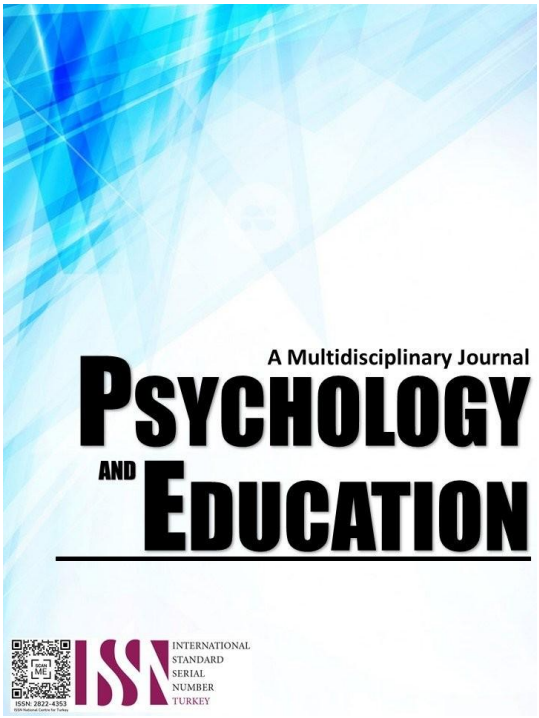
SKILLS DEVELOPMENT AND ACADEMIC PERFORMANCE OF GRADE FOUR PUPILS IN TECHNOLOGY AND LIVELIHOOD EDUCATION



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Research Article

Skills Development and Academic Performance of Grade Four Pupils in Technology and Livelihood Education

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Abstract

This study aimed to assess the extent of skills development and academic performance of Grade Four pupils in Technology and Livelihood Education (TLE) in selected public elementary schools in the Angono Sub-Office, Division of Rizal, for School Year 2025–2026. A descriptive correlational research design was used, utilizing a researcher-made questionnaire checklist. Findings revealed that the majority of the pupils were female and belonged to the younger age group, with most parents working as overseas Filipino workers and having attained a high school level of education. Pupils perceived themselves as "Much Skillful" in planning, marketing, and financial management skills, with an obtained composite weighted mean of 4.23, implying that teachers have succeeded in implementing a well-rounded approach to skills instruction in TLE. Statistical analysis showed no significant difference in skills development based on most profile variables, except for sibling position, which significantly influenced planning skills. In terms of academic performance, most pupils achieved a Very Satisfactory level based on their average grades in TLE. The presence of a negative correlation, even if weak, highlights the need for better alignment between hands-on learning and formal evaluation in TLE. The study concluded that while pupils demonstrate a high level of perceived skills development, their academic performance is not strongly linked to these self-assessments. Demographic variables had minimal influence, with sibling position emerging as the only significant factor. Based on the findings, the study recommended the enhancement of performance-based learning strategies, alignment of assessments with practical tasks, and the implementation of differentiated instruction.

Keywords: *skills development, academic performance, TLE, much skillful, grade four pupils*

Introduction

Education is a continuous and lifelong process that empowers individuals by fulfilling essential learning needs and enriching their lives. Globally, education systems are shifting toward holistic development—emphasizing not just academic knowledge but also the cultivation of life skills, technical abilities, and values needed for participation in a rapidly changing world. Countries increasingly recognize the value of skill-based learning in enhancing individual productivity and national development.

In the context of TLE, the State's commitment means that grade four pupils should receive structured opportunities to develop essential practical skills that support both their academic progress and future livelihood. Quality education in TLE involves equipping pupils with foundational skills in areas like basic technology, home economics, agriculture, and other livelihood-relevant areas, preparing them for real-world applications. Ensuring access to quality education, the State helps create an environment where students can build these practical skills, thereby enhancing their academic performance and fostering confidence in applying their knowledge in everyday situations.

The services provided by the school through the teachers who impart knowledge can be enjoyed by every child, and even adults, regardless of age, sex, or socioeconomic status. Whatever status in life a student has, it is the responsibility of the school to help him /her receive quality teaching, which could be his/her weapon in coping with all the adversaries of life.

Teachers recognize the quality of learning that is greatly influenced by the quality of teaching. Likewise, Technology and Livelihood Education includes areas like Home Economics, Retail Trade, Industrial Arts, and agroforestry. This subject exposes pupils to a variety of fundamental skills utilized in entry-level competitions. Pupils are exposed to modern technology and conventional methods to develop their skills and potential in learning the different lessons. Pupils are also exposed to both classroom theory and laboratory projects. Studying EPP may fit one's skills and interests. They are also exposed to business matters, home concerns, cooking, and knowledge in industrial arts. At present, public elementary school teachers are experiencing problems in imparting knowledge and skills among the pupils because of the difficulties brought about by this global pandemic.

Despite its importance, teachers face challenges in effectively delivering TLE due to limited instructional resources, inadequate time for hands-on activities, and variability in student engagement (Falaminiano, 2023; Gomez, 2022). These constraints hinder the translation of theoretical knowledge into practical skills, limiting pupils' full development. While studies highlight the benefits of experiential and skill-based learning, there is a lack of empirical research examining the specific factors that affect TLE skill acquisition in public elementary schools in the Philippines, particularly under constraints imposed by the COVID-19 pandemic. Additionally, the researcher had observed varying levels of motivation and engagement among pupils, which affects their participation and overall skill development. Some learners demonstrate enthusiasm and curiosity toward practical tasks, while others show disinterest or lack confidence in performing them. This disparity makes it challenging to maintain consistent progress and ensure that all pupils achieve the desired learning outcomes.

Time constraints also pose a significant issue. With insufficient time allotted for laboratory work and practical exercises, pupils often have limited opportunities to practice and refine their skills. As a result, lessons tend to focus more on theoretical discussions rather than experiential learning. These local issues highlight the need for a deeper investigation into the factors that support or hinder pupils' success in TLE. This study addressed this gap by investigating how practical skill development in TLE can be optimized, focusing on strategies, resource utilization, and pedagogical approaches that enhance both hands-on competence and overall academic achievement.

Research Questions

This study aimed to assess the extent of skills development and academic performance of the grade four pupils in Technology and Livelihood Education in public elementary schools in Angono Sub-Office, Division of Rizal, during the School Year 2024-2025. Specifically, it sought answers to the following sub-problems:

1. What is the profile of the respondents in terms of:
    1.1. age;
    1.2. sex;
    1.3. sibling position;
    1.4. number of children in the family;
    1.5. monthly family income;
    1.6. parents' educational attainment; and
    1.7. parents' occupation?
2. What is the extent of skills development of the grade four pupils in Technology and Livelihood Education as perceived by themselves with respect to:
    2.1. planning skills;
    2.2. marketing skills; and
    2.3. financial management skills?
3. Is there a significant difference on the extent of skills development of the grade four pupils in Technology and Livelihood Education as perceived by themselves with respect to the different aspects in terms of their profile?
4. What is the level of academic performance of the pupils as revealed by their average grades in TLE?
5. Is there a significant relationship between the extent of skills development of the grade four pupils in Technology and Livelihood Education and the pupils' level of academic performance?

Literature Review

Several studies have examined the competencies of Technology and Livelihood Education (TLE) teachers and their role in developing learners' practical skills. Calanog (2021) evaluated the competency levels of TLE teachers in the Province of Batangas based on TESDA standards, focusing on instructional performance, content knowledge, teaching strategies, classroom management, ICT integration, and assessment practices. Findings revealed that teachers demonstrated strong competencies in Home Economics and Industrial Arts, while competencies in Agri-Fishery Arts and ICT were only moderate. These results highlight uneven skill distribution across TLE components, suggesting the need for targeted professional development. Similarly, Barcelona (2023) emphasized the importance of understanding the professional landscape of TLE teachers in Philippine public schools. The study underscored the necessity of comprehensive support systems, including policy interventions and continuous professional development, to address persistent instructional challenges and enhance the overall quality of TLE education.

The development of livelihood skills is widely recognized as a critical factor in empowering learners and preparing them for active participation in society. Mukembo (2020) found that equipping young individuals with livelihood-related competencies significantly contributes to their successful transition into adulthood and strengthens their capacity to contribute meaningfully to their communities. This underscores the relevance of TLE as a foundational subject for fostering employability, self-reliance, and social responsibility among learners.

Pamor (2024) further explained that the integration of TLE into the Philippine basic education curriculum aims to equip students with knowledge and skills applicable to multiple career pathways. The study identified key themes influencing effective TLE instruction, including pedagogical adaptability, resource optimization, and sustained professional development. These findings suggest that addressing instructional and resource-related challenges may enhance the effectiveness of TLE implementation and learner outcomes.

Empirical studies have also explored the relationship between TLE instruction and students' academic performance. Morales and De Vera (2021) investigated the development and application of technical skills among Grade 10 TLE students in public secondary schools in Pangasinan. The results showed no significant relationship between students' technical skill levels and demographic variables such as age, gender, and parents' educational background. However, technical skills were significantly associated with students' area of specialization, father's occupation, and family income, indicating that contextual and economic factors may influence skill acquisition.

Nueva (2023) examined the effectiveness of subject courseware in TLE instruction at Tanay National High School. The findings revealed a significant improvement in students' performance following exposure to subject courseware. Notably, posttest results

showed no significant differences in performance when students were grouped according to demographic and socioeconomic variables, suggesting that well-designed instructional materials can promote equitable learning outcomes in TLE.

Methodology

Research Design

The study utilized a descriptive–correlational research design to examine the extent of skills development and the level of academic performance of Grade Four pupils in Technology and Livelihood Education (TLE), as well as the relationship between these variables. This design was appropriate as it allowed the researcher to describe existing conditions and determine associations among variables without manipulating them (Calmorin, 2020).

A key limitation of this design is that it does not establish cause-and-effect relationships; thus, any identified associations should be interpreted with caution. Additionally, the findings are limited to the context of the selected public elementary schools and may not be generalizable to other settings.

Respondents

The respondents of the study consisted of 338 Grade Four pupils, representing approximately 15.5% of the total Grade Four population (N = 2,181) from five public elementary schools in the Angono Sub-Office, Division of Rizal. The pupils were selected using a proportionate stratified random sampling technique, wherein the number of respondents from each school was determined based on its respective Grade Four enrollment to ensure fair and balanced representation. The inclusion criteria required that the pupils be officially enrolled in Grade Four during the school year, regularly attending TLE classes, and willing to participate in the study. Pupils with incomplete academic records or those who were absent during data collection were excluded. Prior to data gathering, written informed consent was secured from the pupils' parents or legal guardians, while assent was obtained from the pupils themselves. Approval to conduct the study was also obtained from the Schools Division Office and the school heads, in compliance with ethical standards and the Data Privacy Act of 2012.

Instrument

The study utilized a questionnaire–checklist as the main tool in gathering the necessary data and information. The instrument consisted of two parts. Part I focused on the profile of the respondents, which included their age, sex, sibling position, number of children in the family, monthly family income, parents' educational attainment, and parents' occupation. Part II measured the extent of skills development of Grade Four pupils in Technology and Livelihood Education with respect to planning skills, marketing skills, and financial management skills. Each skill area consisted of ten (10) items, resulting in a total of thirty (30) items.

The questionnaire–checklist was subjected to content-validation by the experts in the field of Technology and Livelihood Education, including the Dean of the Graduate Studies Program, the thesis adviser, professorial lecturers, a statistician, the TLE coordinator, a master teacher, and the school principal. Their comments and suggestions were carefully considered and incorporated into the final version of the questionnaire checklist.

Procedure

Initially, the researcher submitted proposed topics of research for approval by the panel of experts. Upon approval of the selected title, the thesis proposal was developed and submitted. A questionnaire checklist was then crafted under the supervision of the research adviser. Prior to distribution, it underwent content validation by experts. Revisions were made based on their feedback until the final version of the questionnaire was completed.

Following the validation process, the researcher sought permission from the Schools Division Superintendent to conduct the study and distribute the questionnaire checklist. In compliance with the Data Privacy Act, ethical considerations were observed during its administration to the respondents. Once permission was granted, the questionnaires were distributed, and data were collected. The administration of the questionnaire was conducted under the direct supervision of the researcher, with assistance from class advisers, when necessary, to ensure proper distribution and retrieval of the instruments. Data collection was carried out over two weeks to accommodate class schedules and minimize disruption of regular classroom activities. Completed questionnaires were checked for completeness immediately upon retrieval.

The retrieved data were processed using the Statistical Package for the Social Sciences (SPSS) and subsequently analyzed, tabulated, and interpreted. Based on the results, conclusions were drawn, and recommendations were formulated. The manuscript underwent anti-plagiarism screening at the statistical center.

Data Analysis

To analyze the data gathered in the study, the following statistical tools were employed. Frequency, percentage, and rank distribution were used to describe the profile of the respondents. The weighted mean was applied to determine the extent of skills development of Grade Four pupils in Technology and Livelihood Education (TLE) as perceived by the pupils across the different aspects. The one-

way analysis of variance (ANOVA) was utilized to determine significant differences in the extent of skills development when respondents were grouped according to their profile variables. To assess the level of academic performance of the pupil-respondents based on their average grades in TLE, frequency, percentage, mean, and standard deviation were employed. Finally, correlation analysis was used to determine the significant relationship between the extent of skills development and the pupils' level of academic performance in TLE.

Ethical Considerations

Ethical considerations were strictly observed in this study to protect the rights, dignity, and well-being of all participants. Formal approval to conduct the research was obtained from the Office of the Schools Division Superintendent of Rizal. Prior to data collection, respondents provided informed consent after being fully briefed on the study's purpose, procedures, and their right to withdraw at any time without penalty. Privacy and confidentiality were maintained by collecting only essential information, excluding personal identifiers, and limiting data access to the researcher. The study was conducted in a manner that avoided any physical, emotional, or psychological harm. All responses were treated respectfully and used solely for academic purposes. Academic integrity was upheld by accurately acknowledging sources and presenting feedback faithfully, and the research complied with relevant institutional policies and the Data Privacy Act of 2012.

Results and Discussion

Table 1. *Frequency and Percentage Distribution of the Respondents in Terms of the Selected Variables*

Age	*f*	*%*
10-11 years old	279	82.5
12-13 years old	41	12.1
14 years old	18	5.3
Total	338	100
Sex		
Male	103	30.5
Female	235	69.5
Total	338	100
Sibling Position		
1st	24	7.1
2nd	221	65.4
3rd	59	17.5
4th	16	4.7
5th and above	18	5.3
Total	338	100
Number of Children in the Family	f	%
1	5	1.5
2-3	196	58.0
4-5	101	29.9
6 and above	36	10.7
Total	338	100

Parent's Educational Attainment	Father			
	f	%	Rank	f
College Graduate	59	17.5	2	60
College Undergraduate	57	16.9	3	62
High School Graduate	222	65.7	1	216
Total	338	100		338
Parent's Occupation				
Government Employee	31	9.2	4.5	28
Private Employee	40	11.8	3	51
Private School Teacher	10	3.0	7	9
Self-employed	45	13.3	2	49
OFW	164	48.5	1	160
Health Care Provider	31	9.2	4.5	26
Others	17	5.0	6	15
Total	338	100		338

Monthly Family Income		
Php 22,001 and above	305	90.2
Php 15,001 – Php 22,000	31	9.2
Php 8,001 – Php 15,000	2	0.6
Below Php 8,000	-	-
Total	338	100

The table shows that the majority of the respondents were aged 10–11 years (82.5%), followed by those aged 12–13 years (12.1%), and 14 years and above (5.3%). In terms of sex, female pupils (69.5%) outnumbered male pupils (30.5%). Most respondents were second-born children (65.4%), and the majority came from families with two to three children (58.0%).

With regard to parents' educational attainment, most fathers (65.7%) and mothers (63.9%) were high school graduates, while fewer attained college-level education. In terms of occupation, Overseas Filipino Workers (OFWs) constituted the largest employment group for both fathers (48.5%) and mothers (47.3%), followed by self-employed and private-sector workers. As to family income, the majority of respondents (90.2%) belonged to households earning Php 22,001 and above, with no respondents reporting a monthly income below Php 8,000.

Overall, the profile of respondents reflects a learner population with relatively stable economic conditions but varying levels of parental educational support, which may have implications for skills development and academic performance in Technology and Livelihood Education.

Table 2. *Extent of Skills Development of the Grade Four Pupils in Technology and Livelihood Education as Perceived by the Respondents with Respect to Planning Skills*

Planning Skills *I …*	*WX̲*	*VI*
1. Plan ahead of time	3.99	Much Skillful
2. Involve my groupmates in planning.	4.44	Much Skillful
3. Participate in sharing my knowledge in selling.	4.28	Much Skillful
4. Give my honest opinion in the products that we are to sell.	4.40	Much Skillful
5. Decide quality but affordable products.	4.40	Much Skillful
6. Determine the strengths and weaknesses of being a young entrepreneur.	4.36	Much Skillful
7. Provide more interactions by applying accepted planning strategy.	3.98	Much Skillful
8. Improve qualify of product.	4.25	Much Skillful
9. Provide realistic and updated details and information on saleable products.	4.33	Much Skillful
10. Have in-depth analysis as it relates to the present demand of the customers.	3.92	Much Skillful
Overall W$\underline{X}$	4.23	Much Skillful

As shown in the table, the overall weighted mean for the extent of planning skills among Grade Four pupils is 4.23, which is verbally interpreted as Much Skillful. These results suggest that pupils have a strong sense of collaboration, decision-making, and personal involvement in the planning stages of their TLE activities. The lower score on market analysis indicates that while foundational planning skills are present, higher-order thinking skills related to analyzing customer needs and trends are still developing.

The findings imply that while Grade Four pupils demonstrate readiness to participate in structured planning activities, teachers may need to enhance their instruction by integrating more contextualized and real-world scenarios. Enriching classroom experiences through simulated business tasks, product planning workshops, or guided reflections can help pupils strengthen their analytical thinking, particularly in understanding customer behavior and aligning products with demand.

These insights are reinforced by the study of Iledan (2022), who found that performance-based activities significantly influence pupils' development of planning, demonstration, and product presentation skills in Edukasyong Pantahanan at Pangkabuhayan. Iledan concluded that practical, hands-on learning experiences allow young learners to apply their knowledge meaningfully, leading to greater confidence and skill acquisition. The findings from the present study similarly confirm that engaging pupils in collaborative and real-world planning tasks enhances their skill development in TLE.

Table 3. *Extent of Skills Development of the Grade Four Pupils in Technology and Livelihood Education as Perceived by the Respondents with Respect to Marketing Skills*

Marketing Skills *I …*	*WX̲*	*VI*
1. Incorporate marketing skills to be developed.	3.95	Much Skillful
2. Integrate the EPP programs and projects in the advertisement.	4.43	Much Skillful
3. Be oriented on the important competencies to be learned in marketing.	4.29	Much Skillful
4. Learn the benefits of marketing skills.	4.39	Much Skillful
5. Discuss the significance of selling strategies.	4.39	Much Skillful
6. Establishes the importance of online selling.	4.38	Much Skillful
7. Determine quality of marketing strategy.	3.94	Much Skillful
8. Produce marketing skills through word of mouth.	4.22	Much Skillful
9. Meet the demands of our classmates and friends.	4.33	Much Skillful
10. Provide affordable price.	3.95	Much Skillful
Overall W$\underline{X}$	4.23	Much Skillful

The table presents the extent of marketing skills development as perceived by Grade Four pupils. The overall weighted mean is 4.23, verbally interpreted as Much Skillful. These results indicate that pupils feel confident in applying basic marketing concepts, particularly

those related to creativity, product promotion, and understanding the value of selling techniques. Their strong performance in integrating class programs into advertisements reflects a familiarity with school-based marketing practices.

The findings imply that while pupils are gaining practical exposure to marketing activities, their deeper understanding of strategy evaluation may still be limited. To address this, teachers can enhance their instruction by introducing simple marketing analysis tools, customer feedback activities, or mock selling scenarios. These can help learners understand which strategies are more effective and why, thereby building their capacity to make informed marketing decisions.

This is consistent with the findings of Grecu and Denes (2017), who emphasized that entrepreneurial education should not only develop promotional skills but also train learners in evaluating marketing opportunities and strategies. Their study pointed out that planning, decision-making, and commercialization skills are crucial components of early entrepreneurship education.

Table 4. *Extent of Skills Development of the Grade Four Pupils in Technology and Livelihood Education as Perceived by the Respondents with Respect to Financial Management Skills*

Financial Management Skills *I …*	*WX*	*VI*
1. Show my interest and eagerness to learn prior skill and knowledge in Technology and Livelihood Education.	4.01	Much Skillful
2. Participate actively in skills development activities.	4.49	Much Skillful
3. Enjoy participation in computing the profit earned from our homemade products.	4.25	Much Skillful
4. Exhibit quality in the pricing of our products.	4.43	Much Skillful
5. Participate actively in doing financial auditing.	4.39	Much Skillful
6. Enjoy hands-on activities on daily sales.	4.39	Much Skillful
7. Collaborate with classmates during financial matters.	3.92	Much Skillful
8. Take part in organizing future finances for additional products to produce.	4.22	Much Skillful
9. Obey and follow parents' advice relative to financial management.	4.37	Much Skillful
10. Demonstrate sense of commitment on money matters.	3.86	Much Skillful
Overall W*X*	4.23	Much Skillful

The table shows that the overall weighted mean for financial management skills is 4.23, which is verbally interpreted as Much Skillful. These results reveal that pupils are highly engaged in financial tasks associated with their TLE projects, particularly in pricing and profit-related computations. The high rating on participation in development activities suggests enthusiasm and involvement when it comes to hands-on learning.

This suggests that teachers and curriculum planners should reinforce not just the technical aspects of financial literacy, but also the values associated with responsible money management. Classroom instruction can be enriched by incorporating budgeting exercises, role-playing business scenarios, or reflection activities that allow learners to examine their decisions and attitudes toward money. Building this sense of financial discipline early on will enhance their long-term understanding of resource management and self-regulation.

These findings are supported by the insights of Montemayor (2018), who emphasized that financial habits formed in childhood carry over into adulthood and play a vital role in shaping lifelong financial behavior. Montemayor's study found that early exposure to financial management fosters responsibility and critical thinking. In this context, the current results highlight the importance of embedding financial education into TLE at the elementary level—not only to teach pupils how to compute profit or price products, but to help them develop positive attitudes and values toward money.

Table 5. *Computed F-values on the Extent of Skills Development of the Grade Four Pupils in Technology and Livelihood Education Effects as Perceived by the Respondents with Respect to the Different Aspects in Terms of Their Profile*

Variables/ Aspects	*F-comp*	*p-values*	*Ho*	*VI*
Age				
Planning Skills	1.166	.313	Accepted	Not Significant
Marketing Skills	.349	.706	Accepted	Not Significant
Financial Management Skills	.280	.756	Accepted	Not Significant
Sex				
Planning Skills	.501	.480	Accepted	Not Significant
Marketing Skills	2.139	.144	Accepted	Not Significant
Financial Management Skills	.223	.637	Accepted	Not Significant
Sibling Position				
Planning Skills	2.929	.021	Rejected	Significant
Marketing Skills	.664	.617	Accepted	Not Significant
Financial Management Skills	.561	.691	Accepted	Not Significant
Number of Children in the family				
Planning Skills	2.436	.065	Accepted	Not Significant

Marketing Skills	1.094	.352	Accepted	Not Significant
Financial Management Skills	1.764	.154	Accepted	Not Significant
Monthly Family Income				
Planning Skills	.299	.742	Accepted	Not Significant
Marketing Skills	.671	.512	Accepted	Not Significant
Financial Management Skills	.354	.702	Accepted	Not Significant
Father's Educational Attainment				
Planning Skills	.180	.836	Accepted	Not Significant
Marketing Skills	1.966	.142	Accepted	Not Significant
Financial Management Skills	1.289	.277	Accepted	Not Significant
Mother's Educational Attainment				
Planning Skills	2.285	.103	Accepted	Not Significant
Marketing Skills	.613	.542	Accepted	Not Significant
Financial Management Skills	.062	.940	Accepted	Not Significant
Father's Occupation				
Planning Skills	1.015	.416	Accepted	Not Significant
Marketing Skills	.770	.594	Accepted	Not Significant
Financial Management Skills	.870	.517	Accepted	Not Significant
Mother's Occupation				
Planning Skills	.571	.753	Accepted	Not Significant
Marketing Skills	1.285	.264	Accepted	Not Significant
Financial Management Skills	.864	.522	Accepted	Not Significant

The results show that in almost all cases, the null hypothesis is accepted, indicating that there is no significant difference in perceived skill development when grouped according to age, sex, number of children in the family, monthly family income, parents' educational attainment, and parents' occupation. The only exception is sibling position in relation to planning skills, which yielded an F-value of 2.929 with a p-value of 0.021, leading to the rejection of the null hypothesis and indicating a statistically significant difference.

This finding implies that while TLE instruction is generally equitable, certain personal experiences shaped by family dynamics—such as being the eldest child—can provide additional opportunities for practicing planning-related tasks. Teachers may use this information to ensure that all pupils, regardless of sibling position, are given equal chances to lead, decide, and organize in classroom tasks. Structured group activities where leadership roles are rotated may help level the field and reinforce planning skills among all pupils, including those with limited home-based leadership opportunities.

These results resonate with the findings of Pinawin (2022), who emphasized that while performance-based activities positively impact pupils' skills development, individual background factors—such as family dynamics—can still influence how pupils engage with tasks. In particular, the study showed that certain demographic variables, like age and parental roles, may affect pupils' mastery of specific skills. In the same way, the present findings suggest that sibling position has a subtle yet measurable influence on how pupils perceive their planning competencies, calling for intentional instructional design that ensures equitable participation and skill exposure for all learners.

Table 6. *Level of Academic Performance of the Pupils as Revealed By Average Grades in Technology and Livelihood Education*

Grade	*Frequency*	*Percentage*	*VI*	*Rank*
90 and above (Outstanding)	177	52.4	Outstanding	1
85-89(Very Satisfactory)	91	26.9	Very Satisfactory	2
80-84(Satisfactory)	70	20.7	Satisfactory	3
76-79(Fairly Satisfactory)	-	-	Fairly Satisfactory	-
Below 75(Did not meet expectations)	-	-		-
Total	338	100		
Mean		88.70		
Std. Deviation		4.083		

These results reflect the academic performance of 338 learners in Technology and Livelihood Education (TLE). A significant majority – 177 pupils or 52.4% - achieved grades of 90 and above, which corresponds to an Outstanding level of performance. This marks the highest frequency among all grade categories and indicates that more than half of the learners have demonstrated excellent mastery of the subject matter.

This suggests that all learners met or exceeded basic competency levels, with none falling below the minimum satisfactory performance. The computed mean grade of 88.70 lies within the Very Satisfactory range, further emphasizing the overall strong performance of the learners. The standard deviation of 4.083 reveals a relatively narrow dispersion of scores around the mean, indicating consistency in learner achievement across the group.

These findings suggest that learners are performing well in TLE, with a strong concentration of high-achieving pupils and a notable

absence of underperformance. This may be attributed to effective teaching strategies, learner engagement, and supportive learning environments within the TLE program.

Table 7. *Computed r-value on the Relationship Between the Extent of Skills Development of the Grade Four Pupils in Technology and Livelihood Education and the Pupils' Level of Academic Performance*

	r-values	*p-value*	*Ho*	*VI*
Planning Skills	.040	.459	Accepted	Not Significant
Marketing Skills	-.120	.027	Rejected	Significant
Financial Management Skills	-.073	.183	Accepted	Not Significant

The results show that only marketing skills yielded a significant relationship, with an r-value of –0.120 and a p-value of 0.027, leading to the rejection of the null hypothesis. This indicates a statistically significant but weak negative correlation. Meanwhile, the correlations between academic performance and planning skills ($r = 0.040$, $p = 0.459$) and financial management skills ($r = –0.073$, $p = 0.183$) were not statistically significant.

The findings suggest that as pupils' perceived marketing skills slightly increase, their academic performance tends to decrease, although the relationship is weak. While this may initially appear counterintuitive, it could be explained by the possibility that pupils who are more engaged in practical or performance-based marketing tasks may allocate less focus on academic requirements or formal assessments. On the other hand, the lack of significant relationships in planning and financial skills implies that pupils' confidence in these areas may not directly translate to higher or lower academic grades.

This observation is consistent with the study of Nueva (2023), who investigated the effectiveness of courseware in TLE and found that pupils' engagement with performance tasks sometimes diverged from their scores in traditional academic assessments. Nueva emphasized that when practical learning is not adequately assessed through appropriate rubrics or is disconnected from academic grading, students may appear skillful yet not reflect this in their recorded performance. The current study reflects this potential disconnect, particularly in marketing skills, and reinforces the importance of integrative evaluation strategies that align both practical engagement and academic achievement.

Conclusions

Based on the findings of the study, it is concluded that the extent of skills development of Grade Four pupils in Technology and Livelihood Education (TLE) is generally not significantly influenced by most demographic and socioeconomic variables, including age, sex, family size, monthly family income, parents' educational attainment, and parents' occupation. This indicates that pupils' opportunities to develop TLE-related skills are relatively consistent across these profile characteristics. However, a notable exception is sibling position, which was found to have a significant influence on pupils' planning skills, suggesting that familial roles and responsibilities associated with birth order may shape learners' capacity for planning and task organization. Furthermore, the relationship between pupils' skills development and their academic performance in TLE was found to be domain-specific. While planning skills and financial management skills did not exhibit a significant association with academic performance, marketing skills demonstrated a weak yet statistically significant negative relationship. This finding implies that proficiency or engagement in certain practical skill areas may not directly translate into higher academic achievement and may reflect differences in learning orientation or emphasis between practical and academic tasks. Overall, the results underscore the complexity of skills development in TLE and highlight the need for instructional approaches that deliberately align practical competencies with academic learning outcomes.

References

Barcelona, K. (2023). Challenges and opportunities of TLE teachers in Philippine public schools: An inquiry. British Journal of Multidisciplinary and Advanced Studies: Education, Learning, Training & Development, 4(4), 44–60. https://doi.org/10.37745/bjmas.2022.0247.

Calanog, M. C. B. (2021). Developing technical skills of Technology and Livelihood Education secondary teachers in the Province of Batangas. International Journal of Research in Engineering, Science and Management, 4(12), Article 120–132. https://journal.ijresm.com/index.php/ijresm/article/view/163.

Calmorin, L. P. (2020). Methods of research and thesis writing. National Bookstore.

Falaminiano, R. N. (2023). Effects of stress management strategies on public elementary school teachers' job performance in San Felipe District, Schools Division of Zambales (Unpublished master's thesis). President Ramon Magsaysay State University, Philippines.

Gomez, J. A. (2022). Work environment and job satisfaction of teachers (Unpublished master's thesis). Southern de Oro Philippines College – Graduate School (Unpublished master's thesis). Cagayan de Oro City, Philippines.

Grecu, V., & Denes, C. (2017). Benefits of entrepreneurship education and training for engineering students. In MATEC Web of Conferences (Vol. 121, Article 12007). EDP Sciences. https://doi.org/10.1051/matecconf/201712112007.

Iledan, J. (2022). Effects of performance-based activities on the skills development of Grade Four pupils in Edukasyong Pantahanan at Pangkabuhayan (Unpublished master's thesis). Tomas Claudio Colleges, Morong, Rizal.

Montemayor, M. (2018, August 1). Teaching financial education to youth. Philippine News Agency. https://www.pna.gov.ph/articles/1043314.

Morales, M., & De Vera, A. (2021). Acquisition and practice of technical skills among Grade 10 TLE students. Pangasinan State University (Unpublished master's thesis). Pangasinan, Philippines.

Mukembo, S. (2020). Development of livelihood skills through school-based agripreneurship projects integrating youth-adult partnerships: The experiences of youth partners in Uganda (Unpublished master's thesis). University of Missouri.

Nueva, J. (2023). Effectiveness of subject courseware in teaching Technology and Livelihood Education in Tanay National High School (Unpublished master's thesis). Tomas Claudio Colleges, Morong, Rizal.

Pamor, I. (2024). Experiences of Technology and Livelihood Education teachers in the Division of Davao Del Norte: A phenomenological study. Department of Education, Schools Division of Davao Del Norte, Philippines.

Pinawin, V. P. (2022). Recreating financial literacy of private secondary school teachers. International Journal of Accounting, Finance and Entrepreneurship, 3(1), 1–20. https://doi.org/10.53378/352869. .

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