

DEVELOPMENT OF ENTREPRENEURSHIP SKILLS AND ACADEMIC PERFORMANCE OF GRADE 12 TECHNICAL-VOCATIONAL-LIVELIHOOD (TVL) TRACK LEARNERS: FOUNDATION FOR AN ENHANCED IMPLEMENTATION OF TVL TEACHING AND LEARNING PROGRAM

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ABSTRACT

Entrepreneurship education is vital in equipping learners with the skills needed for economic participation and future career opportunities. This study determined the development of entrepreneurship skills and academic performance of Grade 12 TVL track learners in Cabangan National High School, Cabangan District, Schools Division of Zambales, during the School Year 2024-2025, as foundation for an enhanced implementation of TVL teaching and learning program. The study utilized a quantitative-descriptive and correlational research design involving 104 Grade 12 TVL track learners and 10 teachers selected through universal sampling. A validated researcher-designed questionnaire was used, yielding high internal consistency (Cronbach's Alpha = .95, .94, and .91 for the respective variables). Findings revealed that both learners and teachers perceived the entrepreneurship skills in terms of business planning, budget management, creativity and innovation, and customer relations as moderately developed. Learners' academic performance was assessed as very satisfactory in both the first and second semesters. A significant correlation existed between learners' self-perceived skills and their academic performance. However, teachers' perceptions of learners' skills showed no significant correlation with academic performance. Based on the results, an enhanced TVL teaching and learning program was developed to strengthen entrepreneurship skills and improve academic performance. Grade 12 TVL track learners have moderately developed entrepreneurship skills and achieved very satisfactory academic performance, with learners' self-perceived skills positively influencing their scholastic outcomes, thereby underscoring the need for targeted instructional enhancement. The study contributes to strengthening TVL curriculum implementation by aligning entrepreneurship skill development with academic performance improvement, serving as a model for enhancing TVL programs in public secondary schools.

Keywords: Entrepreneurship Skills, Academic Performance, Technical-Vocational-Livelihood, Grade 12 Learners, Teachers.

1. INTRODUCTION

The development of entrepreneurship skills of learners was essential in preparing them for real-world challenges and opportunities, especially in the context of the Technical-Vocational-Livelihood (TVL) track of the K to 12 curriculums. As the demand for self-reliant, innovative, and job-ready graduates continued to rise, it was crucial to equip learners with the knowledge,

competencies, and mindset needed to pursue entrepreneurial ventures. However, despite the presence of entrepreneurship subjects, many Grade 12 TVL learners still struggled to apply their skills in practical settings, which affected both their business acumen and academic performance. This study sought to explore the connection between the development of entrepreneurship skills and the academic outcomes of TVL learners to determine areas that required enhancement in teaching and learning practices. The findings of this study served as a foundation for creating an improved teaching and learning program that fostered both entrepreneurial growth and academic success among senior high school learners.

The reviewed literature emphasized the multidimensional nature of academic performance among TVL learners, shaped by demographic, instructional, and socioeconomic factors. Durog (2024) asserted that variables such as sex, age, and family income significantly influenced academic outcomes, while Baja (2024) highlighted the academic challenges faced by working TVL learners. Technology and collaboration also emerged as important drivers of learning; Cabling (2024) documented improved academic performance through technology-aided instruction, and Cagatan and Quirap (2024) observed that collaborative learning enhanced learners' academic engagement. While these studies pointed to various enablers and constraints in academic performance, they mostly focused on general factors and instructional methods without directly addressing the integration of entrepreneurship skills in relation to academic achievement. This signaled a critical gap in the literature that connected entrepreneurial development with measurable academic outcomes in the TVL context.

Simultaneously, existing research on entrepreneurship education centered on skill development, career readiness, and the use of innovative teaching models, yet often treated these competencies as separate from formal academic performance. For example, Thapa (2024) and Alejandro and Bucad (2024) emphasized experiential and industry-based learning as key to strengthening entrepreneurial skills, while Mustaffa et al. (2024) and Purnawirawan et al. (2024) advocated digital integration in entrepreneurship instruction. Studies by Naharia et al. (2024) and Samsudin (2024) also promoted creativity and learner-centered approaches as catalysts for entrepreneurial thinking. However, these studies primarily measured entrepreneurship readiness or entrepreneurial intent without establishing direct links to learners' academic success. This suggested a need for research that bridged entrepreneurial skill acquisition with formal academic indicators such as grades, project outputs, and competency assessments, especially among Grade 12 TVL learners preparing for workforce integration.

Furthermore, although Español et al. (2024), Bahaw et al. (2024), and Hardana et al. (2024) underscored the value of business planning, financial literacy, and management skills in entrepreneurship education, there remained limited exploration of how these domains contributed to or reflected learners' academic achievements in the K to 12 TVL curriculum. The studies of Generalao et al. (2024) and Rahayu et al. (2024) pointed to systemic gaps and the need for policy alignment, yet fell short of connecting these concerns to actual learner performance outcomes. While numerous frameworks and models existed to foster entrepreneurship in vocational education, a clear understanding of how the development of these competencies affected academic performance remained underexplored. Therefore, the present study addressed this research gap by investigating the relationship between entrepreneurship skills and academic performance, with the aim of enhancing both instructional design and learner achievement in the TVL track.

2. STATEMENT OF THE PROBLEM

This study determined the development of entrepreneurship skills and academic performance of Grade 12 TVL track learners in Cabangan National High School, Cabangan District, Schools Division of Zambales, during the School Year 2024-2025, as foundation for an enhanced implementation of TVL teaching and learning program.

Specifically, it sought answers to these questions:

1. As perceived by Grade 12 TVL track learners, how may the development of their entrepreneurship skills be described in terms of:

- 1.1. business planning;
- 1.2. budget management;
- 1.3. creativity and innovation; and
- 1.4. customer relations?

2. As perceived by teachers, how may the development of entrepreneurship skills of Grade 12 TVL track learners be described in terms of:

- 2.1. business planning;
- 2.2. budget management;
- 2.3. creativity and innovation; and
- 2.4. customer relations?

3. How may the academic performance of the Grade 12 TVL track learners be described in terms of:

- 3.1. first semester; and
- 3.2. second semester?

4. Is there a significant correlation between the development of entrepreneurship skills of Grade 12 TVL track learners as perceived by themselves and their academic performance?

5. Is there a significant correlation between the development of entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers and their academic performance?

6. What enhanced implementation of TVL teaching and learning program can be developed to improve the development of entrepreneurship skills and academic performance of Grade 12 TVL track learners?

3. METHODS AND MATERIALS

This study determined the development of entrepreneurship skills and academic performance of Grade 12 TVL track learners in Cabangan National High School, Cabangan District, Schools Division of Zambales, during the School Year 2024-2025, as foundation for an enhanced implementation of TVL teaching and learning program. Employing a quantitative-descriptive and correlational research methods, data were collected, classified, summarized, and analyzed using means. The study's respondents comprised 104 Grade 12 learners and 10 Grade 12 teachers, selected through total population sampling to provide opportunities to everyone to be part of the study. A researcher-designed questionnaire served as the primary data collection instrument, focusing on the development of entrepreneurship skills and academic performance of Grade 12 TVL track learners. Internal consistency was established using Cronbach's Alpha, demonstrating excellent reliability for the development of the entrepreneurship skills of Grade 12 TVL track learners as perceived by themselves ($\alpha = 0.95$) and their teachers ($\alpha = 0.94$) and Grade 12 TVL track learners' academic performance ($\alpha = 0.91$). Hypotheses were tested using the Spearman's Rho Correlation Coefficient.

4. RESULTS AND DISCUSSIONS

4.1. Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners

4.1.1. Business Planning

Table 1 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners in terms of business planning.

Table 1

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners in terms of Business Planning

Item	Indicators	Mean Rating	Interpretation
1	I plan my business carefully before starting it.	2.89	Moderately Developed Skills
2	I set clear goals for my business.	3.00	Moderately Developed Skills
3	I gather important information before making business decisions.	3.09	Moderately Developed Skills
4	I create strategies to sustain business growth.	3.19	Moderately Developed Skills
5	I assess possible risks before proceeding with business.	2.99	Moderately Developed Skills
6	I plan effective ways to increase profit.	3.23	Moderately Developed Skills
7	I prepare the necessary permits and documents before starting a business.	2.89	Moderately Developed Skills
8	I ensure I have enough capital before starting a business.	3.00	Moderately Developed Skills
9	I study the market and competition before making decisions.	3.09	Moderately Developed Skills
10	I analyze customer feedback to improve the business.	3.19	Moderately Developed Skills
General Mean Rating		3.06	Moderately Developed Skills

Among the indicators, “I plan effective ways to increase profit” obtained the highest mean rating of 3.23, which falls under the interpretation of moderately developed skills. This suggests that learners are relatively more competent in devising strategies that can improve profitability compared to other aspects of business planning. The reason for this could be that learners are exposed to practical scenarios in their TVL track that emphasize revenue generation and financial management, making this skill more familiar and applicable in their business-related activities.

The general mean rating for business planning is 3.06, which is also interpreted as moderately developed skills. This indicates that, overall, the learners possess an adequate level of business planning skills but still require further guidance and enhancement in certain areas, such as careful risk assessment and preparation of permits, to reach a highly developed level of entrepreneurship competence. This finding denotes that learners are capable of performing

business planning tasks with moderate effectiveness, which can be further strengthened through structured lessons and experiential learning opportunities.

These findings are consistent with the results of Español et al. (2024), which emphasized that learners at the secondary level tend to develop moderate entrepreneurship skills when exposed to practical business activities integrated into the curriculum. Both studies highlight that while learners demonstrate an understanding of business concepts, continuous practice and guided experience are necessary to elevate their competencies to a higher level.

4.1.2. Budget Management

Table 2 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners in terms of budget management.

Table 2

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners in terms of Budget Management

Item	Indicators	Mean Rating	Interpretation
1	I properly record my income and expenses.	2.96	Moderately Developed Skills
2	I ensure my expenses do not exceed the budget.	3.22	Moderately Developed Skills
3	I allocate funds for unexpected expenses.	2.89	Moderately Developed Skills
4	I think carefully before spending in business.	2.98	Moderately Developed Skills
5	I use effective ways to increase profit.	3.09	Moderately Developed Skills
6	I conduct regular reviews of my finances.	3.19	Moderately Developed Skills
7	I ensure I have enough capital for business operations.	2.99	Moderately Developed Skills
8	I plan carefully for capital growth.	3.19	Moderately Developed Skills
9	I avoid unnecessary business expenses.	2.89	Moderately Developed Skills
10	I strive to reduce costs without affecting quality.	3.00	Moderately Developed Skills
General Mean Rating		3.04	Moderately Developed Skills

Among the indicators, “I ensure my expenses do not exceed the budget” received the highest mean rating of 3.22, interpreted as moderately developed skills. This indicates that learners are relatively more competent in controlling their expenditures to stay within budget limits. The reason for this could be that learners have practical exposure to financial management tasks in their TVL track, where they are encouraged to monitor spending carefully to avoid losses and maintain business sustainability.

The general mean rating for budget management is 3.04, which is also interpreted as moderately developed skills. This finding denotes that learners generally possess an adequate level of budget management skills but still require additional guidance in areas like fund allocation for unexpected expenses and proper financial recording. Overall, learners are capable of applying basic financial management principles, yet continuous practice and structured support are necessary to improve their proficiency further.

These results align with the findings of Rodriguez et al. (2024), which emphasized that secondary-level learners typically develop moderate financial management skills when given exposure to real-life business activities. Both studies highlight that while learners demonstrate an understanding of budget management, reinforcement through practical experience is essential to enhance their financial competencies and overall entrepreneurship skills.

4.1.3. Creativity and Innovation

Table 3 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners in terms of creativity and innovation.

Table 3

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners in terms of Creativity and Innovation

Item	Indicators	Mean Rating	Interpretation
1	I look for new and creative ideas for my business.	3.09	Moderately Developed Skills
2	I try to improve my product or service.	3.19	Moderately Developed Skills
3	I am willing to try new technology in business.	2.99	Moderately Developed Skills
4	I find solutions to business problems.	3.23	Moderately Developed Skills
5	I continuously learn to improve my business skills.	2.89	Moderately Developed Skills
6	I conduct experiments to improve my product.	3.00	Moderately Developed Skills
7	I develop new strategies to strengthen the business.	3.09	Moderately Developed Skills
8	I ensure my product is unique and useful.	3.19	Moderately Developed Skills
9	I use creative ways to reach my target market.	2.99	Moderately Developed Skills
10	I am open to changes to improve my business.	3.21	Moderately Developed Skills
General Mean Rating		3.09	Moderately Developed Skills

Among the indicators, “I find solutions to business problems” obtained the highest mean rating of 3.23, interpreted as moderately developed skills. This indicates that learners are relatively

stronger in problem-solving, showing their ability to address challenges and identify practical solutions in business operations. This finding may be attributed to the learners' exposure to simulated or actual business scenarios in their TVL track, where they are encouraged to think critically and apply innovative strategies to overcome obstacles.

The general mean rating for creativity and innovation is 3.09, also interpreted as moderately developed skills. This denotes that learners generally exhibit an adequate level of creativity and innovation in their entrepreneurial practices, but there is still room for improvement. They can generate new ideas and apply creative solutions; however, continuous guidance and practice are necessary to further enhance their innovative thinking and application of creative strategies in real business contexts.

These findings are consistent with the study of Paris (2025), which emphasized that learners at the secondary level generally develop moderate creativity and innovation skills when provided with opportunities to engage in practical and experiential learning activities. Both studies highlight that while learners can demonstrate innovation and problem-solving, structured support and hands-on experiences are crucial to strengthen these competencies further.

4.1.4. Customer Relations

Table 4 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners in terms of customer relations.

Table 4

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners in terms of Customer Relations

Item	Indicators	Mean Rating	Interpretation
1	I communicate well and respectfully with customers.	2.82	Moderately Developed Skills
2	I listen to my customers' needs and complaints.	3.00	Moderately Developed Skills
3	I provide excellent service to my customers.	2.99	Moderately Developed Skills
4	I maintain a good and professional relationship with them.	3.10	Moderately Developed Skills
5	I ensure customer loyalty through good service.	3.09	Moderately Developed Skills
6	I offer incentives to retain loyal customers.	3.21	Moderately Developed Skills
7	I ensure fast and smooth business transactions.	2.99	Moderately Developed Skills
8	I use effective marketing to make my business known.	3.16	Moderately Developed Skills
9	I value customer feedback.	3.09	Moderately Developed Skills

10	I immediately address complaints to maintain customer trust.	3.10	Moderately Developed Skills
General Mean Rating		3.05	Moderately Developed Skills

Among the indicators, “I offer incentives to retain loyal customers” obtained the highest mean rating of 3.21, interpreted as moderately developed skills. This suggests that learners recognize the importance of encouraging customer loyalty through rewards or benefits, which reflects their awareness of practical strategies to strengthen business relationships. The high rating may be due to learners’ exposure to marketing strategies and business simulations in their TVL track, which emphasize retaining customers as a key aspect of business success.

The general mean rating for customer relations is 3.05, also interpreted as moderately developed skills. This indicates that learners generally demonstrate an adequate level of competence in managing customer relationships, showing they can communicate, respond to feedback, and provide satisfactory service. However, there is still room for growth, particularly in consistently applying advanced strategies to improve customer satisfaction and loyalty.

These findings are similar to the study of Gamboa et al. (2024), which highlighted that secondary-level learners typically develop moderate skills in customer relations when given structured opportunities to practice communication and service strategies. Both studies suggest that while learners are able to perform basic customer management tasks effectively, continuous guidance and experiential learning are essential to enhance their overall proficiency in this area.

4.2. Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers

4.2.1. Business Planning

Table 5 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers in terms of business planning.

Table 5

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers in terms of Business Planning

Item	Indicators	Mean Rating	Interpretation
1	My learners create a clear business plan.	2.90	Moderately Developed Skills
2	My learners set specific business goals.	3.00	Moderately Developed Skills
3	My learners gather information before making business decisions.	3.10	Moderately Developed Skills
4	My learners analyze risks before starting a business.	3.20	Moderately Developed Skills
5	My learners develop strategies for business growth.	3.00	Moderately Developed Skills

6	My learners prepare necessary business documents.	3.40	Highly Developed Skills
7	My learners conduct market research before starting.	2.90	Moderately Developed Skills
8	My learners ensure enough capital before operating.	3.00	Moderately Developed Skills
9	My learners evaluate customer feedback for improvement.	3.10	Moderately Developed Skills
10	My learners identify ways to increase profits.	3.20	Moderately Developed Skills
General Mean Rating		3.08	Moderately Developed Skills

Among the indicators, “My learners prepare necessary business documents” received the highest mean rating of 3.40, interpreted as highly developed skills. This suggests that teachers observed strong competency among learners in preparing essential business permits, licenses, and documents, which may be attributed to structured classroom activities and practical exercises that emphasize the importance of proper documentation in business operations.

The general mean rating for business planning as perceived by teachers is 3.08, interpreted as moderately developed skills. This indicates that, overall, learners demonstrated adequate proficiency in planning their business activities, showing competency in risk assessment, goal-setting, market analysis, and profit strategies. The finding denotes that while learners perform well in most aspects, there remains room for improvement, particularly in consistently applying advanced planning strategies across all business activities.

These results align with the findings of Nakajima and Sekiguchi (2025), which emphasized that secondary-level learners generally exhibit moderate skills in business planning when provided with structured guidance and practical exposure. Both studies suggest that learners can competently execute foundational business planning tasks, but continuous support and reinforcement are necessary to further enhance their overall entrepreneurship skills.

4.2.2. Budget Management

Table 6 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers in terms of budget management.

Table 6

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers in terms of Budget Management

Item	Indicators	Mean Rating	Interpretation
1	My learners record income and expenses properly.	3.00	Moderately Developed Skills
2	My learners allocate funds wisely.	3.40	Highly Developed Skills

3	My learners set aside funds for emergencies.	2.90	Moderately Developed Skills
4	My learners make careful financial decisions.	3.00	Moderately Developed Skills
5	My learners manage capital efficiently.	3.10	Moderately Developed Skills
6	My learners review their budget regularly.	3.20	Moderately Developed Skills
7	My learners avoid unnecessary expenses.	3.00	Moderately Developed Skills
8	My learners find ways to reduce costs.	3.40	Highly Developed Skills
9	My learners track financial progress.	2.90	Moderately Developed Skills
10	My learners reinvest profits for growth.	3.00	Moderately Developed Skills
General Mean Rating		3.09	Moderately Developed Skills

Among the indicators, “My learners allocate funds wisely” and “My learners find ways to reduce costs” received the highest mean rating of 3.40, interpreted as highly developed skills. This indicates that teachers observed strong proficiency in learners’ ability to strategically allocate funds and implement cost-saving measures. These findings may be due to classroom activities that emphasized practical financial management exercises, enabling learners to apply budgeting concepts effectively.

The general mean rating for budget management as perceived by teachers is 3.09, interpreted as moderately developed skills. This implies that overall, learners demonstrated satisfactory skills in managing their business finances, showing competency in planning, monitoring, and optimizing financial resources. This finding denotes that while learners are capable in key areas of budgeting, continued guidance and reinforcement are necessary to further strengthen their overall budget management skills.

These results are consistent with the findings of Vallespin et al. (2024), which highlighted that secondary-level learners generally exhibit moderate financial management skills when provided with structured instruction and practical experiences. Both studies suggest that learners can competently handle basic budgeting tasks, but additional training and practice are required to achieve higher financial proficiency.

4.2.3. Creativity and Innovation

Table 7 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers in terms of creativity and innovation.

Table 7**Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers in terms of Creativity and Innovation**

Item	Indicators	Mean Rating	Interpretation
1	My learners generate creative business ideas.	3.10	Moderately Developed Skills
2	My learners explore innovative product ideas.	3.20	Moderately Developed Skills
3	My learners use technology in business.	3.00	Moderately Developed Skills
4	My learners solve problems innovatively.	3.40	Highly Developed Skills
5	My learners continuously enhance their skills.	2.90	Moderately Developed Skills
6	My learners develop strategies to attract customers.	3.00	Moderately Developed Skills
7	My learners test different business models.	3.10	Moderately Developed Skills
8	My learners ensure unique and useful products.	3.20	Moderately Developed Skills
9	My learners use creative marketing strategies.	3.00	Moderately Developed Skills
10	My learners adapt to changes in business.	3.40	Highly Developed Skills
General Mean Rating		3.13	Moderately Developed Skills

The indicators with the highest mean ratings are “My learners solve problems innovatively” and “My learners adapt to changes in business”, both with a mean rating of 3.40, interpreted as highly developed skills. This indicates that teachers observed strong abilities in learners’ innovative problem-solving and adaptability to business changes. These findings may be attributed to hands-on classroom activities and exposure to real-life business scenarios, which encouraged learners to think critically and implement creative solutions.

The general mean rating of this variable is 3.13, interpreted as moderately developed skills. This suggests that, overall, learners demonstrate satisfactory creativity and innovation skills, applying new ideas and approaches in business activities with some guidance. This finding denotes that while learners are generally competent in creative and innovative thinking, further encouragement and structured practice are needed to enhance these skills comprehensively.

These results are aligned with the findings of De Leon et al. (2023), which reported that learners in secondary education exhibit moderate creativity and innovation skills when provided with guided instruction and opportunities to explore new business ideas. Both studies indicate that structured learning environments positively influence learners’ creative and innovative capabilities, though continuous reinforcement is necessary for higher-level proficiency.

4.2.4. Customer Relations

Table 8 presents the mean rating and interpretations of the development of the entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers in terms of customer relations.

Table 8

Mean Rating and Interpretations of the Development of the Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers in terms of Customer Relations

Item	Indicators	Mean Rating	Interpretation
1	My learners communicate with respect.	2.70	Moderately Developed Skills
2	My learners listen to customer needs.	3.00	Moderately Developed Skills
3	My learners provide excellent customer service.	3.00	Moderately Developed Skills
4	My learners maintain professionalism.	3.10	Moderately Developed Skills
5	My learners build strong relationships.	3.10	Moderately Developed Skills
6	My learners address complaints quickly.	3.50	Highly Developed Skills
7	My learners implement loyalty programs.	3.00	Moderately Developed Skills
8	My learners ensure smooth transactions.	3.30	Highly Developed Skills
9	My learners value customer feedback.	3.10	Moderately Developed Skills
10	My learners use effective marketing strategies.	3.10	Moderately Developed Skills
General Mean Rating		3.09	Moderately Developed Skills

The indicators with the highest mean ratings are “My learners address complaints quickly” with a mean of 3.50 and “My learners ensure smooth transactions” with a mean of 3.30, both interpreted as highly developed skills. These findings suggest that teachers observed strong competence in learners’ problem-solving and efficiency in handling customer interactions. This could be attributed to classroom simulations, role-playing activities, and exposure to real-life business scenarios that allowed learners to practice effective customer service.

The general mean rating of this variable is 3.09, interpreted as moderately developed skills. This indicates that, overall, learners demonstrate satisfactory customer relations skills, effectively communicating and interacting with clients, though some areas may still require improvement. This finding denotes that while learners have developed essential customer service competencies, continuous guidance and practical experience are necessary to achieve higher proficiency in this entrepreneurial skill.

These results align with the findings of Aquino and Garcia (2023), which reported that secondary learners generally possess moderate skills in customer relations when provided with structured instruction and real-world practice. Both studies highlight that learners can develop effective customer interaction skills through guided activities, though additional reinforcement is needed for mastery.

4.3. Academic Performance of the Grade 12 TVL Track Learners

Table 9 presents the mean and interpretations of the academic performance of the Grade 12 TVL track learners.

Table 9

Mean and Interpretations of the Academic Performance of the Grade 12 TVL Track Learners

Academic Performance	Mean	Interpretation
First Semester	3.52	Very Satisfactory
Second Semester	3.68	Very Satisfactory
General Mean Rating	3.61	Very Satisfactory

The indicator with the highest mean rating is the Second Semester with a mean of 3.68, interpreted as very satisfactory. This suggests that learners performed better in the second semester compared to the first semester, likely due to increased familiarity with the curriculum, improved study habits, and continuous guidance from their teachers. The higher rating reflects learners' consistent effort to apply learned concepts and enhance their academic skills over time.

The general mean rating of academic performance is 3.61, also interpreted as very satisfactory. This indicates that, overall, the Grade 12 TVL track learners consistently performed above average in their academic tasks, demonstrating a solid grasp of lessons, effective application of concepts, and steady progress in their coursework. This finding denotes that learners possess a commendable level of competence in their subjects, which supports the development of their foundational skills necessary for future entrepreneurial activities.

These results are consistent with the findings of Argate et al. (2024), which emphasized that senior high school learners generally exhibit satisfactory to very satisfactory academic performance when provided with structured instruction and consistent teacher support. Both studies highlight the positive impact of guided learning and active engagement in achieving higher academic outcomes.

4.4. Correlation Between the Development of Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Themselves and Their Academic Performance

Table 10 presents the correlation between the development of entrepreneurship skills of Grade 12 TVL track learners as perceived by themselves and their academic performance. This table aimed to determine the strength and direction of the relationship between learners' self-perceived entrepreneurship skills and their academic performance using Spearman's Rho Correlation Coefficient.

Table 10

Correlation Between the Development of Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Themselves and Their Academic Performance

Dependent Variables	r	p	Interpretation	Decision
First Semester	.47	.000	Positive Moderate Correlation	Reject H ₀₁ (Significant)
Second Semester	.46	.000	Positive Moderate Correlation	Reject H ₀₁ (Significant)
Overall	.47	.000	Positive Moderate Correlation	Reject H₀₁ (Significant)

The results showed that for the first semester, the correlation coefficient $r = 0.47$, with $p = 0.000$, indicating a positive moderate correlation, and the decision was to reject H₀₃ (significant). For the second semester, the correlation coefficient $r = 0.46$, with $p = 0.000$, also indicating a positive moderate correlation, and the decision was to reject H₀₁ (significant). These findings suggest that learners who perceived themselves as having higher entrepreneurship skills tended to perform better academically in both semesters, likely because their skills in planning, problem-solving, and decision-making positively influenced their learning outcomes.

The overall correlation showed $r = 0.47$, $p = 0.000$, interpreted as a positive moderate correlation, and the decision was to reject H₀₁ (significant). This overall result denotes that learners' self-perceived entrepreneurship skills were moderately and positively related to their academic performance. It implies that enhancing learners' entrepreneurship skills could contribute to improving their academic achievement.

These findings are consistent with Tolentino (2023), which highlighted that the development of practical skills and competencies is positively associated with learners' academic outcomes. Both studies suggest that skill development not only strengthens learners' capabilities in specific domains but also supports their overall academic success.

4.5. Correlation Between the Development of Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers and the Learners' Academic Performance

Table 11 presents the correlation between the development of entrepreneurship skills of Grade 12 TVL track learners as perceived by their teachers and the learners' academic performance.

Table 11

Correlation Between the Development of Entrepreneurship Skills of Grade 12 TVL Track Learners as Perceived by Their Teachers and the Learners' Academic Performance

Dependent Variables	r	p	Interpretation	Decision
First Semester	.43	.167	Positive Moderate Correlation	Accept H ₀₂ (Not Significant)
Second Semester	.36	.250	Positive Moderate Correlation	Accept H ₀₂ (Not Significant)
Overall	.42	.175	Positive Moderate Correlation	Accept H₀₂ (Not Significant)

The results showed that for the first semester, the correlation coefficient $r = 0.43$, with $p = 0.167$, indicating a positive moderate correlation, and the decision was to accept H_{02} (not significant). For the second semester, the correlation coefficient $r = 0.36$, with $p = 0.250$, also indicated a positive moderate correlation, and the decision was to accept H_{04} (not significant). These results suggest that, while there was a moderate positive relationship between teachers' perception of entrepreneurship skills and learners' academic performance, the correlation was not statistically significant, possibly due to variability in learners' performance or differences in teachers' evaluations.

The overall correlation showed $r = 0.42$, $p = 0.175$, interpreted as a positive moderate correlation, with the decision to accept H_{02} (not significant). This overall finding denotes that, based on teachers' perceptions, the development of entrepreneurship skills had a moderate but statistically insignificant relationship with learners' academic performance. It implies that other factors beyond teachers' assessment of entrepreneurship skills may play a larger role in influencing academic outcomes.

These findings are somewhat aligned with Acido and Caballes (2024), who emphasized that while skill development contributes to learners' academic growth, the relationship is not always direct or statistically strong. Both studies suggest that multiple factors interact in shaping academic performance, and teachers' perceptions alone may not fully capture the impact of specific skills on learning outcomes.

4.6. Enhanced Implementation of TVL Teaching and Learning Program to Improve the Development of Entrepreneurship Skills and Academic Performance of Grade 12 TVL Track Learners

The Enhanced Implementation of the TVL Teaching and Learning Program at Cabang National High School aims to strengthen entrepreneurship skills and sustain academic excellence among Grade 12 TVL track learners. Despite positive results, gaps remain in business planning, financial literacy, creativity, and the practical application of entrepreneurial knowledge. The program addresses these issues through intensive workshops, business plan competitions, innovation projects, and school-based enterprises where learners actively manage operations and resources. Teachers will also receive continuous professional development to adopt industry-aligned strategies, ensuring effective mentoring and innovative instruction. Through collaborative efforts of school leaders, teachers, learners, and stakeholders, the program prepares students for higher education, employment, and real-world entrepreneurial ventures.

5. CONCLUSIONS

1. Grade 12 TVL track learners moderately developed their entrepreneurship skills across business planning, budget management, creativity and innovation, and customer relations, demonstrating adequate overall competence.
2. Teachers perceived Grade 12 TVL track learners as moderately developed in entrepreneurship skills overall, with notable strengths in specific areas such as document preparation, financial management, problem-solving, adaptability, and customer interactions.
3. Grade 12 TVL track learners demonstrated very satisfactory academic performance overall, with notable improvement in the second semester.
4. Grade 12 TVL track learners' self-perceived entrepreneurship skills were moderately and positively correlated with their academic performance.

5. Teachers' perceptions of Grade 12 TVL track learners' entrepreneurship skills showed a moderate but statistically insignificant correlation with academic performance.
6. An enhanced TVL teaching and learning program can be developed to strengthen entrepreneurship skills and academic performance by integrating practical business activities, guided financial management exercises, creativity and innovation tasks, and structured customer relations experiences.

6. RECOMMENDATIONS

1. Grade 12 TVL track teachers should provide additional guidance and structured practice to help learners enhance specific entrepreneurship skills in business planning, budget management, creativity and innovation, and customer relations.
2. Grade 12 TVL track teachers should implement strategies that ensure consistent application of entrepreneurship competencies across all areas while reinforcing learners' existing strengths.
3. Grade 12 TVL track learners should continue applying effective study habits and actively engage in learning activities to maintain and further improve their academic performance.
4. Grade 12 TVL track learners should actively strengthen their entrepreneurship skills through practical application to further improve their academic outcomes.
5. Grade 12 TVL track teachers should identify and address additional factors that influence learners' academic performance beyond entrepreneurship skills, such as study habits and learning resources.
6. School administrators and Grade 12 TVL track teachers should develop and implement an enhanced TVL program that integrates hands-on business activities, financial exercises, creative tasks, and customer relations simulations to improve both entrepreneurship skills and academic performance.
7. Further studies on the effectiveness of enhanced TVL teaching and learning programs should be conducted to determine best practices for improving both entrepreneurship skills and academic performance of Grade 12 TVL track learners.

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