

**A DESCRIPTIVE SURVEY ON THE IMPLEMENTATION OF TECHNICAL VOCATIONAL
LIVELIHOOD (TVL) TRACKS AND THE CHALLENGES ENCOUNTERED BY TVL
LEARNERS OF SALVACION NATIONAL HIGH SCHOOL: BASIS FOR IMPROVED
INSTRUCTION**

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CHAPTER 1

THE PROBLEM AND ITS SCOPE

Introduction

The Technical Vocational Livelihood (TVL) Track is a specialized educational pathway within the Senior High School curriculum in the Philippines, designed to equip students with practical skills and competencies for immediate employment or entrepreneurship after graduation. This track is part of the K to 12 educational reforms, which aim to enhance the employability of graduates by aligning education with industry needs and standards. The TVL track's curriculum is designed to provide students with both theoretical knowledge and practical skills in their chosen field. It includes subjects aligned with industry standards and often leads to certifications such as the National Certificate II, which is recognized by employers (Arban et al., 2024).

Despite the significant role of the Technical-Vocational-Livelihood (TVL) track in equipping Senior High School (SHS) students with job-ready skills, its implementation often encounters critical challenges that affect student learning outcomes. In Salvacion National High School, students under the TVL strand face a variety of difficulties stemming from an inadequate learning environment, learning participation, and learning responsibility (Arnado, 2023).

Poor learning environments are multifaceted, impacting their access to learning materials and technology. Inadequate instructional materials are a common issue, particularly in rural and underdeveloped areas, where schools often lack the necessary resources to support effective learning. As a result, this scarcity affects students' ability to engage with the curriculum and understand complex subjects like science and social studies (Syahputra et al., 2022). Furthermore, the quality of learning materials is also a concern, since outdated or irrelevant content can hinder students' comprehension and interest in the subject matter (Garingo & Cajucom, 2023).

In a study conducted at the Private Vocational School of Al-Washliyah Silangkitang, 69% of students reported difficulties due to inadequate learning media, the highest percentage among identified obstacles. This lack of resources significantly hampers students' ability to comprehend and engage with the material (Kartini et al., 2022). Similarly, the lack of adequate learning materials and resources leads to poor comprehension and engagement among students. For instance, in the study of reaction rate materials, 77.64% of students failed to meet the minimum learning criteria, indicating significant learning difficulties due to ineffective learning methods and insufficient resources (Amanda & Azra, 2023).

In resource-constrained environments, such as those described in Indonesia, access to educational technology is limited, further complicating efforts to integrate digital learning tools into the classroom (Suharningsih & Fathoni, 2025). In the same vein, in India, only 23% of students use laptops or desktops for e-learning, with the majority relying on mobile phones, which are less effective for comprehensive learning activities (Ramamoorthy et al., 2024).

Moreover, learning participation is often limited by fear of criticism and lack of interest leading to gaps in practical learning experiences. Students often experience social barriers, such as fear of judgment and lack of confidence, which deter them from participating actively in school activities. These issues are compounded by cognitive challenges, where students struggle with understanding complex subjects due to inadequate instructional resources and support from teachers (Batistis et al., 2024).

A study conducted in the Philippines highlights that while many students participate in school activities, a significant number do so only occasionally. Barriers such as lack of interest, mismatched skills, and inadequate support from teachers and peers are prevalent. The study suggests that targeted interventions are necessary to create a more inclusive and engaging school environment (Batistis et al., 2024). Similarly, a study in Indonesia found that intrinsic motivation and identified regulation are crucial for student participation, with 23% of students showing high motivation levels. However, 15% of students exhibited amotivation, indicating a lack of interest or engagement in learning activities (Muhyi et al., 2024).

Additionally, issues related to learning responsibility, such as poor time management and limited resources, further hinder the holistic development of students' skills and competencies. Students often engage in behaviors that mimic studying to satisfy parents and teachers, resulting in minimal learning. This behavior

is driven by self-perception issues, lack of determination, and fear of acknowledging personal limitations (Zhang, 2023).

In developing countries, such as Afghanistan and Iran, students face significant challenges due to a lack of educational resources (Amiri, 2020). As a result, these constraints hinder students' ability to engage responsibly with their studies and develop essential skills. In connection with this, research indicates that poor time management is closely linked to academic procrastination, which negatively affects students' development. For example, a study in Portugal found that students' ability to plan and manage their time significantly influences their tendency to procrastinate, with gender and study hours being notable factors (Valente et al., 2024). Regarding its impact on academic responsibility, a study conducted in Indonesia found that time management contributed 18.7% to students' academic achievement, highlighting its critical role in educational success (Pathuddin et al., 2025).

While several studies have explored challenges in the learning environment, student participation, and learning responsibility in general education contexts, there is a noticeable lack of research that specifically examines these issues within the implementation of the Technical-Vocational-Livelihood (TVL) track. Studies focusing on the experiences of Senior High School students in rural schools like Salvacion National High School in Trento, Agusan del Sur remain limited. This research seeks to fill that gap by investigating the implementation of the TVL track and the perceived challenges students encounter regarding their learning environment, participation, and responsibility. The aim is to use the findings as a basis for developing an instructional development plan to enhance TVL instruction's effectiveness and improve student learning outcomes.

Review of Related Literature and Studies

Implementation of Technical Vocational Livelihood Track

Implementing the Technical Vocational Livelihood (TVL) track in Senior High School (SHS) has been the subject of various studies, each exploring different facets of its execution and impact. In the Philippine context, the integration of Technical-Vocational Education and Training (TVET) within the K-12 system presents both challenges and opportunities. Similarly, challenges include curriculum-industry alignment, resource allocation, and societal perceptions of vocational education. However, opportunities exist in enhancing employability, fostering industry engagement, and promoting entrepreneurship (Relojo, 2024).

For instance, a study in Bohol Province evaluated the policy implementation of the TVL track, revealing a generally positive perception among stakeholders. Specifically, key focus areas included curriculum development, teacher training, and resource allocation. However, challenges such as curriculum barriers, resource limitations, and teaching difficulties were identified, necessitating evidence-based strategies for improvement (Arban et al., 2024). Meanwhile, in Surigao del Sur, teachers faced challenges in preparing assessment questions and managing limited classroom space. Moreover, the study emphasized the need for industry partnerships and highlighted the relationship between teacher competencies and instructional skills (Arnado, 2023).

In support of this, a tracer study in Malaysia reported that 77.22% of Technical and Vocational Education and Training (TVET) graduates responded to the survey, with 5,541 employed and 1,367 pursuing further studies. This highlights the employability of TVET graduates and the need for system improvements to enhance job market readiness (Khirotdin et al., 2019). Similarly, in Bangladesh, the Skills for Employment Investment Program (SEIP) achieved a 60% employment rate for trainees, focusing on marginalized groups. This underscores the role of government-funded TVET programs in promoting social inclusion and employability (Iqbal, 2024).

Meanwhile, the Bachelor of Technology and Livelihood Education (BTLED) program in the Philippines showed a strong foundation with an 85% student interest in career growth workshops. Nonetheless, there were concerns about certification shortages and student support services (Birginias & Mepua, 2025). In the same vein, in India, vocational training programs increased employability, with 70% of trained individuals securing jobs compared to 50% of untrained individuals. Trained individuals also enjoyed a 29% wage premium, indicating the economic benefits of vocational education (Bhatt et al., 2024).

Facilities and Equipment. As studies provide valuable insights into implementing the TVL track, they highlight the ongoing challenges related to facilities and equipment. For example, a study in Nigeria stressed the necessity of adequate facilities provision and maintenance for effective teaching and learning in TVE institutions. It recommended increased funding from the government and stakeholders to ensure the availability of essential tools and equipment (Audu et al., n.d.). Likewise, research conducted in Laos focused on equipment alignment between vocational training institutions and the garment industry. It found that the school equipment only covered basic training objectives, highlighting a gap in meeting industry standards

(Meunmany et al., 2023). Similarly, in Catanduanes, the lack of adequate facilities and equipment was identified as a significant challenge for TLE teachers. The study highlighted the need for remedial measures to facilitate effective teaching in the absence of required resources (Gregorio, 2016).

In one instance, a study at SMA Negeri 19 Medan found that the compliance rate for physical education, health, and sports facilities was only 39%, with 61% not meeting the required standards set by the Regulation of the Minister of National Education Number 24 of 2007. This indicates a significant shortfall in meeting the minimum requirements for educational facilities (Purba et al., 2024). Similarly, in Edo State, Nigeria, a survey revealed that most infrastructural facilities and equipment for teaching physical education in junior secondary schools were inadequate or non-functional, highlighting a widespread issue of insufficient resources for effective education delivery (Ovbiebo et al., 2024). Furthermore, research at SMAN Unggul Aceh Besar demonstrated a significant influence of facilities and infrastructure management on the effectiveness of the teaching and learning process, with a high significance level (0.000) and an N-Gain value of 71% (Devayani et al., 2024). Moreover, the lack of adequate facilities in remote and underdeveloped areas in Indonesia poses a major challenge to sustainable education, affecting both student and teacher motivation. To address this, proposed solutions include community cooperation and government assistance to mitigate these deficiencies (Suharningsih & Fathoni, 2025).

Industry Preparedness/Partnership. A study in Bohol Province evaluated the implementation of the TVL track, identifying positive perceptions of policy execution across curriculum development, teacher training, and industry partnerships. However, challenges such as resource limitations and curriculum readiness were noted, emphasizing the need for evidence-based strategies to overcome these barriers (Arban et al., 2024). In a broader context, in South Africa, effective college-industry partnerships are essential for keeping TVET colleges relevant amidst technological and economic changes. In particular, successful practices include initiating and sustaining mutually beneficial partnerships (Njengele et al., 2024). Meanwhile, Malaysia's approach involves industry-driven TVET programs that focus on upskilling and reskilling the workforce through heutagogical approaches, promoting lifelong and independent learning (Vinayan et al., 2020).

In a related study, a study in the Philippines assessed the preparedness of STEM senior high school graduates for engineering programs. The results showed a mean preparedness score of 54.17%, significantly lower than the expected 75%, indicating that 88.98% of graduates were only somewhat prepared for engineering baccalaureate programs. Consequently, this lack of preparedness suggests a disconnect between the high school curriculum and the requirements of higher education and industry, necessitating curriculum adjustments and better alignment with industry standards (Fernando et al., 2019).

Workplace/Learning Environment. The TVL track's success heavily relies on curriculum development that aligns with industry needs. For example, in Bohol Province, the implementation of the TVL track was positively perceived, focusing on curriculum development, teacher training, and industry partnerships. However, resource limitations and curriculum barriers were identified, necessitating evidence-based strategies to overcome them (Arban et al., 2024). Similarly, the German-Malaysian Institute (GMI) exemplifies effective TVL implementation through a dynamic curriculum and strong industrial relations. The institute employs strategies like hands-on training and project-based learning that align with industry requirements, thus enhancing student employability (Hanafi, 2007). Similarly, in Bangladesh, supportive public policies and industry collaboration are needed to bridge the gap between TVET institutions and industries. This effort involves updating curricula and training programs to reflect market needs and technological advancements (Siddiky & Uh, n.d.).

In the Philippines, the K-12 Education Program has been perceived as a burden by students due to the increased number of years in high school and the lack of adequate learning facilities. Nevertheless, students recognize the benefits of the program, such as enhanced knowledge and future career opportunities (Gurobat & Lumbu-an, 2022). Meanwhile, in the Builsa South District, teacher willingness to participate in Professional Learning Communities (PLCs) is influenced by positive attitudes, yet challenges such as time constraints and lack of leadership support hinder effective implementation (Suglo et al., 2024). Additionally, the integration of bioinformatics in senior high school has shown a 67% increase in cognitive knowledge in biology, with inquiry and problem-based learning strategies being employed (Sari et al., 2022).

Instruction. Research in Cagayan State University found that instructors with more National Certifications (NCs) demonstrated higher competence. The study suggested that game-based teaching approaches could improve teaching performance, indicating a need for instructors to acquire more technical skills and competencies (Tamayo, 2023). Similarly, another study highlighted the readiness and competency of TVET trainers in integrating employability skills into training programs, emphasizing that enhancing

trainer competencies could improve graduate employability ("Competency and Readiness of Trainers in...", 2022).

According to one study, research on problem-solving skills assessment for senior high school students showed that 77.7% of items in the first case were accepted, indicating a need for revisions in assessment strategies to better evaluate student skills (Novitasari & Ramli, 2015). In a related finding, a study on students' exposure to critical thinking and problem-solving activities found that while students had a "great extent" of exposure to certain instructional strategies, there was a "low extent" of exposure to problem posing and the use of advanced tools like mathematics software (Iringan, 2021).

Imposition. In the Philippines, the imposition of the Senior High School Sports Track faced challenges such as the need for teacher development, curriculum alignment, and adequate funding for facilities. Similarly, the implementation of specific tracks, such as the Sports Track, presents both opportunities and challenges. Among the key concerns are teacher development, curriculum alignment, and the availability of sufficient resources. Nonetheless, these tracks also offer opportunities for schools to enhance their programs and improve student engagement (Poblador & Tagare, 2022).

In the U.S., students in lower academic tracks are approximately 60% more likely to drop out of high school than their peers in higher tracks (Benner et al., 2021). Likewise, the Japanese education system shows that tracking influences students' educational expectations and study habits, with those in higher tracks having higher expectations and spending more time studying (Matsuoka, 2015).

Challenges of the Senior High School Students

The challenges faced by senior high school students in terms of their environment, participation, and responsibility are multifaceted and deeply intertwined with their social, academic, and personal development. The introduction of the K–12 program in the Philippines has been perceived as burdensome due to extended high school years and inadequate learning facilities. Nonetheless, it also offers benefits like increased competency and career opportunities (Gurobat & Lumbu-an, 2022). In the context of STEM education, students in STEM fields face course-related, individual, and socio-cultural challenges, exacerbated by the demands of Industrial Revolution 4.0 and the pandemic. These challenges include difficulties adapting to new technologies and methodologies (Rogayan et al., 2021).

In the context of Indonesian language learning, students reported significant difficulties with language structure (61.07%) and vocabulary (52.6%) (Basuki et al., 2017). Similarly, geometry learning in Ghana revealed challenges with complex topics such as circle theorems and tangents, attributed to inadequate instructional materials and teaching methods (Kpotosu et al., 2024). In addition, in STEM education, Filipino students identified course-related challenges, including the complexity of content and the need for better instructional strategies (Rogayan et al., 2021). These findings reflect a broader trend across different educational contexts, where instructional challenges—such as content difficulty, lack of appropriate strategies, and limited learning resources—also affect students in the Technical-Vocational-Livelihood (TVL) track, highlighting the need for improved teaching approaches and materials tailored to the unique demands of technical education (Successfully Implementing Technical and Vocational Education and Training Programmes in Secondary Schools, 2022).

Learning Environment. A study highlights the significant relationship between the learning environment and employability schemes for Grade 12 TVL students. It particularly emphasizes the importance of human practices and material systems in enhancing cognitive relationships and practical skills, suggesting that schools should organize seminars and workshops to enrich hands-on skills, even during challenging times like the pandemic (Vallesteros, 2022). In connection to this, another study explores the impact of hybrid learning environments during the pandemic, noting both the benefits of engagement and innovative teaching methods, as well as challenges such as mental health issues and resource inequities. This study calls for comprehensive support systems to address these challenges (Sacramento, 2024).

Students from low-income backgrounds often face deteriorated school systems, which can lead to a lack of resources and support, impacting their educational experience negatively (Angwaomaodoko, 2024). In terms of cultural context, Indigenous students, for example, face unique challenges such as difficulty understanding lessons and lack of family support, which are further exacerbated by financial issues (Cubillas, 2024).

Schools serving predominantly low-income and minority students often have less access to technology, such as computers and the internet, compared to more affluent schools. As a result, this disparity contributes to ongoing patterns of educational inequality and limits students' learning opportunities (Education inequality in underserved regions: Exploring the role of technology to promote diversity and inclusivity, 2022). Furthermore, a study highlighted that 75% of surveyed schools face difficulties in resource

allocation, with urban schools generally having better access to technology than rural ones. This issue, in many cases, is linked to budget constraints and outdated educational materials (Syafaruddin et al., 2024).

A study on electrical/electronics technology education courses found that inadequate instructional materials and facilities negatively impact teaching and learning in 32 different ways. Specifically, this includes hindering the practical application of theoretical knowledge and reducing student engagement and performance (Medugu & Wada, 2022). Similarly, in Sub-Saharan Africa, the provision of teaching and learning materials (TLM) is fraught with challenges such as procurement and distribution issues, which affect the availability and usage of these materials in schools. The study emphasizes the need for sustainable TLM management to ensure equitable access (Okwanga & Mwesiga, 2022). Moreover, in South Africa, the availability of technology in schools does not necessarily translate into its effective use, particularly in mathematics education. Economic conditions and poverty are significant barriers to technology integration, suggesting that simply providing technology is insufficient without addressing underlying socio-economic issues (Exploring the effects of technology integration in the learning and teaching of mathematics, 2023). In the same vein, a study on K–12 schools in the United States found that despite the availability of computers, only 40% of teachers frequently use them in classrooms. Barriers include lack of training, insufficient IT support, and low teacher self-efficacy, highlighting the need for professional development to enhance technology integration (Dhir & Dubey, 2021). Taken together, these studies reveal that the mere presence of educational resources—whether materials or technology—does not guarantee effective teaching and learning, a concern that is equally relevant to the TVL track in the Philippines, where practical training and digital integration are essential components of learning.

Learning Participation. Many students show hesitancy in participating in student-centered learning environments due to social, cognitive, affective, and organizational challenges (Nerland, 2020). Additionally, students with lower academic achievement often feel less informed and supported in their participation efforts, leading to dissatisfaction with participation opportunities (Ćosić & Borić, 2024). In relation to student well-being, participation in school activities is linked to better academic performance and lower antisocial behavior, yet many students do not feel empowered to participate effectively (González et al., 2021).

The traditional and online learning, has been shown to enhance student engagement in vocational education. Notably, key strategies include the use of learning management systems (LMS), gamification, flipped classrooms, and MOOCs. These methods provide flexibility and simulate real working scenarios, which are crucial for vocational training (Chen et al., 2024). In particular, the use of gamification in learning environments has been especially effective in increasing student participation. By integrating game-like elements into educational content, students are more motivated and perform better academically (Samah et al., 2022).

Additionally, Project-Based Learning (PBL) is another effective approach for improving student participation in vocational education. PBL encourages deep learning by involving students in real-world projects that require critical thinking and problem-solving. This method has been shown to enhance students' attitudes towards learning, increase their confidence, and improve academic performance (Viswambaran & Shafeek, 2019).

In one study, Junior High School students in a blended learning environment were found to be highly participative in Technology and Livelihood Education (TLE), particularly in behavioral, cognitive, and emotional aspects. However, specific percentages were not provided in this context ("Students' Level of Engagement in Learnin...", 2023). Similarly, another study reviewed 38 studies on vocational students' engagement in blended teaching environments, emphasizing the role of technological applications and learning management systems in enhancing participation. Although specific data were not detailed, the study highlighted the importance of well-designed teaching strategies and cohesive learning communities (Chen et al., 2024). Meanwhile, in a study of vocational students in heavy equipment repair, 89.5% of students who independently chose their profession expressed a desire to work in their field, and 84.3% were willing to pursue career development. Interestingly, the dominant learning style was "Reflector," with 82.7% of students identifying with this style (Dalanbayar et al., 2024).

A study by Usher and Kober (2012) found that more than 40% of high school students are usually do not participate from learning, with only about 8% reaching a level of intrinsic motivation and effort (Oliveira & Lathrop, 2022). Likewise, in Pakistan, nearly 23% of students dropped out of school due to a lack of interest, highlighting a significant risk factor for school attrition (Rafi et al., 2022.). These findings underscore the importance of fostering participation and motivation, especially in the Technical-Vocational-Livelihood (TVL) track, where students must remain actively involved in hands-on and skill-based learning to succeed.

Learning Responsibility. Self-management techniques are crucial for developing learning responsibility among students. These techniques involve students regulating their own behavior, setting target behaviors, monitoring progress, and evaluating outcomes. Research has shown that applying self-management techniques can significantly enhance students' awareness and responsibility towards their learning tasks (Susanti, 2021). In addition, the use of structured learning models, such as the numbered head together approach, can also increase student responsibility by promoting active participation and accountability in group discussions and assignments (Sitorus & Soesanto, 2022).

Moreover, time management is a vital component of self-regulated learning, which is essential for academic success. It involves planning, prioritizing, and executing tasks efficiently. Studies have shown that effective time management can help students avoid procrastination and improve their academic performance (Wolters & Brady, 2021). This becomes even more critical in blended learning environments, where students have more autonomy. The integration of technological tools in these settings encourages self-regulation and independence, allowing students to manage their learning schedules more effectively (Mubango & Ngirande, 2024).

To support this, various tools and strategies have been developed to enhance time management skills among students. For example, the Chronos game has been shown to be an effective tool for training engineering students in time management, thereby improving their productivity and perception of this competence (Hernández-Linares et al., 2017). Similarly, time management training programs, which include techniques such as prioritization, scheduling, and evaluation, have been found to significantly improve students' ability to manage their time and enhance the quality of their learning (Holili et al., 2024).

Effective time management is linked to improved learning outcomes, as students who manage their time well tend to be more organized and productive. For instance, a study involving Polytechnic students found that 64% agreed that effective time management led to more organized learning tasks and flexibility in handling assignments (Mariam et al., 2021). In relation to this, self-regulation is a critical component of effective time management. It involves goal setting, task strategy utilization, and self-monitoring, which are essential for students to manage their time and resources efficiently. Notably, a study using a smartphone application demonstrated that self-regulation strategies could significantly improve students' time management skills (Kim et al., 2019).

Implementation of Technical Vocational Livelihood and Challenges of the Senior High School Students

A study in Bohol Province highlighted a generally positive perception of TVL policy implementation, emphasizing curriculum development, teacher training, and industry partnerships. However, challenges such as curriculum and instruction barriers, resource limitations, and teaching and learning difficulties were identified. The study advocates for evidence-based strategies and interdisciplinary approaches to overcome these challenges (Arban et al., 2024). Similarly, the integration of TVET within the K-12 system also faces challenges like curriculum-industry alignment, resource allocation, and societal perceptions of vocational education. In addition, regional disparities further complicate access to TVET programs (Relajo, 2024).

Moreover, teachers in the TVL track demonstrate high competence in various areas, yet face challenges in preparing assessments and managing limited classroom space. Establishing industry partnerships is also a significant hurdle. Notably, the study found a strong correlation between teachers' competencies and their instructional skills, influenced by their profiles (Arnado, 2023). Likewise, Project-Based Learning (PBL) has been shown to enhance critical thinking and engagement among vocational students, but its implementation is hindered by limited resources and teacher readiness (Suhaedin et al., 2024).

Furthermore, TVL students face challenges in writing technical papers, including grammar difficulties and conceptualization issues. Coping mechanisms include utilizing prior knowledge and seeking support. To address this, the study suggests innovative teaching strategies, such as digital literacy programs, to aid students (Basaya & Bautista, 2024).

A study conducted in Butuan City, Philippines, found a 64% incidence of job mismatch among TVL graduates from the 2018 and 2019 batches. This mismatch was attributed to factors such as national certification, faculty and instruction, job experience, workers' compensation, and family support. Consequently, the study highlighted the need for intervention initiatives to improve the implementation of the TVL program, with the goal of aligning graduates' skills with job market demands (Autentico & Alerta, 2020).

In Pakistan, the employability of TVET graduates is a significant challenge, with a 70% oversupply of labor compared to industry demand. This issue is further compounded by communication gaps and

outdated job listings, highlighting the need for better alignment between TVET programs and industry needs (Hassan & Anees, 2024). In addition, TVET graduates also face challenges in job-seeking, such as difficulties in creating compelling resumes and performing well in interviews. Moreover, language proficiency and self-confidence issues further hinder their employability (Mohamad et al., 2024). These findings parallel the situation in the Philippines, where many TVL graduates experience job mismatch due to factors such as certification gaps, instructional limitations, and lack of workplace exposure. Therefore, aligning the TVL curriculum with labor market needs and enhancing students' employability skills—particularly communication, confidence-building, and application readiness—remains a critical priority for improving outcomes in the TVL track.

Theoretical Framework

This study is anchored on General Systems Theory by Ludwig von Bertalanffy (1968) and Constructivist Learning Theory by Jean Piaget (1936) and Lev Vygotsky (1978). These two theories provide a comprehensive foundation for understanding the interconnected components of the Technical-Vocational-Livelihood (TVL) track implementation and the challenges experienced by senior high school students, particularly in relation to instructional delivery, student participation, and learning responsibility.

General Systems Theory (Bertalanffy, 1968) views an institution as an open system composed of interdependent parts—inputs, processes, and outputs. In the context of this study, the implementation of the TVL track and the perceived student challenges serve as the input; the data collection, analysis, and interpretation form the process; and the instructional development plan represents the output. This theory emphasizes that the effectiveness of a system relies on how well its components interact and adapt, suggesting that instructional improvement depends on the alignment and responsiveness of all educational elements involved.

It was developed over several decades, with Bertalanffy's work in the 1950s and 1960s being pivotal in establishing the theory as a scientific discipline (Baecker, 2005). It has influenced the development of other theories, such as cybernetics, which focuses on communication and control within systems (Claussen, 2012).

Meanwhile, the Constructivist Learning Theory, pioneered by Jean Piaget (1936) and later expanded by Lev Vygotsky (1978), posits that learners actively construct knowledge through meaningful experiences and social interaction. This theory supports the idea that students learn best when they are engaged, responsible, and provided with opportunities for real-world, hands-on learning. Within the context of the TVL track, constructivism helps explain students' struggles in learning participation and responsibility, and reinforces the need for instructional approaches that are student-centered, inquiry-based, and grounded in practical application.

According to Jean Piaget's Constructivist Learning Theory (1936), cognitive development involves the transformation and reorganization of existing knowledge structures, or schemas, through active learning experiences. Learners construct their own understanding by integrating new information with prior knowledge (Mohammed et al., 2020; Ardiansyah & Ujihanti, 2017). In contrast, Lev Vygotsky's Sociocultural Theory (1978) highlights the importance of social interaction and cultural tools in the learning process. He asserted that cognitive development is primarily shaped by interactions with more knowledgeable others, such as teachers or peers (Mohammed et al., 2020).

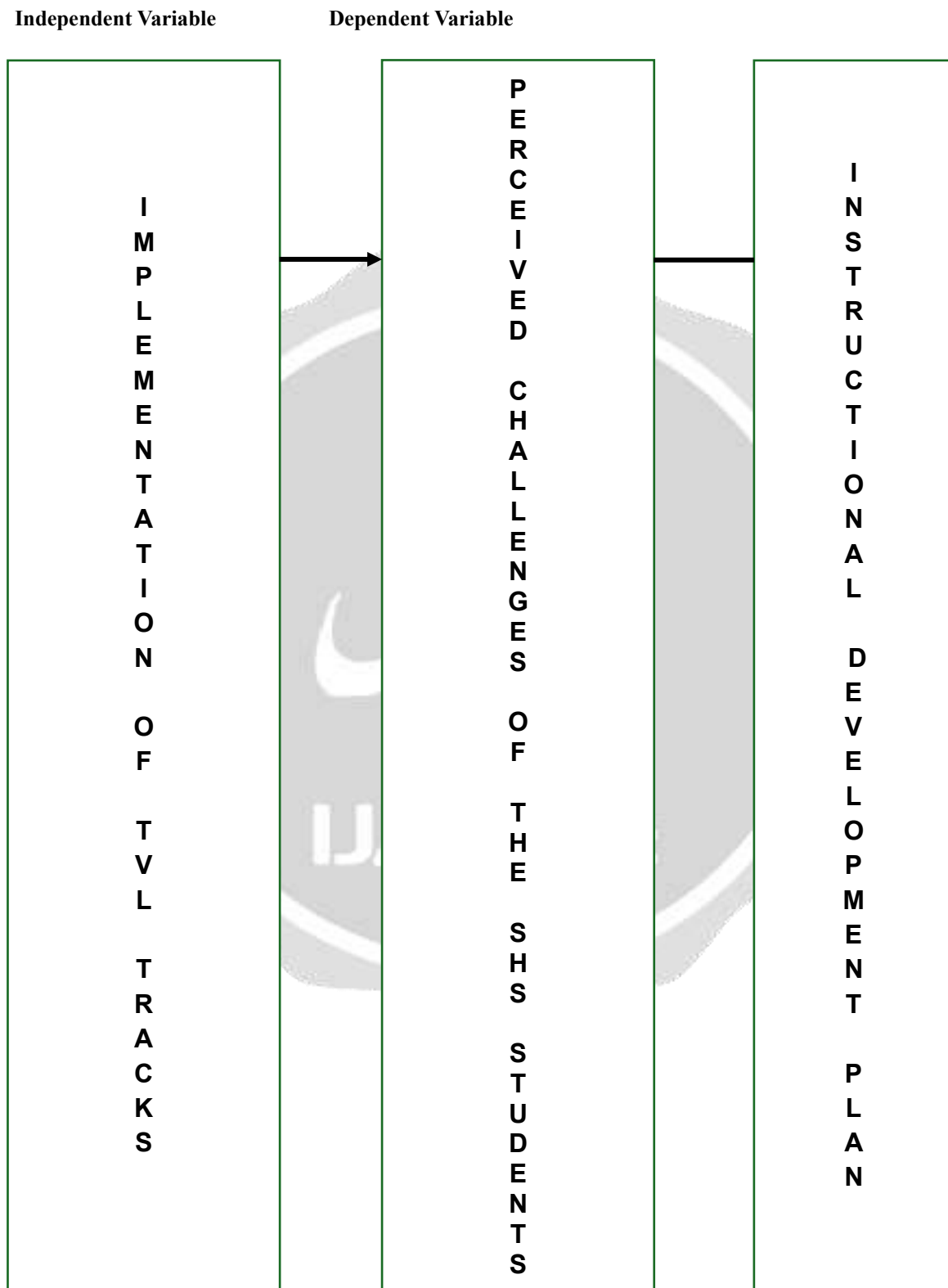


Figure 1. The Schematic Diagram of the Study

Statement of the Problem

This study aims to assess the implementation of the Technical-Vocational-Livelihood (TVL) track and the challenges perceived by the senior high school students of Salvacion National High School in Trento, Agusan del Sur. The findings will serve as a basis for the development of an instructional improvement plan. Specifically, this study seeks to answer the following questions:

1. What is the level of implementation of the TVL track in Salvacion National High School as perceived by the respondents in terms of:
 - 1.1. Facilities and Equipment;
 - 1.2. Industry Preparedness/Partnership;
 - 1.3. Workplace/Learning Environment;
 - 1.4. Instruction; and
 - 1.5. Imposition
2. What are the challenges perceived by Senior High School students under the TVL track in terms of:
 - 2.1. Learning Environment;
 - 2.2. Learning Participation; and
 - 2.3. Learning Responsibility
3. Is there a significant difference between the level of implementation of the TVL track and the students' perceived challenges?
4. What instructional development plan can be proposed to address the identified challenges and improve the implementation of the TVL track?

Hypotheses

Ho1: There is no significant difference between the level of implementation of the TVL track and the students' perceived challenges.

Ho2: There is a significant difference between the level of implementation of the TVL track and the students' perceived challenges.

Significance of the Study

This study is expected to provide valuable insights for various stakeholders in the education sector.

Department of Education (DepEd). The findings of this study may be considered in revisiting and enhancing the implementation of the TVL track under the K to 12 curriculum. It may serve as a basis for developing policies that address curriculum-industry alignment, facility improvement, and instructional quality, particularly in rural schools like Salvacion National High School.

Schools Division of Agusan del Sur. This study's findings may enhance the implementation of the TVL track across schools in the division. The results can inform the development of policies and programs that address curriculum-industry alignment, teacher training, resource provision, and instructional improvements, especially in geographically disadvantaged or resource-limited schools.

Principal. This study can guide school heads and program implementers in identifying gaps in the delivery of the TVL track. The insights may assist them in designing appropriate interventions to improve instruction, strengthen industry partnerships, and allocate resources more effectively to support technical-vocational education.

TVL Teachers and Coordinators. The results may help them understand the challenges students face regarding learning environment, participation, and responsibility. This understanding can guide them in refining instructional strategies, integrating more student-centered and practical approaches, and effectively supporting learners.

TESDA and Industry Partners. The study may offer useful feedback on how school-based training translates to workplace readiness. This can help in building stronger linkages between schools and industries, ensuring that student competencies align with actual labor market demands and national certification requirements.

Senior High School Students. This research will benefit students by paving the way for a more responsive and supportive learning environment. Through the proposed instructional development plan, their challenges may be addressed, resulting in more meaningful and effective technical-vocational learning experiences.

Parents. The study can raise awareness among parents of the learning needs and challenges faced by their children in the TVL track. This awareness can help them become more engaged in their child's education and provide support both at home and in collaboration with the school.

Future Researchers. This study may serve as a foundation for further research on the implementation of TVL and other senior high school tracks. It may also serve as a reference in conducting program evaluations, policy reviews, or studies exploring instructional innovations and student outcomes in the context of technical-vocational education.

Scope and Limitation of the Study

This study focuses on assessing the implementation of the Technical-Vocational-Livelihood (TVL) track and the challenges perceived by Senior High School students of Salvacion National High School in Trento, Agusan del Sur. Specifically, the study examines the level of implementation in terms of facilities and equipment, industry preparedness/partnership, workplace/learning environment, instruction, and imposition. It also explores the challenges encountered by students in the areas of learning environment, learning participation, and learning responsibility.

The primary respondents of this study are Grade 11 and Grade 12 students currently enrolled in the TVL track at Salvacion National High School, who have been in the program for at least one semester during the first semester of School Year 2024–2025. The study is limited to gathering data based on student perceptions and does not include teachers, administrators, or other stakeholders.

Furthermore, this study is confined to Salvacion National High School and does not intend to generalize findings to other schools within or outside the Schools Division of Agusan del Sur. While the study aims to propose an instructional development plan, it does not cover the implementation or impact evaluation of the proposed intervention.

Definition of Terms

To ensure clarity and uniform understanding, the following terms are defined as they are used in this study:

Facilities and Equipment. These refer to the physical and instructional resources—such as tools, machines, learning laboratories, and technical devices—used to support the delivery of the TVL track. Their availability and condition directly influence the effectiveness of technical-vocational instruction.

Industry Preparedness/Partnership. This refers to the school's collaboration with industry sectors to ensure that the TVL curriculum is aligned with workforce standards. It includes partnerships for work immersion, training opportunities, and exposure to real-world work environments.

Workplace/Learning. This pertains to the settings—within the school or through partner industries—where students apply and enhance their technical skills. It reflects how conducive and relevant these environments are for experiential learning.

Instruction. This refers to the teaching process in the TVL track, including lesson delivery, instructional strategies, teacher competence, and the overall management of learning activities.

Imposition. This involves enforcing or implementing policies, guidelines, and procedures related to the TVL track as mandated by DepEd and other relevant institutions.

Learning Environment. This describes the overall academic atmosphere in which TVL students learn, encompassing classroom setup, teacher-student interactions, peer collaboration, and access to learning materials.

Learning Participation. This refers to the degree of involvement of TVL students in academic and technical-vocational activities, including classroom tasks, hands-on projects, and immersion experiences.

Learning Responsibility. This pertains to students' ability to take ownership of their learning by demonstrating self-discipline, time management, task completion, and accountability in academic and practical work.

CHAPTER 2 RESEARCH METHODOLOGY

This chapter provides information on the research design, location of the study, study respondents, research instrument, data collection procedure, and statistical treatment.

Research Design

This study employed a quantitative research design, specifically utilizing a descriptive-survey approach. It aimed to determine the level of implementation of the Technical-Vocational-Livelihood (TVL) track and the challenges perceived by Senior High School students of Salvacion National High School.

Quantitative research is a systematic method that involves collecting and analyzing numerical data to understand patterns, relationships, or trends. Typically, it is used to answer "what" and "how many"

questions about a situation ("Quantitative Research", 2023). Moreover, quantitative research designs are organized in a hierarchy of evidence, ranging from descriptive studies like cross-sectional and cohort studies to more rigorous experimental designs like randomized controlled trials (RCTs) (Slater & Hasson, 2024).

The descriptive-survey design was appropriate for this study as it involved gathering data through structured questionnaires to describe the respondents' current conditions, perceptions, and experiences. The data collected were used to assess areas such as facilities, instruction, industry partnerships, and student learning factors. The goal was to propose an instructional development plan based on the findings. Moreover, descriptive-survey design provides practical information useful for solving local issues and generating hypotheses for further research. It also allows researchers to study and describe the distribution of variables without regard to causal hypotheses (Aggarwal & Ranganathan, 2019).

Research Locale

This study was conducted in Salvacion National High School, a public secondary school in Trento, province of Agusan del Sur. The school offers the Technical-Vocational-Livelihood (TVL) track under the Senior High School program, making it a relevant setting for assessing the implementation of TVL and the challenges perceived by its students.

It is situated in the Caraga Region of the Philippines. As a developing area, it presents unique educational challenges and opportunities, particularly for schools offering technical-vocational education.

Agusan del Sur is a landlocked province in Northeastern Mindanao, part of the Caraga Region (Region XIII). The province includes several rural public schools, where resource limitations and implementation gaps in senior high school programs such as TVL are commonly observed.

The choice of Salvacion National High School as the research locale allows the study to focus on a specific context where the delivery of the TVL track can be evaluated regarding facilities, instruction, learning environment, and student engagement. The findings aim to inform interventions that can enhance instruction and improve student outcomes within the school and possibly across similar regional institutions.



Figure 2. Maps of the Philippines and the Municipality of Trento

The Respondents of the Study

The respondents of this study were Senior High School students enrolled in the Technical-Vocational-Livelihood (TVL) track at Salvacion National High School, located in Trento, Agusan del Sur. These include students from both Grade 11 and Grade 12, who were officially enrolled in the first semester of School Year 2024–2025.

The respondents were selected based on the criterion that they must have been in the TVL track for at least one semester, ensuring sufficient exposure to the program's implementation and learning environment. Their insights were gathered to assess the level of TVL implementation and the challenges they encounter regarding the learning environment, learning participation, and learning responsibility. The data they provided serves as the foundation for proposing an instructional development plan to improve the delivery of the TVL track in the school.

Table 1.

Respondents of the study.

Grade Level	Population	Sample Size
Grade 11	14	14
Grade 12	13	13
Total	27	27

The Instrument of the Study

The primary instrument used in this study was an adapted survey questionnaire designed to gather quantitative data on the level of implementation of the TVL track and the challenges perceived by Senior High School students. The questionnaire was based on existing studies and frameworks relevant to Technical-Vocational-Livelihood education and was modified to suit the local context of Salvacion National High School.

The first part of the questionnaire focused on assessing the level of TVL track implementation in terms of facilities and equipment, industry preparedness/partnership, workplace/learning, instruction, and imposition. This section was adapted from the study entitled Status of Implementation of Technical-Vocational-Livelihood (TVL) Track in Secondary Schools in the District of Botolan by Alvin Ferrer (2022), with modifications to suit the specific context of the present study.

The ratings were described as follows.

Range of Means	Description	Interpretation
4.20 – 5.00	Very High	TVL is always implemented.
3.40 – 4.19	High	TVL is oftentimes implemented.
2.60 – 3.39	Moderate	TVL is sometimes implemented.
1.80 – 2.59	Low	TVL is rarely implemented.
1.00 – 1.79	Very Low	TVL is never implemented.

The second part explored students' perceived challenges in terms of their learning environment, learning participation, and learning responsibility. It was adapted from the study Challenges Encountered by Technical Vocational Livelihood Learners in Enhancing Research Output: Basis for an Intervention Plan by Caressa D. Roxas and Edna O. Briones (2025).

The ratings were described as follows.

Range of Means	Description	Interpretation
4.20 – 5.00	Very High	Challenges of the SHS students is always perceived.
3.40 – 4.19	High	Challenges of the SHS students is oftentimes perceived.
2.60 – 3.39	Moderate	Challenges of the SHS students is sometimes perceived.
1.80 – 2.59	Low	Challenges of the SHS students is rarely perceived.
1.00 – 1.79	Very Low	Challenges of the SHS students is never perceived.

A five-point Likert scale was used to measure the respondents' level of agreement with the given statements. To ensure content validity, the adapted instrument was reviewed by experts in education and research. Based on their feedback, necessary revisions were made to improve clarity, relevance, and

appropriateness. The final version of the questionnaire was pilot-tested to assess its reliability before the data collection.

Data Collection Procedure

The data collection for this study was conducted following a systematic and ethical process.

Before conducting the study, the researcher sought approval from the Office of the Schools Division Superintendent of Agusan del Sur through a formal letter of request endorsed by the school principal of Salvacion National High School.

Upon receiving approval, the researcher coordinated with the Senior High School Coordinator and the TVL strand advisers to identify and schedule respondents.

The researcher personally distributed the survey questionnaires during a scheduled time that did not disrupt regular classes. Prior to distribution, the purpose of the study was clearly explained to the respondents, and they were assured of the confidentiality and anonymity of their responses. Participation in the survey was voluntary, and students were given adequate time to answer the questionnaire.

Once completed, the questionnaires were collected, checked for completeness, and organized for data encoding. The responses were tallied, and the results were statistically analyzed to determine the level of TVL implementation, perceived challenges, significant differences across profile variables, and relationships between the key variables. The findings were then used to propose an instructional development plan.

Statistical Treatment

Various statistical tools were employed to analyze the data gathered in this study based on the nature of each research problem.

For Problem 1, which aimed to determine the level of implementation of the TVL track as perceived by the students in terms of facilities and equipment, industry preparedness/partnership, workplace/learning, instruction, and imposition, the weighted mean was used. This helped identify the average response per indicator and provided a descriptive interpretation of the implementation level.

For Problem 2, which sought to assess the challenges perceived by Senior High School students in terms of learning environment, learning participation, and learning responsibility, the weighted mean was also utilized to quantify the degree of challenges encountered. Responses were interpreted using a descriptive scale to determine whether the challenges were low, moderate, or high.

For Problem 3, which examined whether there is a significant relationship between the level of implementation of the TVL track and the students' perceived challenges, the Pearson Product-Moment Correlation Coefficient (Pearson r) was applied. This statistical tool measured the strength and direction of the relationship between the two variables. All statistical analyses were conducted using Microsoft Excel or SPSS, with a 0.05 significance level as the basis for determining statistical significance.

CHAPTER 3 PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

This chapter presents the data, analysis, and interpretation of the overall study.

Sub-problem No. 1: What is the level of implementation of the TVL track in Salvacion National High School as perceived by the respondents in terms of:

- 1.1. Facilities and Equipment;
- 1.2. Industry Preparedness/Partnership;
- 1.3. Workplace/Learning Environment;
- 1.4. Instruction; and
- 1.5. Imposition

The data reveal that the level of implementation of the TVL track in terms of facilities and equipment is generally high, with an overall weighted mean of 4.02 (SD = 0.95), interpreted as oftentimes implemented. Among the indicators, the highest mean was obtained by the provision of health-promoting amenities such as canteens, comfort rooms, and drinking fountains (M = 4.22, SD = 0.69), and the availability of classroom physical structures like desks and cabinets (M = 4.22, SD = 0.88), both interpreted as very high. These were followed by the presence of updated library resources (M = 4.11, SD = 1.03), availability of student services (M = 4.07, SD = 1.12), and the continuous improvement of facilities through procurement (M = 4.04, SD = 0.74).

Moderately high ratings were also observed in classrooms equipped with modern technology (M = 4.04, SD = 0.92), availability of computer laboratories (M = 3.96, SD = 0.84), and kitchen laboratories (M =

3.96, SD = 0.88). Meanwhile, the lowest mean was recorded in the adequacy of mathematics, science, and English laboratories (M = 3.70, SD = 1.33), indicating room for improvement despite still being interpreted as high. Overall, the findings suggest that physical and support facilities are generally available, though specialized laboratory resources require enhancement.

Table 2.1*Level of implementation of the TVL track*

Facilities and Equipment	Mean	SD	Description
1. Classrooms and laboratories conform to acceptable standards (RA 6541 National Building Code of the Philippines/ PD 856 "Code of Sanitation of the Philippines").	3.85	1.11	High
2. Classrooms are equipped with alternative technology such as TVs and video players to keep up with modernity.	4.04	0.92	High
3. The mathematics, science, and English laboratories are outfitted with all necessary teaching-learning aids, services, tools, and gadgets.	3.70	1.33	High
4. The school library has a current collection of books, textbooks, periodicals, newspapers, magazines, and journals.	4.11	1.03	High
5. Health-promoting amenities include a canteen, comfort rooms, and drinking fountains.	4.22	0.69	Very High
6. Student services such as a safe playground, medical and dental clinics, and counseling rooms are available.	4.07	1.12	High
7. Classroom physical structures like tables, desks, chairs, cabinets, and bulletin board displays are conspicuously provided.	4.22	0.88	Very High
8. The computer laboratory is equipped with necessary peripherals and with stable internet connectivity.	3.96	0.84	High
9. The kitchen laboratory is equipped with state of facilities and adequate kitchen tools.	3.96	0.88	High
10. Continuously comply and improve facilities and equipment through procurement.	4.04	0.74	High
Weighted Mean		4.02	
Standard Deviation		0.95	
Interpretation		Oftentimes Implemented	

The level of implementation of the TVL track in terms of industry preparedness and partnership yielded a weighted mean of 4.22 (SD = 0.83), interpreted as always implemented. The highest mean was obtained by the provision of functional skills for livelihood (M = 4.52, SD = 0.64), followed by preparing students' physical and psychological readiness (M = 4.41, SD = 0.68) and monitoring work immersion programs (M = 4.41, SD = 0.73). These findings highlight strong alignment between instruction and workforce readiness.

Engagement of private sectors in curriculum review also obtained a very high rating (M = 4.33, SD = 0.77), along with strengthening industry linkages and awareness of workplace realities (M = 4.19 each). Moderate variation was observed in reinforcing industry-demand skills (M = 4.15, SD = 0.96) and encouraging MOA partnerships (M = 4.11, SD = 0.79). The lowest mean was noted in forging new alliances (M = 3.81, SD = 1.04), suggesting that expansion of partnerships may still be improved. Overall, the results indicate strong institutional efforts in aligning TVL education with industry standards.

Table 2.2*Level of implementation of the TVL track*

Industry Preparedness/Partnership	Mean	SD	Description
1. Provides the students with functional knowledge and skills to earn a living.	4.52	0.64	Very High

2. Prepares the students for their physical and psychological well-being and welfare.	4.41	0.68	Very High
3. Helps the students in the completion of necessary certification requirements.	4.07	0.88	High
4. Makes the students aware of the impact and implications of their essential learning to survive in the world of work.	4.19	0.97	High
5. Strengthens existing linkages to industries by engaging in school programs and activities.	4.19	0.80	High
6. Reinforces skills training of students to ensure relevant industry-demand-based courses.	4.15	0.96	High
7. Encourages partnership arrangements relative to SHS implementation through the Memorandum/Memoranda of Agreement.	4.11	0.79	High
8. Engages the private sectors in curriculum review to strengthen the curriculum of the TVL Track.	4.33	0.77	Very High
9. Forges new alliances of partnership and maximizes social participation.	3.81	1.04	High
10. Provides regular monitoring and evaluation of the students who undergo work immersion.	4.41	0.73	Very High
Weighted Mean		4.22	
Standard Deviation		0.83	
Interpretation		Always Implemented	

The implementation of the TVL track in terms of workplace and learning environment obtained a weighted mean of 4.23 (SD = 0.81), interpreted as always implemented. The highest-rated indicator was the provision of a safe and secure working environment (M = 4.44, SD = 0.70), followed by proper ventilation and cleanliness of rooms (M = 4.37, SD = 0.74) and maintaining workplace orderliness (M = 4.37, SD = 0.74). These findings reflect a highly conducive learning atmosphere.

The availability of tools and equipment (M = 4.33, SD = 0.73) and presence of secured storage cabinets (M = 4.30, SD = 0.69) also received very high ratings. Other high-rated indicators include monitoring of work areas (M = 4.11, SD = 0.88), adherence to safety procedures (M = 4.00, SD = 0.91), and implementation of 5S practices (M = 4.15, SD = 0.88). The lowest mean was obtained by assigning property custodians (M = 3.93, SD = 0.99), although still interpreted as high. Overall, the results indicate that the school provides a highly structured and safe learning environment.

Table 2.3

Level of implementation of the TVL track

Workplace/Learning Environment	Mean	SD	Description
1. The physical structure of the specific work area, like a classroom or shop room conducive to doing work.	4.26	0.85	Very High
2. The rooms are properly ventilated where cleanliness is maintained.	4.37	0.74	Very High
3. Availability of facilities, equipment, modern technology devices, tools, and gadgets prepared and ready for use	4.33	0.73	Very High
4. Locked cabinets are in place for storing and safe-keeping industry or home tools, devices, and utensils.	4.30	0.69	Very High
5. A designated official monitor and supervises the work area to check efficiency.	4.11	0.88	High
6. The property custodian is designated to ensure the proper utilization of the facilities and equipment.	3.93	0.99	High
7. Provision of standard procedures on the utilization of the facilities and equipment, such as borrowing and returning.	4.00	0.91	High

8. Maintain the orderliness and cleanliness of the workplace.	4.37	0.74	Very High
9. The safe and secure working environment for the teaching, non-teaching staff, and students.	4.44	0.70	Very High
10. Continuous practice of sort, set in order, shine, standardize and sustain for efficiency and effectiveness.	4.15	0.88	High
Weighted Mean			4.23
Standard Deviation			0.81
Interpretation	Always Implemented		

The instructional implementation of the TVL track yielded a weighted mean of 4.11 (SD = 0.86), interpreted as oftentimes implemented. The highest-rated indicator was the provision of instructional technologies and support (M = 4.41, SD = 0.64), followed by the application of indigenized curriculum approaches (M = 4.30, SD = 0.73), both interpreted as very high.

High ratings were also observed in teacher qualifications (M = 4.22, SD = 0.80), provision of hands-on activities (M = 4.15, SD = 0.88), and competency enhancement through training (M = 4.11, SD = 0.86). Other moderately high indicators include meeting curriculum requirements (M = 4.07, SD = 0.88), use of diverse teaching methods (M = 4.07, SD = 0.91), and student collaboration opportunities (M = 3.93, SD = 0.99). The lowest mean was recorded in maintaining ideal teacher-student ratios (M = 3.89, SD = 0.96), indicating a potential area for instructional improvement.

Table 2.4
Level of implementation of the TVL track

Instruction	Mean	SD	Description
1. Meets the requirements with subject and course offerings associated with the New Enhanced Basic Education Curriculum.	4.07	0.88	High
2. Provides teachers with the instructional technologies, tools, and support they need to ensure students' quality learning.	4.41	0.64	Very High
3. Provides students with the knowledge and skills they need to fulfill the labor market demands.	3.96	0.92	High
4. Improves teacher competencies by measuring the transfer of skills obtained from in-service training through follow up procedures.	4.11	0.86	High
5. Uses diverse teaching methods, approaches, tactics, and strategies aligned with the student's diverse needs and interests.	4.07	0.91	High
6. Provides hands-on activities or practical experience in their laboratory sessions.	4.15	0.88	High
7. The teacher applies indigenization to the curriculum based on the minimum standards set by DepEd.	4.30	0.73	Very High
8. Teachers teaching students on TVL Track are competent and highly qualified with the qualifications, knowledge, mastery, and specialized training.	4.22	0.80	Very High
9. Implements the ideal student- ratio for conducive teaching and learning.	3.89	0.96	High
10. Allows collaboration and research work of the students focusing on technology.	3.93	0.99	High
Weighted Mean			4.11
Standard Deviation			0.86
Interpretation	Oftentimes Implemented		

The implementation of the TVL track in terms of imposition recorded a weighted mean of 4.21 (SD = 0.80), interpreted as always implemented. The highest means were observed in sending teachers to training and seminars (M = 4.41, SD = 0.64) and adherence to the K-12 curriculum (M = 4.37, SD = 0.68), both interpreted as very high.

Other strong indicators include teachers holding national certifications (M = 4.33, SD = 0.73), participation in professional organizations (M = 4.22, SD = 0.80), and compliance with DepEd policies (M = 4.26, SD = 0.77). Moderate yet high ratings were observed in aligning objectives with assessments (M = 4.07, SD = 0.86) and stakeholder engagement (M = 4.07, SD = 0.91). The lowest mean was obtained in implementing OBE syllabi (M = 3.89, SD = 0.96), though still interpreted as high. Overall, findings suggest strong policy compliance and institutional support mechanisms.

Table 2.5*Level of implementation of the TVL track*

	Imposition	Mean	SD	Description
1.	Adheres to the K-12 new curriculum program as specified by the Basic Education Act of 2013.	4.37	0.68	Very High
2.	Implements outcomes-based education (OBE) course syllabi that adhere to content, performance, and competency criteria.	3.89	0.96	High
3.	Aligns Lesson objectives with assessment processes and standards.	4.07	0.86	High
4.	Conducts or sends teachers to seminars, training, and workshops to retool and update excellent teaching and learning standards	4.41	0.64	Very High
5.	Encourages teachers' active participation in research studies and professional growth.	4.30	0.73	Very High
6.	Engagement of the stakeholders in the localization of the curriculum.	4.07	0.91	High
7.	Adheres to the DepEd Memorandum Order No. 4, Series 2014 Additional Requirements for the SHS Program Implementation.	4.26	0.77	Very High
8.	Has teachers who are holders of the National Certificate or Trainers Methodology.	4.33	0.73	Very High
9.	Assists and prepares the students for their National Certificate assessment.	4.15	0.88	High
10.	Has participation/ membership of the teachers in the TVL related organization for professional development.	4.22	0.80	Very High
Weighted Mean		4.21		
Standard Deviation		0.80		
Interpretation		Always Implemented		

Table 2.6 presents the summary of the level of implementation of the Technical-Vocational-Livelihood (TVL) track across five dimensions. Overall, the implementation yielded a grand mean of 4.16, interpreted as oftentimes implemented, indicating a generally high level of implementation of the TVL program in Salvacion National High School.

Among the five indicators, the highest mean was recorded in workplace/learning environment (M = 4.23, SD = 0.81), interpreted as always implemented. This suggests that the school provides a conducive and well-maintained environment that supports hands-on and experiential learning. This was closely followed by industry preparedness/partnership (M = 4.22, SD = 0.83) and imposition (M = 4.21, SD = 0.81), both interpreted as always implemented, indicating strong alignment with industry standards and consistent adherence to policy requirements.

Instruction obtained a mean of 4.11 (SD = 0.86), interpreted as oftentimes implemented, reflecting that instructional delivery is generally effective but may still require enhancement in certain areas such as teacher-student ratio and diversified instructional approaches. Meanwhile, facilities and equipment registered

the lowest mean ($M = 4.02$, $SD = 0.95$), although still interpreted as oftentimes implemented, suggesting that while basic resources are present, improvements in specialized laboratories and equipment may further strengthen program delivery.

Overall, the results indicate that the TVL track is implemented at a high level across all domains, with particular strengths in workplace readiness and industry alignment, while infrastructure-related aspects remain areas for continuous development.

Table 2.6

Summary of the Level of Implementation of the TVL Track

Implementation	Weighted Mean	Standard Deviation	Interpretation
Facilities and Equipment	4.02	0.95	Oftentimes Implemented
Industry Preparedness/Partnership	4.22	0.83	Always Implemented
Workplace/Learning Environment	4.23	0.81	Always Implemented
Instruction	4.11	0.86	Oftentimes Implemented
Imposition	4.21	0.81	Always Implemented
Overall Mean	4.16		
Interpretation	Oftentimes Implemented		

Sub-problem No. 2: What are the challenges perceived by Senior High School students under the TVL track in terms of:

- 2.1. Learning Environment;
- 2.2. Learning Participation; and
- 2.3. Learning Responsibility

The challenges related to learning environment obtained a weighted mean of 3.39 ($SD = 1.05$), interpreted as sometimes perceived. The highest challenge identified was limited financial resources for research ($M = 4.30$, $SD = 0.96$), indicating a very high concern among students. This was followed by insufficient study areas and laboratories ($M = 3.63$, $SD = 1.01$) and limited access to technology ($M = 3.56$, $SD = 1.04$).

Other high challenges include difficulty accessing materials ($M = 3.48$, $SD = 0.99$) and limited research time ($M = 3.48$, $SD = 1.05$). Moderate concerns were observed in lack of research training ($M = 3.22$, $SD = 1.14$), collaboration issues ($M = 3.07$, $SD = 1.12$), and difficulty seeking teacher guidance ($M = 3.30$, $SD = 1.18$). Overall, the findings indicate moderate environmental constraints affecting student learning.

Table 3.1

Challenges perceived under TVL track

Learning Environment	Mean	SD	Description
1. Experience difficulty on the learning materials resources needed for research project.	3.48	0.99	High
2. Are unable to perform research due to limited access to computers, the internet, and relevant software in school for conducting research.	3.56	1.04	High
3. Have insufficient school's study areas, classrooms, and laboratories conducive to working on research tasks.	3.63	1.01	High
4. Have difficulty to seek guidance from teachers on how to conduct research and complete research projects.	3.30	1.18	Moderate
5. Fail to collaborate with their classmates on group research tasks which resulted to unsatisfactory output.	3.07	1.12	Moderate
6. Encounter insufficient training in research skills alongside technical skill development.	3.22	1.14	Moderate
7. Face limited time allocated in the schedule to focus on research work and projects.	3.48	1.05	High

8. Run into provision for research workshop or training session that helps improve research skills are limited (e.g., data analysis, and academic writing).	3.44	1.02	High
9. Have less exposure to research oriented environment that can motivated to engage in research projects.	3.41	1.03	High
10. Limited financial resources to purchase or access materials needed for completing research projects.	4.30	0.96	Very High
Weighted Mean	3.39		
Standard Deviation	1.05		
Interpretation	Sometimes Perceived		

The level of participation-related challenges yielded a weighted mean of 3.24 (SD = 1.02), interpreted as sometimes perceived. The most prominent challenge was difficulty contributing in group research tasks (M = 3.48, SD = 1.01), followed by difficulty expressing ideas during discussions (M = 3.41, SD = 1.02).

Moderate challenges were observed in fear of criticism (M = 3.37, SD = 0.98), low priority for research outside class (M = 3.30, SD = 1.05), and hesitancy to ask questions (M = 3.30, SD = 0.95). Lower-rated concerns included lack of initiative in using resources (M = 3.15), disinterest in research activities (M = 3.07), and lack of engagement in peer discussions (M = 3.19). Overall, results suggest moderate barriers in student engagement and active participation.

Table 3.2

Challenges perceived under TVL track

Learning Participation	Mean	SD	Description
1. When called to participate in class discussions related to research methodologies and practices but failed to deliver due to difficulty in expressing ideas.	3.41	1.02	High
2. Are hesitant to ask questions when they encounter difficulties with research projects due to fear of judgement.	3.30	0.95	Moderate
3. Seldom ever ask lecturers for suggestions on how to improve the way to present the research because of fear of criticism.	3.37	0.98	Moderate
4. In group research tasks, struggled to collaborate with their classmates and make a meaningful contribution to the project.	3.48	1.01	High
5. See spending time on research assignments and projects outside of the classroom is not a high priority.	3.30	1.05	Moderate
6. Find the research-related workshops or training provided by the school to improve research skills uninteresting.	3.00	0.92	Moderate
7. Feel that engaging in discussions and peer reviews with classmates to enhance the quality of research doesn't appeal to them.	3.19	1.04	Moderate
8. Do not have the initiative to use additional resources (e.g., books, and online materials) to enhance research.	3.15	1.07	Moderate
9. Are not interested to participate in research activities that relate to my TVL track and future career.	3.07	1.10	Moderate
10. Find feedback and guidance from teachers to improve my research output is not a top priority.	3.15	1.03	Moderate

Weighted Mean	3.24
Standard Deviation	1.02
Interpretation	Sometimes Perceived

Learning responsibility challenges yielded a weighted mean of 3.44 (SD = 1.02), interpreted as oftentimes perceived. The highest concern was poor time management (M = 3.63, SD = 1.00), followed by difficulty completing research tasks independently (M = 3.56, SD = 1.01).

Other high challenges include difficulty organizing materials (M = 3.44), lack of initiative in revising outputs (M = 3.44), and weak accountability for research quality (M = 3.44). Moderate concerns were observed in reliance on peers (M = 3.37) and neglect of problem-solving responsibilities (M = 3.26). Overall, findings highlight the need for strengthening student autonomy and self-regulation.

Table 3.3

Challenges perceived under TVL track

Learning Responsibility	Mean	SD	Description
1. Find taking responsibility for completing research tasks on time without relying heavily on others is disregarded.	3.56	1.01	High
2. Haven't prioritized seeking clarification, nor have ensured that fully understand research projects that come with requirements that need to be met.	3.44	0.98	High
3. Find gathering and organizing the materials and resources for research work quite challenging.	3.44	1.03	High
4. Take full ownership of the research process or relying entirely to classmates for group work is not something they do.	3.37	1.05	Moderate
5. See making an effort to follow the research methodology and guidelines given by the teacher is not a high priority.	3.48	1.02	High
6. Struggle to take the initiative to revise and enhance research output based on feedback and critiques.	3.44	1.06	High
7. Inconsistently manage time effectively to balance research work with other academic and personal responsibilities.	3.63	1.00	High
8. Hesitant to hold accountable for the quality of my research output and strive to meet academic standards.	3.44	1.02	High
9. Fail to look for opportunities to improve research skills through additional readings, tutorials, or workshops is not significant.	3.37	1.04	Moderate
10. Neglect taking responsibility for addressing issues that emerge during the research process is not a major concern. (e.g., data collection, and analysis) and finding solutions.	3.26	1.01	Moderate
Weighted Mean	3.44		
Standard Deviation	1.02		
Interpretation	Oftentimes Perceived		

Table 3.4 presents the summary of the perceived challenges encountered by Senior High School students under the TVL track. The overall mean of 3.36, interpreted as sometimes perceived, indicates that students experience moderate challenges in relation to their learning environment, participation, and responsibility.

Among the three dimensions, the highest mean was recorded in learning responsibility (M = 3.44, SD = 1.02), interpreted as oftentimes perceived. This suggests that students encounter notable difficulties in areas such as time management, accountability, and independent completion of academic tasks. The relatively

higher mean in this domain highlights the need for interventions that strengthen learner autonomy and self-regulation.

This was followed by learning environment ($M = 3.39$, $SD = 1.05$), interpreted as sometimes perceived. The findings imply that while the environment is generally adequate, issues such as limited financial resources, access to research materials, and infrastructural constraints still affect student learning experiences.

The lowest mean was observed in learning participation ($M = 3.24$, $SD = 1.02$), also interpreted as sometimes perceived. This indicates that although students experience participation-related challenges, these are comparatively less pronounced than issues related to responsibility and environmental factors.

Overall, the results suggest that while the perceived challenges are not severe, they remain present and may influence the effectiveness of the TVL track implementation. The findings underscore the need for targeted instructional and support mechanisms aimed at enhancing student responsibility, improving learning environments, and promoting active engagement.

Table 3.4
Summary of the Perceived Challenges

Implementation	Weighted Mean	Standard Deviation	Interpretation
Learning Environment	3.39	1.05	Sometimes Perceived
Learning Participation	3.24	1.02	Sometimes Perceived
Learning Responsibility	3.44	1.02	Oftentimes Perceived
Overall Mean Interpretation		3.36	Sometimes Perceived

Sub-problem No. 3: Is there a significant difference between the level of implementation of the TVL track and the students' perceived challenges?

Table 4 presents the correlation between the implementation of the TVL track and students' perceived challenges. The computed Pearson correlation coefficient revealed a moderate negative relationship ($r = -0.41$, $p = 0.032$), which is statistically significant at the 0.05 level. This indicates that higher levels of TVL implementation are associated with lower levels of perceived challenges among students.

The negative correlation suggests that improvements in program implementation—such as better facilities, stronger industry linkages, and enhanced instructional delivery—may contribute to reducing the challenges encountered by learners. The significant relationship implies that institutional efforts in strengthening the TVL track can positively influence student experiences and learning outcomes.

Based on the findings, the null hypothesis stating that there is no significant relationship between the implementation of the TVL track and students' perceived challenges is rejected. This affirms that implementation quality plays a meaningful role in shaping student perceptions and experiences within the TVL program.

Table 4

Correlation Analysis Between the Social Learning-Related Variables and The Academic Outcomes of Grade 9 Learners

Correlated Variables	Pearson r	p-value	Interpretation
<i>Implementation of the TVL track and Students' perceived Challenges</i>	-0.41	0.032	<i>Significant</i>

Legend: Significant at p-value < 0.05

Sub-problem No. 4: What instructional development plan can be proposed to address the identified challenges and improve the implementation of the TVL track?

Proposed Instructional Development Plan Based on the Findings of the Study

Key Result Areas (KRAs)	Objectives	Proposed Strategies/Interventions
Learning Environment Enhancement	Improve access to learning resources and facilities to reduce environmental challenges encountered by TVL learners.	<ul style="list-style-type: none"> • Upgrade learning laboratories and research spaces. • Strengthen access to ICT tools and internet connectivity. • Provide research hubs or designated workspaces for TVL students. • Allocate school funds or partnerships for instructional materials.
Student Research Participation	Increase active participation of TVL learners in academic and technical research activities.	<ul style="list-style-type: none"> • Conduct research capability-building workshops. • Implement peer mentoring and collaborative learning groups. • Integrate project-based and inquiry-based learning strategies. • Organize research colloquia and student research presentations.
Learning Responsibility Development	Strengthen students' accountability and ownership of learning tasks.	<ul style="list-style-type: none"> • Implement time management and self-regulation seminars. • Integrate reflective learning journals and progress monitoring tools. • Provide structured research timelines and checkpoints. • Introduce coaching and advisory support systems.
Instructional Enhancement	Improve instructional delivery aligned with TVL competencies and student needs.	<ul style="list-style-type: none"> • Provide teacher training on differentiated and experiential instruction. • Integrate industry-based teaching approaches. • Strengthen formative feedback and scaffolded instruction. • Utilize blended and technology-supported learning strategies.
Industry Linkage Strengthening	Enhance alignment between TVL instruction and real-world industry practices.	<ul style="list-style-type: none"> • Expand partnerships with TESDA and local industries. • Increase work immersion opportunities. • Conduct industry talks and skills demonstrations. • Align curriculum with labor market demands.

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides the study's summary, findings, conclusions, and recommendations.

Summary

This study assessed the implementation of the Technical-Vocational-Livelihood (TVL) track and the challenges perceived by Senior High School students of Salvacion National High School in Trento, Agusan del Sur. Using a descriptive-survey design, data were gathered from 27 TVL students through an adapted questionnaire. The study examined the level of TVL implementation in terms of facilities and equipment, industry preparedness/partnership, workplace/learning environment, instruction, and imposition. It also identified the challenges encountered by students in terms of learning environment, learning participation,

and learning responsibility. Statistical tools such as weighted mean and Pearson Product-Moment Correlation were employed to analyze the data. The findings revealed that the TVL track was generally implemented at a high level, while students experienced moderate challenges. A significant negative relationship was found between the level of implementation and perceived challenges, indicating that better implementation is associated with fewer student difficulties. Based on the results, an instructional development plan was proposed to enhance program delivery and address the identified concerns.

Findings

Based on the analysis of the data, the following findings were obtained:

1. The implementation of the TVL track was generally high, with an overall mean of 4.16 interpreted as oftentimes implemented. Among the dimensions, workplace/learning environment, industry preparedness/partnership, and imposition were rated highest, while facilities and equipment obtained the lowest mean, though still interpreted as high.
2. Students experienced moderate challenges with an overall mean of 3.36 interpreted as sometimes perceived. Learning responsibility registered the highest challenge, followed by learning environment, while learning participation obtained the lowest mean among the three domains.
3. There was a statistically significant moderate negative relationship between the implementation of the TVL track and students' perceived challenges ($r = -0.41$, $p < 0.05$). This implies that higher levels of implementation correspond to lower levels of perceived student challenges.
4. Based on the findings, an instructional development plan was formulated focusing on improving learning environments, strengthening student responsibility, enhancing instructional strategies, promoting participation, and strengthening industry linkages to improve the effectiveness of the TVL track.

Conclusions

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

1. The TVL track in Salvacion National High School is implemented at a generally high level, indicating that the school has established strong foundations in delivering technical-vocational education.
2. Despite the high level of implementation, students still encounter moderate challenges, particularly in areas related to learning responsibility and environmental constraints, suggesting gaps in student support systems.
3. The significant negative relationship between implementation and perceived challenges confirms that improving program implementation can effectively reduce the difficulties experienced by students.
4. The development of an instructional development plan is essential to sustain strengths and address existing gaps, ensuring continuous improvement in the delivery of the TVL program.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are offered:

1. School administrators should prioritize improving specialized facilities and learning resources, particularly laboratories and research-related materials, to strengthen the implementation of the TVL track.
2. Teachers should adopt learner-centered and experiential teaching strategies that enhance student participation and develop independent learning skills among TVL students.
3. TVL coordinators and school leaders should strengthen partnerships with industries and TESDA to improve work immersion programs and ensure alignment with labor market demands.
4. Schools should implement structured support programs that develop students' time management, accountability, and self-directed learning skills to address responsibility-related challenges.
5. The proposed instructional development plan should be adopted and periodically evaluated to ensure continuous improvement in TVL program delivery.

Avenues for Further Research

1. Future studies may include a larger sample size across multiple schools to enhance the generalizability of the findings.
2. Researchers may involve teachers, administrators, and industry partners as respondents to obtain a more comprehensive view of TVL implementation.

3. A mixed-method or qualitative approach may be employed to explore deeper insights into student experiences and program effectiveness.
4. Future research may examine the impact of instructional interventions or development plans on student performance and employability outcomes. Comparative studies may be conducted between urban and rural schools to determine contextual differences in TVL implementation and challenges.

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