Available on: https://jsshrs.ep-journals.org/ E-ISSN: 3051-3561, P-ISSN: 3051-3553

Journal of Social Science and Human Research Studies

Volume : 02 Issue : 11 November-2026

Technology and Livelihood Education Skills and Academic Performance of the Junior High School Students in Zamboanga Del Norte National High School-Turno, Schools Division of Dipolog City

Mary Lorny L. Aba-a, MAEM
Teacher, Department of Education, Dipolog City, Philippines

Leo C. Naparota, PhD
Dean, College of Arts and Sciences and School of Criminal Justice Education, Andres Bonifacio College, Inc., Dipolog City, Philippines

Published Date: November 12, 2026 **Article DOI: 10.65150/EP-jsshrs/V2E11/2026-18**

ABSTRACT: This study aimed to determine the Technology and Livelihood Education (TLE) skills and academic performance of Junior High School students at Zamboanga del Norte National High School–Turno, Schools Division of Dipolog City, during the School Year 2026–2027. A quantitative descriptive-correlational research design was employed. From a total population of 2,500 students, a sample size of 332 was determined using the Raosoft Sample Size Calculator. Average weighted value (AWV), standard deviation (SD), and Spearman rank-order correlation (Spearman rho) were utilized to analyze the data. The findings revealed that the respondents demonstrated an overall Highly Proficient level of TLE skills, with an AWV of 4.12 (SD = 0.55). Among the areas assessed, Agri-Fishery Arts obtained the highest AWV of 4.22, interpreted as Excellent, followed by Entrepreneurship and Information and Communication Technology (ICT) with an AWV of 4.19, Home Economics with 4.04, and Industrial Arts with 4.03. Regarding academic performance, the respondents generally achieved a Very Satisfactory level, with an AWV of 4.18, while 45.5% obtained Outstanding grades. Furthermore, the test of relationship revealed a negligible positive correlation between the respondents' perceived TLE skills and academic performance, which was not statistically significant (ρ = 0.044, p = 0.428). This means that although the respondents demonstrated high levels of perceived TLE skills and generally satisfactory academic performance, their perceived TLE skills were not significantly related to their academic achievement. This implies that proficiency in practical TLE competencies does not necessarily correspond to higher academic performance, suggesting that other factors could contribute to students' academic outcomes. Based on the findings and conclusions, Department of Education (DepEd) officials could prioritize the provision of adequate TLE tools, equipment, instructional facilities, and professional development opportunities for teachers to strengthen competency-based instruction. School heads could enhance instructional monitoring and provide sustained support for hands-on learning activities to further develop students' practical competencies and academic performance.

KEYWORDS: Technology and Livelihood Education, TLE skills, academic performance, Junior High School, proportionate stratified random sampling, Dipolog City, Philippines

INTRODUCTION

Technology and Livelihood Education (TLE) skills are essential in preparing learners for practical, productive, and career-oriented activities in school and real-life situations. These skills enable students to develop competencies in Agri-Fishery Arts, Home Economics, Industrial Arts, Entrepreneurship, and Information and Communication Technology (ICT), which are important for future employment, livelihood opportunities, and self-reliance. Dreilinger (2021) highlighted that vocational and home economics education in the United States has historically prepared students with practical skills, adaptability, and workforce readiness, emphasizing the global importance of technical and livelihood education in secondary schools. Similarly, Berido et al. (2025) found that learners' TLE skills reflect their readiness in various livelihood areas and could serve as a basis for developing intervention programs aimed at improving their competencies and academic performance. These studies emphasize that developing TLE skills is essential in equipping learners with practical and technical competencies that support lifelong learning, productivity, and future employment opportunities. Moreover, the acquisition of these competencies provides an important foundation for understanding learners' academic performance in Technology and Livelihood Education.

Academic performance in Technology and Livelihood Education (TLE) is an important indicator of learners' mastery of knowledge, practical skills, and competencies necessary for productive work, livelihood, and lifelong learning. Since TLE integrates theoretical knowledge with hands-on learning experiences, students' academic performance could be influenced by their technical competencies, motivation, instructional support, and engagement in meaningful learning activities. Agluba (2021) emphasized that the academic performance of Grade 9 TLE students could serve as a basis for identifying learners' interests and readiness for technical-vocational specialization. Similarly, Bandiala (2026) found that students' behavioral and cognitive engagement in TLE activities significantly contributed to their academic performance, emphasizing the

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importance of active participation and practical application of skills in achieving better learning outcomes. These findings suggest that academic performance in TLE reflects not only learners' understanding of theoretical concepts but also their ability to participate in practical learning activities. Considering the importance of both practical competencies and academic achievement, examining the relationship between TLE skills and academic performance becomes essential in understanding students' learning outcomes.

The relationship between Technology and Livelihood Education (TLE) skills and academic performance is an important area of investigation because both variables reflect different but potentially related aspects of students' learning and competency development. Since TLE integrates theoretical instruction with practical applications, learners' competencies in Home Economics, Industrial Arts, Agri-Fishery Arts, Entrepreneurship, and ICT could be related to their academic achievement in the subject. The Department of Education (2023) emphasized that the EPP/TLE curriculum is designed to equip learners with lifelong learning skills that enable them to become productive individuals prepared for the world of work. Similarly, Bacuyag (2025) found a relationship between students' technical competencies and their readiness for National Certification II (NC II), highlighting the importance of practical skills in preparing learners for vocational certification and employment-related demands. Although these studies emphasize the importance of technical competencies in learners' educational and career preparation, they do not directly establish whether students with higher levels of TLE skills also demonstrate better academic performance. This underscores the importance of examining the relationship between these variables to determine whether learners' perceived practical competencies are significantly related to their academic achievement in Technology and Livelihood Education.

Despite the existing literature on Technology and Livelihood Education (TLE) skills, technical competencies, and students' academic performance, limited local evidence has been identified regarding the relationship between these variables among Junior High School students at Zamboanga del Norte National High School–Turno, Schools Division of Dipolog City. Previous studies have primarily examined TLE instruction, technical-vocational competencies, learners' engagement, and readiness for vocational specialization and certification. However, the relationship between students' perceived level of TLE skills and their academic performance in the local school setting remains insufficiently explored. Furthermore, differences in learning environments, instructional resources, school facilities, teaching practices, and student characteristics could influence the development of TLE competencies and academic outcomes. These considerations establish the need to conduct the present study to determine whether a significant relationship exists between the respondents' perceived level of TLE skills and their academic performance during the School Year 2026–2027. The findings of this study could provide localized evidence that would guide teachers, school administrators, and curriculum planners in developing appropriate instructional strategies, strengthening competency-based learning activities, and improving students' TLE skills and academic performance.

LITERATURE

Technology and Livelihood Education Skills

Technology and Livelihood Education (TLE) develops practical and technical competencies that learners can apply in their daily lives, further education, employment, and livelihood activities. Tan (2021) emphasized that effective TLE instruction requires appropriate teaching strategies, skilled teachers, and adequate instructional materials, tools, equipment, and facilities to promote technological literacy and improve practical learning. Similarly, Curan (2023) found that students' interest in learning TLE competencies was influenced by their confidence, enjoyment of practical activities, internal motivation, availability of learning materials, and teachers' competence. These findings indicate that the development of TLE skills depends not only on learners' abilities but also on their interest, active participation, instructional support, and access to resources needed for meaningful hands-on experiences.

Agri-Fishery Arts

Agri-Fishery Arts is an important component of Technology and Livelihood Education that develops learners' knowledge and practical skills in crop production, animal production, fisheries, agricultural tools and equipment, occupational safety, and sustainable livelihood practices. Berido et al. (2025) found that Agri-Fishery Arts obtained one of the highest skill ratings among the major areas of TLE, indicating that learners possessed a generally proficient level of competence in agriculture-related activities. Similarly, Cabanit and Peñalber (2026) emphasized that implementing Agri-Fishery Arts in junior high school helps students acquire functional knowledge, practical abilities, and career awareness related to agriculture and fisheries. These studies demonstrate that Agri-Fishery Arts can prepare students to apply agricultural knowledge in real-life situations while developing skills relevant to livelihood, entrepreneurship, food production, and further technical-vocational education.

Home Economics

Home Economics is a major component of Technology and Livelihood Education that develops students' practical competencies in cookery, food processing, dressmaking, caregiving, handicraft production, household resource management, and other livelihood-related activities. David et al. (2025) found that junior high school students' positive attitudes toward Home Economics significantly predicted their application and perceived competence in using Home Economics skills within their families. Similarly, David (2026) reported that students' application of curriculum-based Home Economics competencies varied across everyday situations, showing that some learners frequently performed certain activities despite having limited confidence in their abilities. These findings demonstrate that Home Economics education must provide meaningful, contextualized, and hands-on learning experiences to help students confidently apply their knowledge and skills at home and in the community.

Industrial Arts

Industrial Arts is a major component of Technology and Livelihood Education that develops learners' practical and technical competencies in areas such as carpentry, electricity, electronics, automotive servicing, metalwork, technical drafting, and other industry-related activities. Angeles and Cortez (2023) developed a Massive Open Online Course designed to strengthen learners' basic skills in automotive technology, civil technology, electronics, electricity, and metalwork. Their findings showed that varied learning activities, instructional videos, and accessible digital materials helped learners understand lessons and acquire essential Industrial Arts competencies. Similarly, Berido et al. (2025) found that learners possessed a generally proficient level of TLE skills; however, some competencies in Industrial Arts did not meet the

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standards expected by industries. These findings emphasize the need for sustained hands-on practice, updated instructional materials, and authentic learning experiences to prepare learners for technical-vocational education and future employment.

Entrepreneurship and Information and Communication Technology (ICT)

Entrepreneurship is an important area of Technology and Livelihood Education because it develops learners' ability to recognize business opportunities, manage resources, take calculated risks, communicate effectively, and transform ideas into marketable products or services. Jambo et al. (2025) found that senior high school students demonstrated strengths in continuous learning, practical business skills, and risk management, although additional school support and resources were needed to further improve their entrepreneurial competencies. Similarly, Caña (2025) reported that students' participation in small-scale business activities developed their planning, negotiation, leadership, creativity, resourcefulness, and risk-taking skills. These findings indicate that entrepreneurship instruction becomes more meaningful when students are provided with experiential activities, mentorship, business simulations, and opportunities to apply entrepreneurial knowledge in real-life settings.

Academic Performance

Academic performance in Technology and Livelihood Education (TLE) reflects students' achievement in theoretical knowledge, practical competencies, work attitudes, and performance-based activities. Agluba (2021) found that Grade 9 students specializing in Cookery, Shielded Metal Arc Welding, and Information and Communication Technology demonstrated significant positive relationships between their technical skills and academic performance. This implies that learners who possess stronger technical competencies may also achieve higher grades in their respective TLE specializations. However, Berido et al. (2025) found that although elementary pupils obtained very satisfactory TLE performance and generally proficient skills, no significant relationship existed between their overall TLE skills and academic performance. These contrasting findings suggest that academic performance in TLE may be affected not only by technical skills but also by instructional practices, assessment methods, motivation, learning resources, and students' individual characteristics.

CONCEPTUAL FRAMEWORK

The conceptual framework is illustrated in Figure 1. Part I highlights the independent variable, Technology and Livelihood Education skills which is measured across four indicators, namely: Agri-Fishery Arts, Home Economics, Industrial Arts, And Entrepreneurship and Information And Communication Technology (ICT). Part II. presents the dependent variable, academic performance, which is evaluated based on DepEd Order No. 8, s. 2015. Figure 1 shows the conceptual framework.

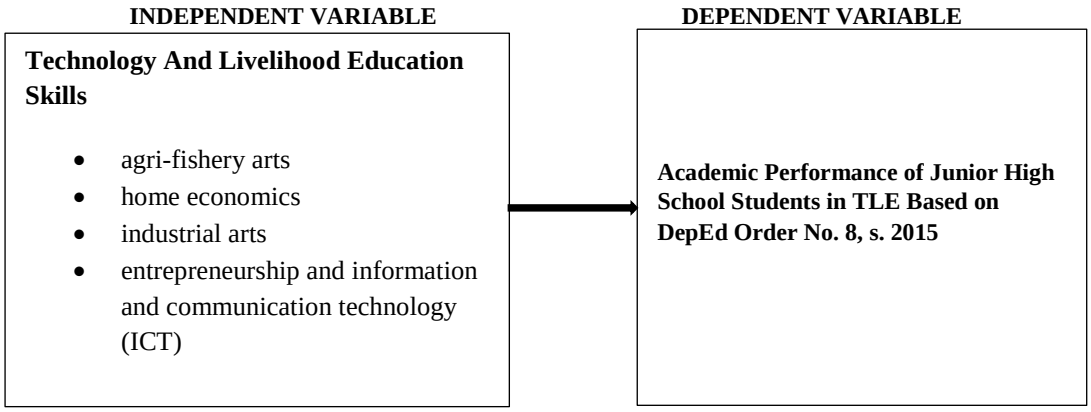


Figure 1. Conceptual Framework of the Study

Statement of the Problem

This study aimed to determine the technology and livelihood education skills and academic performance of Junior High School students in Zamboanga del Norte National High School-Turno, Schools Division of Dipolog City during the school year 2026-2027.

Specifically, it sought to answer the following questions:

1. What is the respondents' perceived level of Technology and Livelihood Education (TLE) skills in terms of:
1.1 agri-fishery arts;
1.2 home economics;
1.3 industrial arts; and
1.4 Entrepreneurship and Information and Communication Technology (ICT)?
2. What is the respondents' level of academic performance in TLE?
3. Is there a significant relationship between the respondents perceived level of Technology and Livelihood Education (TLE) skills and level of academic performance in TLE?

RESEARCH METHODOLOGY

Method Used

The study utilized survey and descriptive-correlational research methods. The researcher utilized the survey method to collect data on the technology and livelihood education skills and academic performance. According to Creswell (2014), survey research is a quantitative research method used to collect information from a sample or population through structured questionnaires or interviews. This method enables researchers to gather data concerning individuals' attitudes, opinions, behaviors, perceptions, experiences, and other relevant characteristics using

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predetermined questions. Survey research is commonly employed to describe trends, identify patterns, and provide numerical descriptions of the characteristics of a population. It can also be used alongside correlational research to examine relationships between variables without manipulating them. In the present study, the survey method was utilized to determine the respondents' perceived level of Technology and Livelihood Education (TLE) skills, while their academic performance was obtained from official school records. Creswell and Guetterman (2019) define correlational research as the systematic investigation of relationships among two or more variables, conducted without any experimental manipulation of those variables. Correlational research is a non-experimental approach in which a researcher quantifies variables and assesses the statistical relationship between the technology and livelihood education skills and academic performance.

Respondents of the Study

The respondents were drawn from a total population of 2,500 Junior High School students enrolled in Grades 7, 8, 9, and 10. The required sample size was determined using the Raosoft Sample Size Calculator, which yielded a sample of 334 respondents. However, upon retrieval of the distributed questionnaires, two questionnaire were not returned by a respondent, resulting in an actual total of 332 completed and retrieved questionnaires. Consequently, the final data analysis was based on the responses of 332 respondents.

Research Instrument

The questionnaire utilized in the study was divided into two main parts. Part I measured Technology and Livelihood Education Skills, adopted from Berido et al. (2025) and covered four (4) key indicators: agri-fishery arts, home economics, industrial arts, and entrepreneurship and information and communication technology (ICT with thirty-three (33) items related to technology and livelihood education skills as the independent variables. Part II academic performance, which was obtained from the grades in TLE, as recorded by the subject teachers and validated by the Registrar's Office.

Ethical Consideration

Approval was obtained from the Research and Ethics Committee of the Department of Education before data collection. Institutional permission was secured from the school authorities of Zamboanga del Norte National High School–Turno, Schools Division of Dipolog City, before administering the research questionnaire. Since the respondents were Junior High School students, informed consent from their parents or legal guardians and assent from the students were required to ensure voluntary participation. The questionnaire used clear and understandable language to enable the respondents to provide accurate and informed assessments of their perceived Technology and Livelihood Education (TLE) skills. The respondents were assured that their participation was voluntary and that they could withdraw from the study without academic consequences. Their identities and responses were treated with strict confidentiality, while their academic performance records in TLE were accessed only with appropriate authorization. The collected data were used exclusively for research purposes, and the results were presented in summarized form to protect the respondents' privacy and ensure compliance with ethical research standards.

Statistical Treatment of the Data

Presented below are the statistical tools utilized in the treatment and analysis of the data gathered.

Weighted Mean. This is used to quantify the respondents' ratings of the technology and livelihood education skills and academic performance. Presented below is the scoring guide for giving qualitative descriptions and interpretations of the responses to the items in the technology and livelihood education skills and academic performance.

Technology and Livelihood Education Skills

Scale	Range of Values	Description	Interpretation
5	4.20-5.00	Strongly Agree	Excellent
4	3.40-4.19	Agree	Highly- Proficient
3	2.60-3.39	Neutral	Proficient
2	1.80-2.59	Disagree	Developing
1	1.00-1.79	Strongly Disagree	Beginner

To describe the performance of the respondents, the researcher used the following descriptors and grading scale.

Students' Academic Performance (Based on DepEd Order No. 8, s. 2015)

Scale	Range of Values	Grade Range	Description
5	4.21–5.00	90–100	Outstanding
4	3.41–4.20	85–89	Very Satisfactory
3	2.61–3.40	80–84	Satisfactory
2	1.81–2.60	75–79	Fairly Satisfactory
1	1.00–1.80	Below 75	Did Not Meet Expectations

Standard Deviation. This statistical measure was used to determine the degree of variability or dispersion of the respondents' scores regarding their perceived Technology and Livelihood Education (TLE) skills. A lower standard deviation indicates that the respondents' scores are more closely clustered around the mean, suggesting greater homogeneity or consistency in their responses. Conversely, a higher standard deviation indicates greater dispersion of scores from the mean, suggesting greater heterogeneity or variability in their responses (Refugio et al., 2019).

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Spearman Rank-Order Correlation Coefficient (Spearman-rho). This is used to determine the correlation between the technology and livelihood education skills and academic performance. The following guide in interpreting the correlation value suggested by Cohen et al. (2014) was utilized in this study:

Value	Size	Interpretation
±0.50 to ±1.00	Large	High positive/negative correlation
±0.30 to ±.49	Medium	Moderate positive/negative correlation
±0.10 to ±0.29	Small	Low positive/negative correlation
±0.01 to ±0.09	Negligible	Slight positive/negative correlation
0.00	No correlation	

DATA PRESENTATION AND ANALYSIS

The data are presented following the statement of the problems of the current study. The study aimed to answer the following questions:

1. What is the respondents' perceived level of Technology And Livelihood Education (TLE) skills in terms of:

1.1 agri-fishery arts;

1.2 home economics;

1.3 industrial arts; and

1.4 Entrepreneurship and Information and Communication Technology (ICT)?

Table 1. The Respondents' Perceived Level Technology and Livelihood Education Skills

Statements	AWV	SD	Description	Interpretation
A. Agri-Fishery Arts	4.22	0.57	Strongly Agree	Excellent
B. Home Economics	4.04	0.66	Agree	Highly- Proficient
C. Industrial Arts	4.03	0.69	Agree	Highly- Proficient
D. Entrepreneurship and Information and Communication Technology (ICT)	4.19	0.69	Agree	Highly- Proficient
Overall	**4.12**	**0.55**	**Agree**	**Highly- Proficient**

AWV-Average Weighted Value, SD-Standard Deviation

Table 1 presents the summary of the respondents' perceived level of Technology and Livelihood Education skills. The finding shows an overall Average Weighted Value of 4.12 with a Standard Deviation of 0.55, described as Agree and interpreted as Highly Proficient. Among the four areas, Agri-Fishery Arts obtained the highest Average Weighted Value of 4.22 and was interpreted as Excellent. This was followed by Entrepreneurship and Information and Communication Technology (ICT) with an Average Weighted Value of 4.19, Home Economics with 4.04, and Industrial Arts with 4.03, all interpreted as Highly Proficient. This means that the respondents generally perceive themselves as possessing a high level of TLE skills across the major areas assessed, with their strongest competency evident in Agri-Fishery Arts. This implies that the respondents have acquired substantial practical, technical, entrepreneurial, and digital competencies through TLE instruction, although Home Economics and Industrial Arts may still benefit from additional hands-on activities, practical exercises, and authentic performance tasks to further strengthen learners' proficiency.

The present finding is consistent with Villegas (2022), who emphasized the importance of competence, work skills, and work attitudes in Technology and Livelihood Education among public high school learners. The result is likewise reinforced by Tutica (2023), whose study focused on the teaching competence and instructional strategies of TLE junior high school teachers, highlighting the role of effective instruction in developing learners' practical competencies. Moreover, the finding is corroborated by Li et al. (2024), who emphasized that collaborative and active learning approaches can enhance vocational education by strengthening learners' practical and career-related competencies. The result also agrees with the synthesis of literature in the manuscript, which indicates that TLE develops practical, technical, entrepreneurial, and digital competencies through hands-on activities, authentic tasks, collaboration, and real-life application of knowledge and skills.

2. What is the respondents' level of academic performance in TLE?

Table 2

Scale	*Range of Values*	*Grade Range*	*Description*	*F*	*Percent*	*AWV*	*Description*
5	*4.21–5.00*	*90–100*	*Outstanding*	*151*	*45.5%*		
4	*3.41–4.20*	*85–89*	*Very Satisfactory*	*112*	*33.7%*	***4.18***	***Very Satisfactory***
3	*2.61–3.40*	*80–84*	*Satisfactory*	*46*	*13.9%*		
2	*1.81–2.60*	*75–79*	*Fairly Satisfactory*	*23*	*6.9%*		
1	*1.00–1.80*	*Below 75*	*Did Not Meet Expectations*	*0*	*0.0%*		
Total/Overall				***332***	***100.0%***		

F=Frequency, AWV=Average Weighted Value

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Table 2 presents the respondents' academic performance based on DepEd Order No. 8, s. 2015. The findings reveal that the largest proportion of the respondents, 151 or 45.5%, obtained grades ranging from 90–100, described as Outstanding, followed by 112 or 33.7% who obtained grades of 85–89, described as Very Satisfactory. Meanwhile, 46 or 13.9% were classified as Satisfactory, while only 23 or 6.9% were Fairly Satisfactory. None of the respondents fell under the Did Not Meet Expectations category. Overall, the respondents obtained an Average Weighted Value of 4.18, interpreted as Very Satisfactory. This means that the respondents generally demonstrated a high level of academic performance, with nearly four out of five learners falling within the Very Satisfactory and Outstanding categories. This implies that most respondents were able to meet or exceed the expected learning standards, although continued instructional support remains important for learners whose performance fell within the Satisfactory and Fairly Satisfactory categories.

The present finding is consistent with Rosete and Olua (2024), who reported generally high academic performance among junior high school students across Grades 7 to 10, with mean grades ranging from approximately 89.61 to 90.21. Their study further found no significant differences in academic performance across grade levels, suggesting that strong achievement can be observed throughout the junior high school levels. The finding is likewise comparable to Dela Cruz (2024), who examined the academic performance of Grade 8 learners in Technology and Livelihood Education and emphasized the relevance of learner performance in assessing achievement and identifying areas for learning recovery. 3. Is there a significant relationship between the respondents perceived level of Technology and Livelihood Education (TLE) skills and level of academic performance in TLE?

Table 3. Test of relationship between perceived level of technology and livelihood education skills and level of academic performance in TLE.

Variables Correlated	rho-value	p-value	Interpretation
Technology and livelihood education skills and level of academic performance in TLE	0.044	0.428	Slight Positive Correlation, Not Significant

Correlation is significant at the 0.05 level

Table 3 presents the test of relationship between the respondents' perceived level of Technology and Livelihood Education skills and their level of academic performance in TLE. The salient finding reveals a Spearman rho-value of 0.044 with a p-value of 0.428, indicating a slight positive correlation that is not statistically significant at the 0.05 level of significance. Since the computed p-value of 0.428 is greater than 0.05, the null hypothesis is not rejected. Thus, there is no significant relationship between the respondents' perceived level of TLE skills and their academic performance in TLE. This means that although the positive rho-value indicates that TLE skills and academic performance tend to move slightly in the same direction, the relationship is extremely weak and statistically insignificant. Hence, respondents who perceived themselves as having higher TLE skills did not necessarily obtain significantly higher academic performance in TLE. The observed association may therefore be considered insufficient to establish a meaningful relationship between the two variables among the respondents of the study. This implies that learners' academic performance in TLE may be associated with factors other than their perceived level of practical TLE skills. Academic grades may reflect several dimensions of learning, such as written assessments, classroom participation, completion of requirements, instructional strategies, learning resources, motivation, and other educational experiences. Consequently, strengthening learners' practical TLE competencies remains important, but improvement in these perceived skills alone should not be assumed to result in higher academic grades.

The current finding is supported by Ralloque et al. (2022), whose study on Industrial Arts students identified various determinants associated with academic performance in Electronic Products Assembly and Services, indicating that learners' academic outcomes may be influenced by multiple factors rather than a single dimension of practical competence. The finding is further corroborated by Certeza (2026), whose investigation of skills development and academic performance in TLE demonstrates the importance of examining learners' competencies together with academic outcomes rather than assuming that skill proficiency alone determines achievement.

DISCUSSION

The findings reveal that Junior High School students generally perceived themselves as Highly Proficient in Technology and Livelihood Education (TLE) skills, with Agri-Fishery Arts emerging as the area in which they reported the highest perceived proficiency, followed by Entrepreneurship and Information and Communication Technology (ICT), Home Economics, and Industrial Arts. This indicates that the respondents generally viewed themselves as capable of performing practical, technical, entrepreneurial, and digital activities, although their perceived proficiency in certain areas suggests opportunities for further improvement through meaningful hands-on learning experiences. Regarding academic performance, the respondents generally achieved a Very Satisfactory level, with a substantial proportion obtaining Outstanding ratings, indicating that many learners met or exceeded the expected academic standards in TLE. However, the findings further reveal that the relationship between the respondents' perceived TLE skills and academic performance was negligible and statistically insignificant. This means that students who perceived themselves as highly proficient in TLE skills did not necessarily obtain correspondingly higher academic grades. This implies that perceived proficiency in TLE skills alone does not adequately explain differences in academic performance, and other factors, such as instructional strategies, learning resources, student motivation, classroom participation, assessment practices, and individual learning experiences, could contribute to students' academic achievement. The findings emphasize the importance of strengthening competency-based instruction, providing adequate instructional materials and facilities, and promoting authentic hands-on learning activities that would develop students' actual TLE competencies while enhancing their confidence in applying these skills. Furthermore, teachers and school administrators could continuously assess both students' perceived TLE skills and their demonstrated practical competencies, monitor academic progress, and implement appropriate instructional interventions to support the balanced development of practical skills and academic performance in Technology and Livelihood Education.

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CONCLUSION

Based on the findings of the study, it is concluded that Junior High School students generally demonstrated a Highly Proficient level of perceived Technology and Livelihood Education (TLE) skills, particularly in Agri-Fishery Arts, while maintaining a Very Satisfactory level of academic performance. These findings indicate that the respondents possessed substantial confidence in their practical, technical, entrepreneurial, and digital competencies and generally achieved the expected academic standards in TLE. However, the absence of a statistically significant relationship between perceived TLE skills and academic performance suggests that students with higher perceived practical competencies do not necessarily achieve higher academic grades. This means that perceived proficiency in TLE skills alone does not adequately explain differences in students' academic performance. This implies that other factors, such as instructional strategies, learning resources, student motivation, assessment practices, and learning experiences, could contribute to academic achievement. Therefore, the study concludes that developing practical TLE competencies and improving academic performance should be addressed through complementary instructional approaches that emphasize hands-on learning, competency-based activities, adequate learning resources, and continuous academic support to promote the holistic development of learners.

Authors' contribution: Conceptualization, research methodology, data gathering and analysis is performed by the authors.
Conflict of interest statement: All authors declare no conflict of interest.
Ethical review statement: the research is submitted to the ethical review committee and approved for the conduct of the study. It does not involve human-sensitive issues.
Funding: the study is funded by the authors

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Corresponding Author: Leo C. Naparota