placement as one of the requirements of employers. In addition, according to Business Process Association of the Philippines (BPAP) research, English literacy advancement should be prioritized when bridging the supply-demand mismatch between commerce and education (Mitra, 2013).

Table 8. Level of Competence of Grade 12 TVL students in terms of Skills

|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
|  |  |  |
| 1. I can complete a task within a given time. | 3.36 | Good |
| 2. I do check the amount or measurement of materials/consumables/ingredients to be needed. | 4.48 | Very High |
| 3. I can solve problems involving a formula. | 3.66 | High |
| 4. I can perform the process (e.g., production, manufacturing, repair, planting, etc.) from beginning to end correctly. | 3.52 | High |
| 5. I can do inventory according to specifications, quantity, and quality. | 4.13 | High |
| 6. I can demonstrate the process of maintenance of tools, equipment, and supplies. | 3.55 | High |
| 7. I can use electronic devices (e.g., computers, internet, cellphone, etc.) to create documents, designs, presentations, and other tasks. | 3.59 | High |
| 8. I am capable of operating laboratory machines and equipment on my own. | 3.24 | Good |
| 9. I can demonstrate safety procedures in all work processes. | 4.08 | High |
| 10. I take the initiative to look for an alternative when lack of supplies.  | 4.45 | Very High  |
|  **Grand Mean** | 3.81 | High |

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual number as indicated in the research instrument.*

The data analysis indicates that the grade 12 students have a "High" level of competence in skills with a grand mean score of 3.81. However, only two statements received a "Very High" interpretation with mean scores of 4.45 and 4.48, indicating excellent skills manifested consistently by students. Meanwhile, two statements were interpreted as "Good" with mean scores of 3.24 and 3.36, showing average skills demonstrated inconsistently. The students lacked proficiency in independently operating laboratory machines and equipment and completing tasks within a given time, possibly due to insufficient time allotted and being in massive groupings that did not promote skill development. The number of students per group affects the time spent practicing skills, and the absorptive capacity of the tools and equipment differs from the number of students enrolled, which could affect skill acquisition. Further, laboratories or classrooms are designed to accommodate machinery and other tools so that the performance tasks of the specific track are delivered strategically (Castillo, 2012).

Table 9. Level of Competence of grade 12 students in terms of Attitude.

|  |  |  |
| --- | --- | --- |
| **Statement** | **Mean** | **Verbal Interpretation** |
| 1. I take initiative and plan well to solve problems. | 4.15 | High |
| 2. I inspire and encourage others to perform competently. | 4.55 | Very High |
| 3. I manage to utilize my time efficiently. | 3. 24 | Good |
| 4. I can adjust and adapt to different kinds of environments. | 3.56 | High |
| 5. I am trained to be calm when a situation is uncontrollable. | 4.07 | High |
| 6. I can show poise, confidence, and good grooming all the time. | 3.50 | High |
| 7. I help my classmates when they have difficulties performing certain tasks. | 4.13 | High |
| 8. I am hesitant to do challenging tasks. | 4.35 | Very High |
| 9. I admit my mistake and learn from it. | 4.54 | Very High |
| 10. I always listen to feedback, whether good or bad to correct myself. | 4.18 | High |
|  **Grand Mean** | 4.03 | High |

**Legend:** 4.21-5.00 = *Very High*; 3.41-4.20 = *High*; 2.61-3.40 = *Good*; 1.81-2.60= *Fair*; 1.00-1.80 = *Poor. NOTE: Statements are arranged/presented from highest to lowest-maintaining their actual number as indicated in the research instrument.*

The respondents' perceived level of competence in attitude had a grand mean score of 4.03, verbally interpreted as "High." Two (2) statements received a verbal interpretation of "Very High" with mean scores of 4.54 and 4.55. Further, the highest mean score was on statement no. 2, "Inspire and encourage others to perform competently," implying that the grade 12 TVL students manifested competency all the time. To substantiate the result, the qualitative data revealed that 6 (50%) performed in a group. That is why 9 (75%) showed empathy and cooperation among their classmates. It is another skill that is essential for landing a job is employability skills. This implies that the students learn to work in a group and trust themselves and others. Also, allow students to work with varied groups and gain friends. Teamwork, negotiation, communication, thinking, and social are essential to achieve successful output. The hiring qualification also focuses on more than the technical skills a person must possess but on having the right attitude to work harmoniously within a group (Omar et al., 2012). Further, it was discovered that the more enthusiastically students embraced teamwork, the more relationships they gained and collaboration they established, but it also had a negative impact. They became less eager and felt anxious and ambivalent toward the project (Vuopala et al., 2016).

**Difference on the extent of TVL Program Implementation when grouped according to the selected profiles**

Table 10. Socio- demographic Profile of the Respondents

|  |  |  |
| --- | --- | --- |
| **Respondents** | **Frequency** | **Percentage** |
|  **Sex** Male  Female  | 395359 | 52.3947.61 |
| **Strand** Information and  Communications Technology Agri-Fishery Home Economics  Industrial Arts | 14650366192 | 19.466.6348.5425.46 |
| **Home Location** Urban Rural | 570184 | 75.6024.40 |
| **Type of School**  Private Public  | 83671 | 11.0089.00 |

Table 10 shows the Socio- demographic Profile of the Respondents. **Sex.** More than half of the respondents were male (395 or 52.39%), and 359 (47.61%) were females. It infers that the majority that served as respondents of this study were male. **Strand.** Out of 754 respondents, 366 (48.54%) enrolled in Home Economics; 192 (25.46%) were from Industrial Arts; 146 (19.46%) enrolled in Information and Technology; and 50 (6.63%) only from Agricultural and Fisheries Arts. This implies that the majority of the respondents were currently enrolled in Home Economics. **Home Location.** More than half of the respondents (570 or 75.60%) live in an urban area, while 184 (24.40%) live in a rural area. **Type of School.** Most respondents were enrolled in a public institution, with 671 students (96.9%), while 83 (11%) were from private institutions. Difference in the extent of TVL program implementation when grouped according to their socio-demographic profiles is shown in Table 11.

### Table 11. Difference in the extent of TVL Program Implementation

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | F-value/t-value | p-value | Remarks |
| SexStrand | -0.5440.379 | 0.9710.768 | nsns |
| Home Location | -1.48 | 0.755 | Ns |
| Type of School | 4.086 | 0.980 | Ns |
| p-value > 0.05 = not significant |  |

Table 10 displays the extent of TVL program implementation among respondents categorized by different factors. The data reveals that respondents' perception of the TVL program implementation was the same regardless of age, sex, strand, home location, and type of school. However, in a study on competency level, employer expectations, and work immersion performance, there was a significant difference in work immersion performance between students from the ICT strand and the Home Economics strand. It is suggested that IT students had a better OJT experience as they were immersed in one company only, while Home Economics students were exposed to different tourism sectors. Additionally, it is crucial to investigate the impacts of students' home location on their school and travel arrangements under the TVL program implementation. On the other hand, grade 12 students perceived that the TVL program implementation was well-implemented in both public and private schools. However, in contrast, private and public school management practices in TLE in Region IV-A differ significantly concerning curriculum and workforce development. Further, in regards to teaching supervision, instructional resources development, facilities, equipment, funding, and workplace culture responses were varied.  The difference in management practices of private and public schools with technology and livelihood program was only identified in curriculum and staff development (Perez & Catapang, 2018).

**Difference in the level of Competence of Grade 12 students when grouped according to selected profiles**

### Table 12. Difference in the level of Competence

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | F-value/t-value | p-value | Remarks |
| SexStrand | -0.4951.188 | 0.0610.313 | nsns |
| Home Location | -2.102 | 0.082 | Ns |
| Type of School | 4.533 | 0.271 | Ns |
| p-value > 0.05 = not significant |  |

Table 12 presents the competence levels of Grade 12 students grouped by various profiles. There was no significant difference in competence levels based on sex or strand, indicating that boys and girls have specific abilities and that academic and vocational achievement do not affect competence. There was also no significant difference based on home location or type of school, suggesting that location and school type do not affect competence acquisition. This result is consistent with previous studies that found no significant difference in workplace skills or entrepreneurial competencies among students. Overall, Grade 12 TVL students perceived a high level of competence regardless of their profiles. This contradicts the findings conducted in Nepal, revealed that students from private schools outperformed than from government owned schools (Thapa, 2015). Further, Private schools are expected to have high accomplishments, although socioeconomic status has a substantial influence on student achievement. The study also shows that private schools has a better implementing system (Kuivalainen, 2017).

**Relationship between the extent of TVL Program Implementationand the level of Competence of Grade 12 students**

Table 13. Relationship between TVL Program Implementation and the Competence of Grade 12 students

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **N** | **Pearson-r value** | **Degree of Relationship** | **p-value** | **Probability** |
| TVL Program Implementation  | 754 | 0.756 | High to Very High Relationship | 0.000 | S |
| Competence of Grade 12 Student  | 754 |

p-value < 0.05 = significant

Table 13 shows that there is a significant relationship between TVL program implementation and the competence of grade 12 students in the province of Capiz. This suggests that aligning the TVL curriculum and applying standard practices based on industry standards can lead to more competent graduates. The findings of previous studies also support this relationship, with facility and equipment having a significant impact on students' competence level. Work-based learning in a competency-based curriculum also strengthens students' collaborative abilities and motivates them through problem-based teaching strategies. However, TVL students' level of satisfaction is not correlated with their TVL strand, meaning they see the Department of Education's efforts in offering excellent and relevant programs to students. The relationship between TVL program implementation and TVL students' competence was also dissimilar to a study on employability, which found that employability is related to acquired competency.

**Proposed Intervention Plan to address the gaps between the TVL Implementation and Competence of Grade 12 students**

An output entitled “Intervention Plan Towards the Enhancement of Program Implementation and Competence of TVL Students” was made based on the results of the study.  The proposed intervention plan prepared by the researcher with the intent to submit to the Division Office of the Department of Education of Roxas City and Capiz, and to the school heads.  This includes the adaptation of the existing training regulation of TESDA on “Participate in Workplace Communication” for the enhancement of oral and communication skills of the TVL students. Also, to utilize the progress chart and achievement checklist of TESDA by the TVL teachers for the monitoring and evaluation of students’ competence. The researcher hopes to collaborate with these offices in implementing the output of the study. The objective of this output is to reduce, if not eliminate, the mismatch and gaps in the implementation in producing competitive graduates (pls. see the supplementary file appendix S).

# 5. Conclusion and Implications

The study showed that the TVL program implementation in public and private schools in the Province of Capiz was generally successful in achieving its goals. The grade 12 students demonstrated a high level of competence despite the challenges they face. The students' profiles did not significantly affect the extent of TVL program implementation and their level of competence. There was a significant relationship between the extent of TVL program implementation and the level of competence among the grade 12 students in the Province of Capiz.

The Department of Education should reinforce the competence of TVL teachers with additional training and seminars coordinated with TESDA. This will enable teachers to implement competency-based training properly, especially on assessment-monitoring mechanisms of the students' competence. The school and TVL teachers must link with the industry for the work immersion program and the upskilling, updates, and upgrades of the competencies required. The learning-teaching process can be intensified by inviting industry experts to class/laboratory sessions to enrich linking theory with the workplace experience and allowing competence feedback in an open dialogue.

The schools and TVL teachers should plan the laboratory schedule proportionate to the available tools and equipment, considering the competence of the grade 12 students in terms of skills. Each TVL institution may allocate funds for basic consumables and ingredients or have a sustainable income-generating program to aid the students' expenses. The school stakeholders may request assistance from different Non-Government Organizations and generous people to resolve issues on the consumables and ingredients challenges. The schools and TVL teachers can appropriately plan the students' groupings per batches by allocating sufficient laboratory schedules to increase students' hands-on experience operating tools and equipment for relevant skills acquisition.

Similar studies in other provinces should be conducted to determine the extent of TVL program implementation and the level of competence of grade 12 students, and to identify the factors that affect their perceptions and level of competence. The research should focus on the home location of students, financial constraints, and the availability of complete TVL program offerings. Policies and guidelines should be developed to address the issues and challenges identified in this study, such as student tardiness and absenteeism, financial constraints, and the availability of complete TVL program offerings. The policies and guidelines should be implemented by the Department of Education and its stakeholders to improve the TVL program implementation and the level of competence of grade 12 students.

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