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Current Condition of the Technical – Vocational & Livelihood Education in Selected Public High Schools in Congressional District 3 of Isabela, Philippines

Mylene T. Alabar[1], Ronald M. Cristobal[2], Harlyn B. Damian[3], Allan S. Dela Cruz[4], Remedios L. Pinniliw[5], Client William M. Malinao[6]
[123456]College of Advanced Education, Ifugao State University – Potia Campus, Alfonso Lista, Ifugao, Philippines, 3608

ABSTRACT
The rapidly evolving demand for paradigm shifts in Technical Vocational and Livelihood Education in the 21st century is one of the major concerns of the Department of Education. Thus, this study explores the current conditions, the challenges and intervention strategies of the public-school teachers of Technology and Livelihood Education, Technical Vocational Education and Technical Vocational Livelihood Teachers across Junior and Senior High School in selected schools in Local District 3 in Isabela, Philippines. The descriptive research design was used to answer stated objectives of the study. Using frequency and percentage distribution, findings revealed that school's learning facilities, linkages, teacher training, student skills development, employability, and stakeholder participation reveal a strong foundation in supporting TLE (Technology and Livelihood Education) and TVE (Technical-Vocational Education) programs.

Keywords:
Conducive Learning Environment; Work Immersion; Partnership; Teachers Professional Development; Graduates employability

INTRODUCTION

Education has long been recognized as a cornerstone for sustainable development, with global initiatives such as the United Nations Sustainable Development Goal (SDG) 4 aiming to ensure inclusive and equitable education and promote lifelong learning opportunities for all (United Nations, 2015). Globalization has significantly transformed the educational landscape, necessitating a shift towards knowledge and skills integration in response to technological advancements. Education 4.0, which emphasizes competency-based learning and skill development, has emerged as a framework for producing globally competitive learners who can adapt to the demands of an increasingly digital and interconnected world (Glor et al., 2024).

The globalization of education has driven various nations to reform their curricula to bridge gaps in skill acquisition and align with global standards. Technical-vocational education (TVE) has gained recognition as a crucial component in fostering sustainable employment and economic growth. By equipping learners with relevant technical skills, TVE contributes to SDG 8, which promotes decent work and economic growth by preparing students for gainful employment and entrepreneurial opportunities. Recognizing this, developing countries, including the Philippines, have restructured their education systems to align with the evolving needs of the labor market (Geraldizo & Dabasol, 2021).

The Philippine government implemented the K-12 Basic Education Program under Republic Act No. 10533 in response to the increasing demand for a globally competitive workforce. The program seeks to enhance the country's basic education system by providing students with comprehensive and competency-based learning experiences. The K-12 curriculum is structured into various tracks, including Academic, Technical-Vocational-Livelihood (TechVoc), and Sports and Arts, catering

to students' diverse interests and career aspirations. This initiative is aligned with SDG 4, ensuring that learners are equipped with the necessary skills and competencies for higher education, employment, and entrepreneurship (Caballero & Cabahug, 2015; Gurobat & Lumbu-an, 2022; Kilag et al., 2023)

Implementing the K-12 Program aims to nurture holistically developed Filipinos who are locally and globally competitive. The TechVoc strand, in particular, plays a vital role in developing students' technical expertise and practical skills, providing them with an alternative pathway to employment or further education. The program also seeks to address the issue of youth unemployment by bridging the gap between education and industry requirements, thereby contributing to SDG 8 by fostering a skilled workforce (Barrot, 2021).

Despite the potential benefits of TVE in fostering skills development, Technical and Vocational Education and Training (TVET) faces numerous global challenges, including inadequate facilities, outdated curricula, insufficient teacher training, and persistent negative perceptions (Mitchell & Buntic, 2022). Infrastructure limitations and rigid attitudes further hinder the development of student-friendly learning environments (Subedi & Shrestha, 2020). Evaluations of TVET programs highlight the need for enhanced library resources, improved internet access, and modern laboratory equipment. Additionally, integrating Information and Communication Technology (ICT) into instruction has significantly impacted student performance (Zamora-Sereguine, 2020). In Trinidad and Tobago, stakeholders identify stigma, high attrition rates, and concerns over teaching quality as key barriers to TVET effectiveness. Addressing these issues requires governmental intervention, as institutions alone often cannot implement systemic reforms (Mack et al., 2019). Despite these challenges, TVET remains essential for equipping individuals with relevant workforce skills and keeping pace with technological advancements (Mitchell & Buntic, 2022).

Given the critical role of TLE in equipping students with practical skills and competencies, an in-depth assessment of the current condition of Technical—Vocational and livelihood Education in Selected Public High Schools in Congressional District 3 of Isabela, Philippines, in terms of learning facilities, linkages teacher training, student skills development, employability, and stakeholder participation is essential. By examining the factors influencing students' learning experiences, the research aims to contribute to the theory and practice of Technical—Vocational & Livelihood Education.

METHOD

The study employed a descriptive-quantitative research method, enabling systematic data collection and analysis. This approach allowed for an in-depth examination of the respondents' perspectives and experiences relevant to the study.

The respondents comprised sixty-one (61) educators, comprising twenty-eight (28) males and thirty-three (33) females, ages 20 to 64. These educators are currently teaching in the Technology and Livelihood Education (TLE) and Technical-Vocational-Livelihood (TVL) programs at junior and senior high school levels in various schools within the 3rd district of Isabela.

The study encompassed both urban and rural areas where TLE and TVL programs are implemented, ensuring a comprehensive analysis of their effectiveness

across different educational settings. These programs cover various technical and vocational disciplines, including automotive repair, culinary arts, and agriculture.

For data collection, the study employed structured questionnaires adapted from published sources, ensuring the validity and reliability of the research instrument. The collected data were subjected to descriptive statistical analysis, with the mean utilized as the primary statistical measure for interpreting the findings.

RESULTS AND DISCUSSION

1. Current Condition of Technical – Vocational & Livelihood Education

Table 1. Current Condition of Technical – Vocational & Livelihood Education in terms of Learning Facilities

Learning Facilities	Mean	D.I
1. The school provides adequate and up-to-date learning facilities for TLE and TVE programs according to the prescribed facilities of TESDA	3.70	SA
2. The learning spaces in the school are conducive to hands-on learning experiences.	3.62	SA
3. The school provided adequate materials, tools, and equipment necessary for acquisition of competencies.	3.27	SA
4. The learning spaces are well-maintained and organized to facilitate effective hands-on learning experiences.	3.29	SA
5. The availability of modern equipment in the learning facilities adequately supports practical skill development.	3.11	SA
Overall Mean	**3.40**	**SA**

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

Table 1 reveals that the current condition of Technical-Vocational and Livelihood (TVL) education in terms of learning facilities is generally favorable, with an overall mean of 3.40. Respondents strongly agree that Technical Vocational schools in Congressional District 3 of Isabela meet the required learning facilities standards, ensuring an effective environment for skill development. Learning facilities comply with TESDA's prescribed standards, reinforcing compliance with national training regulations (Mean = 3.70). Similarly, conducive learning spaces (Mean = 3.62, SA) that enhance hands-on experiences are also available for technical education. However, areas needing improvement include the availability of modern equipment (Mean = 3.11, SA) and well-maintained learning spaces (Mean = 3.29, SA), suggesting gaps in infrastructure upkeep and access to updated tools that could impact the practical competencies of learners.

Technical-vocational and Livelihood (TVL) education in the Philippines aims to equip students with skills for middle-level employment (Ramos, 2021). Studies have shown that TVL programs generally have adequate inputs and high compliance with Department of Education standards (Ramos, 2021). The school learning environment, including human practices and material systems, significantly influences students' employability regarding cognitive skills, practical abilities, and attitudes (Vallesteros, 2022; Vallesteros, 2022; Alinea, 2021). The Technical Education and Skills Development Authority (TESDA) manages TVET in the Philippines but faces challenges, including poor graduate quality and weak policy implementation (Edralin & Pastrana, 2023). Future directions for TVET include aligning with the Philippine Development Plan 2022-2028 and Industry 4.0 requirements to strengthen the sector and contribute to Sustainable Development Goal 4 (Edralin & Pastrana, 2023).

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Table 2. Current Condition of Technical – Vocational & Livelihood Education in terms of Linkages

Linkages	Mean	D.I
1. The school has established strong partnerships with industry organizations related to the strand.	3.70	SA
2. Students have access to internship or work immersion opportunities through school linkages related to the strand.	3.75	SA
3. The school has established a good and active partnership with parents for the welfare of their children.	3.77	SA
4. The school actively partner with the community, including its officials.	3.72	SA
5. The partnerships with industry organizations have directly contributed to enhancing students' practical skills and knowledge in the strand.	3.70	SA
6. The internship or work immersion opportunities provided through school linkages offer valuable real-world experiences for students.	3.67	SA
Overall Mean	**3.72**	SA

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

The findings shown in Table 2 indicate that the current condition of Technical-Vocational and Livelihood (TVL) education in terms of linkages is highly favorable, with an overall mean of 3.72, with descriptive interpretation of Strongly Agree on a four-point Likert scale. This suggests that selected technical vocational schools have successfully established meaningful and active partnerships with industry organizations, communities, and parents, creating a strong student support system. Notably, there is effective collaboration between schools and parents, emphasizing their role in ensuring students' success and well-being (Mean = 3.77, SA). Robust industry partnerships (Mean = 3.70, SA) and access to internship or work immersion opportunities (Mean = 3.75, SA) indicate that students have real-world experiences that enhance their practical skills and employability. Furthermore, active community engagement (Mean = 3.72, SA) underscores the integration of TVL programs within the broader societal framework, fostering a support network for learners and educators.

Partnerships between vocational schools and industry are crucial for enhancing education quality and student competencies. Effective partnerships require intrinsic motivation, accommodation capability, value acculturation, mutual commitment, and defined program activities (Khusni Syauqi et al., 2022). Successful partnership management involves planning, organizing, implementing, and evaluating collaborations, including curriculum alignment, internships, and guest teacher programs (Gilang Isa Baskara et al., 2024). Community-based research experiences in schools can positively impact students' learning outcomes and contribute to social innovation (Joseph Angelou I. Ng, 2022). These partnerships provide valuable real-world experiences for students, enhance their practical skills, and improve their employability. Collaboration with parents and community officials is also important for student welfare and overall educational success.

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Table 3. Current Condition of Technical – Vocational & Livelihood Education in terms of Teachers Training

Teachers Training	Mean	D.I
1. Teachers receive regular and relevant training to enhance their TLE and Tech-Voc teaching skills (Enhancement Training, Retooling, NC I, NC II, NC III, NC IV and TM I)	3.68	SA
2. Professional development opportunities are provided for teachers to stay updated on industry trends and practices.	3.49	SA
3. The enhancement training and professional development programs adequately address the specific needs of teachers in TLE and Tech-Voc teaching.	3.60	SA
4. The industry trends and practices covered in the professional development programs are relevant and useful for improving teaching skills.	3.45	SA
5. Teachers receive regular and relevant training to enhance their TLE and Tech-Voc teaching skills (Enhancement Training, Retooling, NC I, NC II, NC III, NC IV and TM I)	3.55	SA
Overall Mean	3.68	**SA**

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

The current condition of Technical-Vocational and Livelihood (TVL) education regarding teachers' training is shown in Table 3. Generally, training for Technical-Vocational teachers is generally intense, with an overall mean of 3.68, interpreted as Strongly Agree (SA). This suggests that teachers receive regular and relevant training, equipping them with the necessary competencies to deliver TVL education effectively. The highest-rated item (Mean = 3.68, SA) highlights that teachers are provided with continuous professional development, including enhancement training, retooling, and national certification (NC I to NC IV and TM I), essential for maintaining high teaching standards. Similarly, the adequacy of training programs in addressing teachers' specific needs (Mean = 3.60, SA) indicates a well-structured approach to capacity-building. However, areas needing improvement include the relevance of industry trends covered in professional development programs (Mean = 3.45, A) and opportunities for teachers to stay updated on evolving industry practices (Mean = 3.49, A). These findings suggest that while training initiatives are present, there may be a gap in aligning them with real-world industry demands.

Recent studies highlight the importance of teacher training and professional development in Technical-Vocational Education and Technology and Livelihood Education (TLE). Research shows that teacher training programs significantly improve pedagogical competence, technology application, classroom management, and teacher motivation (Enjang Suhaedin et al., 2024). However, TLE teachers face challenges and require additional training to enhance their skills and capabilities (Almerez et al., 2019). Studies indicate that many TLE instructors lack sufficient technical skills and competencies, emphasizing more specialized training (Tamayo, 2023). Implementing Technical Vocational Livelihood (TVL) tracks in senior high schools has been evaluated, revealing adequate inputs, high compliance with standards, and satisfactory outcomes (Ramos, 2021). To improve the effectiveness of these programs, recommendations include enhancing instructor quality, providing relevant training materials, increasing school support, and conducting regular evaluations (Enjang Suhaedin et al., 2024; Almerez et al., 2019).

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Table 4. Current Condition of Technical – Vocational & Livelihood Education in terms of Student Skills Development

Student Skills Development	Mean	D.I
1. Students are provided with practical skills that are relevant to the needs of the industry.	3.73	SA
2. The curriculum includes hands-on training and real-world application of skills.	3.60	SA
3. Students have acquired national Certificates before completion of the strand.	3.75	SA
4. The hands-on training provided in the curriculum effectively prepares students for practical applications in the industry.	3.85	SA
5. The acquisition of national certificates by students before completion of the strand demonstrates the competency and readiness for the workforce.	3.64	SA
Overall Mean	**3.71**	**SA**

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

Table 4 presents the current condition of technical vocational schools regarding student skills development. Notably, students have acquired practical skills relevant to the needs of the industry as perceived by the respondents. This suggests that students are effectively equipped with industry-relevant practical skills and competencies. The highest-rated item (Mean = 3.85, SA) highlights the effectiveness of hands-on training in preparing students for real-world applications, reinforcing the importance of experiential learning in TVL education. Additionally, the acquisition of national certificates before completion of the strand (Mean = 3.75, SA) underscores students' competency and readiness for the workforce, aligning with national certification standards that validate their skills. The strong integration of hands-on training and real-world application in the curriculum (Mean = 3.60, SA) further supports the development of practical expertise essential for career preparedness. However, while the results strongly emphasize skills development, continuous enhancements in curriculum alignment with evolving industry demands are necessary to sustain this level of competency among students.

The research papers highlight the importance of aligning vocational education curricula with industry needs to prepare students for the workforce. Studies in Indonesia and elsewhere found that vocational high school curricula were generally relevant to industry requirements, with relevance levels exceeding 80% in some cases (Widiaty, 2019; Wit Daryono et al., 2022). However, gaps still exist in specific competencies, emphasizing the need for regular coordination between schools and industries to keep curricula updated (Widiaty, 2019). Production-based curriculum approaches involving real-world applications and industrial work practices were recommended to enhance students' practical skills and familiarize them with working environments (Yoto, 2017). While formal relevance levels were high, implementation challenges were noted, including students' lack of understanding of essential competencies (Akbar, 2019). The studies underscore the importance of hands-on training, industry collaboration, and continuous curriculum refinement to ensure vocational education effectively prepares students for industry demands and workforce readiness.

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Table 5. Current Condition of Technical – Vocational & Livelihood Education in terms of Employability

Employability	Mean	D.I
1. The school programs effectively prepare students for the job market.	3.63	SA
2. Graduates from TLE and TVE programs have high employability rates.	3.80	SA
3. The high employability rates of graduates from TLE and TVE programs reflect the effectiveness of the school's preparation for the workforce.	3.65	SA
4. The alumni achievements in the industry serve as evidence of the high employability rates of graduates from TLE-TVE Strands.	3.77	SA
Overall Mean	**3.71**	**SA**

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

Findings on the current condition of Technical-Vocational and Livelihood (TVL) education in terms of employability are shown in Table 5. Results show that employability is highly favorable, with an overall mean of 3.71, interpreted as Strongly Agree (SA). This suggests that TVL programs effectively equip students with the necessary skills and competencies to enter the job market successfully. The highest-rated item (Mean = 3.80, SA) highlights the high employability rates of TVL graduates, demonstrating that the training provided aligns with industry needs and labor market demands. Similarly, alumni achievements in various industries (Mean = 3.77, SA) prove the program's effectiveness in producing workforce-ready graduates. The positive evaluation of school programs in preparing students for employment (Mean = 3.63, SA) reinforces the idea that technical and vocational education is crucial in enhancing students' career opportunities. However, while these results indicate strong employability outcomes, continuous alignment of training programs with emerging industry trends remains essential to sustain and improve these high employment rates.

A study in the Philippines found that TVE graduates with National Certificate II had positive employment outcomes attributed to competent mentors and students' positive work attitudes (Masong & Barillo, 2022). Another study revealed that career guidance programs significantly contributed to graduate employability (Buraga & Caballero, 2018). Comparing Thai and Malaysian TVE students, Malaysian students demonstrated better employability skills, highlighting the importance of quality work-integrated learning programs (Sa-Nguanmanasak & Khampirat, 2019). A tracer study of graduate school alums in the Philippines reported very high employability rates and the application of competencies gained during their studies to personal and professional growth (Dela Cruz, 2022).

Table 6. Current Condition of Technical – Vocational & Livelihood Education in terms of Stakeholder's Participation

Stakeholder's Participation	Mean	D.I
1. Parents/Guardians are actively engaged in supporting their children's TLE and TVE education.	3.77	SA
2. Industry partners actively participate in curriculum development and program enhancement.	3.78	SA
3. The collaboration with local community officials, NGOs, Parents/Guardians and Industry Partners has positively impacted the overall learning environment and opportunities for TLE and TVE Students.	3.75	SA
Overall Mean	**3.77**	**SA**

Legend: 1.00-1.74 – Strongly Disagree (SD); 1.75-2.49 – Disagree (D); 2.50-3.24- Agree (A); 3.25-4.00- Strongly Agree (SA)

The findings indicate that stakeholder participation in Technical-Vocational and Livelihood (TVL) education is highly favorable, with an overall mean of 3.77,

interpreted as Strongly Agree (SA). This suggests that various stakeholders, including parents, industry partners, community officials, and non-governmental organizations (NGOs), actively enhance TVL education. The highest-rated item (Mean = 3.78, SA) highlights the significant involvement of industry partners in curriculum development and program enhancement, ensuring that TVL education remains aligned with workforce demands. Additionally, parents' active engagement in supporting their children's education (Mean = 3.77, SA) reinforces the idea that family involvement contributes to student motivation and success. Furthermore, the strong collaboration among stakeholders (Mean = 3.75, SA) positively impacts the learning environment and provides more opportunities for TVL students, fostering a holistic approach to technical-vocational education. While these results reflect a well-integrated support system, there remains a need to continuously strengthen and expand stakeholder engagement to sustain the relevance and quality of TVL programs.

Active parental engagement enhances academic performance, attendance, and social-emotional growth (Ä• uriÅ¡iÄ‡M., & Bunijevac,, 2017). Participatory collaboration in curriculum planning, involving students, teachers, institutions, and communities, promotes innovation and critical thinking (Samson, 2019). Effective collaboration between schools, parents, and communities addresses systemic challenges and promotes equitable access to quality education (Eden et al., 2024).

CONCLUSION

Technical-Vocational-Livelihood (TVL) education in Congressional District 3 of Isabela is crucial in equipping students with industry-relevant skills and competencies, enhancing their employability. The findings indicate that TVL education in Congressional District 3 of Isabela effectively aligns with TESDA standards and industry requirements, providing students with valuable hands-on training, national certification, and strong employability prospects. Key strengths of the program include well-established industry, community, parental linkages, and continuous professional development for teachers. However, to sustain and enhance these gains, strategic improvements are necessary. These include upgrading modern equipment, ensuring consistent infrastructure maintenance, and refining training programs to meet evolving industry demands. Additionally, fostering continuous curriculum enhancements and strengthening stakeholder collaborations will be crucial for maintaining the program's relevance and long-term success in producing a highly skilled workforce.

Implications to Theory and Practice

The findings reinforce several educational and workforce practices. Theoretically, they support Experiential Learning Theory by emphasizing the critical role of hands-on experiences in skill acquisition and Constructivist Learning Theory, which highlights active engagement with real-world tasks. Social Capital Theory and Human Capital Theory are validated, demonstrating how strong institutional and community partnerships enhance skill development and career preparedness. Furthermore, Career Development Theory and Social Mobility Theory underscore TVL education's role in shaping career pathways and providing economic opportunities, especially for disadvantaged students.

In practice, the results call for continuous investment in upgrading learning facilities, procuring modern tools, and strengthening industry linkages to maintain alignment with evolving workforce demands. Schools and policymakers should

enhance teacher training programs, expand access to national certifications, and integrate emerging technologies into the curriculum. Additionally, structured monitoring and evaluation mechanisms, alumni tracking, and expanded internship opportunities can ensure that TVL education remains responsive to industry needs and sustains high employability rates.

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