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Innovative Pedagogical Strategies as Predictors of Entrepreneurial Motivation in Secondary Education

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ABSTRACT

This study explores the impact of innovative pedagogical strategies on enhancing entrepreneurial motivation among high school students in Denpasar, Indonesia. Recognizing the role of entrepreneurship education in fostering creative, independent, and adaptive learners, this research focuses on two innovative approaches: Project-Based Learning and Problem-Based Learning. Using a quantitative, ex post facto design, data were collected from 99 students who had completed entrepreneurship courses using a validated Likert-scale questionnaire. Analysis using simple linear regression revealed that pedagogical strategies accounted for 20.2 per cent of the variance in entrepreneurial motivation, including intrinsic factors such as passion and autonomy, as well as extrinsic factors such as social recognition and financial independence. The study demonstrates that participatory, context-based learning significantly boosts students' entrepreneurial drive and engagement. The findings contribute to educational science by highlighting how innovative teaching methods not only enhance academic performance but also cultivate entrepreneurial mindsets among high school students, offering practical recommendations for curriculum development and policy-making in entrepreneurship education.

ARTICLE INFORMATION

Keywords:
entrepreneurial motivation; innovative pedagogical strategies; problem-based learning; project-based

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INTRODUCTION

Entrepreneurship has become a vital catalyst for economic expansion, innovation, and societal change in the 21st century (Asgary & Maccari, 2019; Sergi & Scanlon, 2019). In an increasingly dynamic and uncertain global economy, entrepreneurial ventures have played a vital role in creating jobs (Dutta et al., 2021; Tunio, 2024; Ullah et al., 2025; Warnecke, 2025), introducing disruptive innovations (Ganguly et al., 2024; Krohn & Metcalf, 2021; Narula & Sabharwal, 2024; Okyere-Manu, 2023), and addressing societal challenges (Ayyoob & Sajeev, 2024; Bacq et al., 2022; Bublitz et al., 2021; Martínez et al., 2023; Roundy, 2024; Voltan & De Fuentes, 2025). Recognizing this, many nations have prioritized the development of entrepreneurial capacities among their populations, particularly among youth (BalaKrishnan & Suchithra, 2018; Gupta et al., 2024; Raveendra et al., 2018; Reiigamani, 2017). While entrepreneurship has traditionally been associated with higher education institutions, there is a growing recognition of the need to introduce entrepreneurial thinking earlier in the educational system (Cuong, 2025; Mamun et al., 2017; Ouragini & Lakhal, 2023; Yunikawati et al., 2025). Universities have been at the forefront of nurturing entrepreneurial mindsets through formal curricula, incubation centres, and extracurricular initiatives (Bagheri, 2018; Othman et al., 2023). However, to foster long-term entrepreneurial competencies, it is essential to start cultivating these

skills and motivations at the high school level. High school education represents a critical stage for identity formation (Brandsma et al., 2023; Norman et al., 2025; Riekie et al., 2017), aspiration development (Sugimura et al., 2023), and early exposure to real-world challenges (Negru-Subtirica, 2024; Norman et al., 2025; St John & Edwards-Vandenhoek, 2022).

Pedagogical strategies, as methods and approaches used in teaching and learning, play a significant role in shaping student engagement, understanding, and behaviour (Alhebaishi et al., 2025; Campbell et al., 2025; Christopher et al., 2025; Ferreira, 2019; Gao et al., 2022; Kumar, 2024; Nemakhavhani, 2024). The use of effective teaching strategies can improve not only academic performance but also foster the growth of soft skills, critical thinking, and motivation. (Bhuttah et al., 2024; Chaibate et al., 2021; Imwattana et al., 2020; Paredes-Velasco et al., 2023; Saienko et al., 2025; Zdanevych et al., 2025). These results are especially important in entrepreneurship education, where success in learning relies not only on cognitive comprehension but also on students' creativity, initiative, and problem-solving skills. Therefore, adopting innovative pedagogical strategies is essential to create more meaningful, experiential, and impactful learning processes that nurture entrepreneurial motivation and mindset.

Although implementing effective pedagogical strategies can enhance academic achievement, critical thinking, and an entrepreneurial mindset, the data suggest that the current educational system is still struggling to significantly increase entrepreneurial motivation among students. As illustrated by recent statistics from the Indonesian job market, the number of job seekers has been steadily increasing over the years, yet the number of registered job vacancies remains disproportionately low. For instance, in 2024, there were 909,671 job seekers, with only 630,672 vacancies registered across various sectors (Badan Pusat Statistik, 2024). This gap, though reflective of broader market conditions, also underscores the insufficient alignment between education outcomes and market needs, particularly in the development of entrepreneurship skills.

In 2023, the number of job seekers reached 1,819,830, while available job vacancies totalled just 216,972, signalling a continuing mismatch between job market demands and the skills being developed through educational programs. These figures suggest that pedagogical strategies, while beneficial in fostering basic academic and soft skills, have yet to adequately address the need for entrepreneurial motivation, creativity, and initiative (Badan Pusat Statistik, 2024). The data further suggests that a more focused integration of entrepreneurship education into pedagogical approaches is critical to bridging this gap and fostering a culture of innovation and problem-solving among students.

Entrepreneurial motivation encompasses both internal and external factors that shape an individual's intention and perseverance in engaging in entrepreneurial endeavours (Ho et al., 2020). It includes factors such as intrinsic motivation (Kizaba et al., 2018), self-efficacy (Srimulyani et al., 2023; Srimulyani & Hermanto, 2022), need for achievement (Sahabuddin, 2016; Shi & Wang, 2021), and willingness to take risks (Carsrud et al., 2017). Understanding what motivates students to consider entrepreneurial careers is critical for designing effective educational interventions (Zacharia, 2024). Innovative strategies are novel, creative approaches applied in planning and implementation to enhance the effectiveness, efficiency, and impact of an organization or system, emphasizing adaptability to changing environments and the use of modern technologies. These strategies highlight participant-centred approaches that foster active engagement, collaborative methods, and creative problem-solving (Gorichanaz, 2024; Kalaian, 2016), as well as the integration of digital tools and learning platforms, such as gamification, flipped classrooms, multimedia, and smart analytics, to strengthen strategic or educational processes (Kovalenko et al., 2023; Pandey et al., 2023; Uskov, 2022; Uskov et al., 2019). Furthermore, innovative strategies leverage experiential learning and real-world projects to enhance competencies, employ adaptive technologies and AI to tailor

approaches to individual needs, and encourage team collaboration for collective decision-making and innovation (Adeika et al., 2024; Kanuka, 2010; Uskov et al., 2019; Varma & Liu, 2022; Xu et al., 2025). They also emphasize cultural sensitivity and inclusivity, creating environments that value diverse perspectives and support participation from all stakeholders, thereby producing adaptive, effective, and contextually relevant approaches to achieving organizional or educational goals (Awang et al., 2025; Gorichanaz, 2024). Such strategies are particularly relevant for entrepreneurship education, as they simulate real-life challenges and encourage proactive learning behaviours.

Myriads of studies have explored the determinants of entrepreneurial motivation in higher education settings. Research has shown that factors such as prior exposure to entrepreneurship, perceived behavioural control (Chetioui et al., 2024; Ferdousi et al., 2025; Lestari et al., 2025), attitude toward entrepreneurship (Chetioui et al., 2024), and role models significantly impact students' entrepreneurial intentions (Alshagawi & Ghaleb, 2023; Minga-López et al., 2024; Pauceanu et al., 2019; Suratno et al., 2021). These findings underscore the importance of fostering a positive entrepreneurial mindset among students. In parallel, there is substantial evidence supporting the effectiveness of innovative pedagogical strategies in enhancing student engagement and learning outcomes. For instance, active learning approaches have been associated with improved critical thinking (Bhuttah et al., 2024; Raber & Vermeesch, 2022; Sasson et al., 2018; Sulistyo et al., 2025), retention (Alhebaishi et al., 2025; Kallemeyn et al., 2021), and motivation (Adeyemi et al., 2024; Lee, 2025). In entrepreneurship education, experiential and project-based learning are often cited as effective methods for simulating business environments and encouraging creative problem-solving (Thompson et al., 2022; Katsanakis, 2025; Rosienkiewicz et al., 2024; Tan et al., 2024). Nevertheless, there remains a significant gap in the literature regarding the specific influence of such pedagogical innovations on entrepreneurial motivation at the high school level. While much attention has been paid to university students, relatively few studies have examined how early exposure to entrepreneurship through innovative teaching methods affects younger students' aspirations and motivations.

Despite the recognized importance of entrepreneurship education, many high school programs—including those in vocational education—still rely on conventional pedagogical models that may not sufficiently inspire or equip students to pursue entrepreneurial paths (Higgins et al., 2019; Morris, 2017). The problem is particularly acute in vocational high schools, where pedagogical needs differ significantly from those in general education due to a stronger emphasis on practical skills, career readiness, and hands-on learning. However, the limited implementation of teaching strategies that align with the dynamic and experiential nature of entrepreneurship remains a critical gap. There is a pressing need to explore and evaluate innovative pedagogical approaches tailored to vocational contexts that effectively foster entrepreneurial motivation among students. Traditional methods often emphasize theoretical knowledge over practical application, which may lead to disengagement and a lack of entrepreneurial confidence (Maqbool et al., 2021; Morris, 2017). Thus, understanding the relationship between specific pedagogical strategies and student motivation is crucial for developing impactful entrepreneurship education programs. Thus, understanding the relationship between specific pedagogical strategies and student motivation is crucial for developing impactful and context-relevant entrepreneurship education programs in vocational schools.

The primary goal of this study is to explore how innovative teaching strategies affect entrepreneurial motivation in high school students. Specifically, the research seeks to identify the pedagogical strategies currently employed in high school entrepreneurship education, assess the effectiveness of these innovative methods in boosting students' entrepreneurial motivation, and examine the connection between specific teaching approaches and various components of entrepreneurial motivation. To guide the research, the following key questions are proposed: What

innovative pedagogical strategies are implemented in high school entrepreneurship education? How do these strategies influence students' entrepreneurial motivation? Which components of entrepreneurial motivation are most affected by different pedagogical approaches?

This study adds to the expanding body of research in entrepreneurship education by offering empirical insights into teaching practices that can boost entrepreneurial motivation at the high school level. The findings are expected to guide the creation and implementation of more effective, student-centred entrepreneurship programs. For educators, the study offers practical suggestions for incorporating innovative teaching methods into the curriculum to better engage students and foster their entrepreneurial growth. For policymakers, these findings provide a foundation for developing educational policies that prioritize experiential and active learning in school-based entrepreneurship programs.

METHOD

This study adopted a quantitative, ex post facto research design, as the independent variable was not manipulated by the researcher but was observed in its natural occurrence within the school setting. The ex post facto design is particularly suited to this type of inquiry, as it allows examination of cause-and-effect relationships after the educational experiences have occurred (Allibang, 2016; Dantes, 2021; Fiedler et al., 2020; Rohwer, 2022). This approach was selected because it enables the researcher to analyze existing data to understand how pedagogical strategies affect students' entrepreneurial motivation without experimental manipulation. The aim was to investigate how students' perceptions of innovative pedagogical strategies, such as project-based learning and problem-based learning, relate to their levels of motivation in entrepreneurship. Given the dynamic nature of educational practices, it is essential to examine these perceptions and their influence on students' entrepreneurial intentions.

The study was conducted with high school students in their final years who had participated in entrepreneurship-related courses or programs. These students were selected through purposive sampling, with a specific focus on students in their 11th and 12th grades. The selection criteria ensured that participants had sufficient exposure to entrepreneurship education, having completed at least one semester of entrepreneurship-related courses. This sampling method was chosen to capture a relevant group of students who had engaged with the pedagogical strategies under investigation. By targeting these senior students, the research aimed to gather insights from individuals who were likely to have advanced their entrepreneurial motivation. This selection process was vital for understanding the impact of the pedagogical strategies within a specific stage of educational development.

The final sample consisted of 99 students drawn from several high schools in Denpasar. These students were asked to provide detailed feedback on their experiences with innovative teaching strategies used in their entrepreneurship courses. The study primarily focused on two variables: students' perceptions of innovative pedagogical strategies as the independent variable, and entrepreneurial motivation as the dependent variable. The perception of pedagogical strategies was assessed using a custom-designed instrument that included questions on student-centred approaches to learning, such as project- and problem-based learning. These teaching methods were chosen because they are thought to engage students actively and foster deeper learning, which is essential for developing entrepreneurial skills.

Entrepreneurial motivation was measured using a scale that included both intrinsic and extrinsic dimensions. The intrinsic dimensions included factors such as passion, autonomy, and self-actualization, which are central to an individual's internal drive toward entrepreneurship. The extrinsic dimensions, on the other hand, included financial aspirations, social recognition, and a desire

to contribute to the community. These dimensions were chosen because they encompass a wide range of factors that drive students to engage in entrepreneurial activities, from personal satisfaction to external incentives. A structured five-point Likert scale questionnaire, from "strongly disagree" to "strongly agree," was used to collect data. The items were derived from established frameworks in the literature of innovative teaching methods (Buckley, 2015; Keinänen & Kairisto-Mertanen, 2019) and motivational constructs in entrepreneurship (Kizaba et al., 2018; Srimulyani & Hermanto, 2022).

Before distribution, the survey instrument was pre-tested with a separate group of 30 students (not part of the main study sample) to evaluate its validity and reliability. Validity was assessed using Pearson correlation analysis. Internal consistency, a measure of reliability, was calculated using Cronbach's alpha. A reliability coefficient threshold of 0.70 was considered acceptable, aligning with standard conventions in educational research (El Morr et al., 2022; Gerow et al., 2025; Verma & Abdel-Salam, 2019; Wong, 2019). After the instrument was tested for reliability, it was then administered to the full sample of students. The collected data were analyzed using both descriptive and inferential statistics. Descriptive statistics were used to summarize students' perspectives on pedagogical strategies and their levels of entrepreneurial motivation. This preliminary analysis offered an overview of the response distribution and highlighted key trends in the data (Green et al., 2022; Lee, 2019; Mishra et al., 2019; Rendón-Macías et al., 2016).

Subsequent inferential analysis used both simple and multiple linear regression to examine whether students' perceptions of innovative teaching methods could predict distinct facets of their entrepreneurial motivation. To ensure the regression models were robust, standard diagnostic checks for normality, multicollinearity, and heteroscedasticity were conducted. These tests are vital for verifying that the fundamental assumptions of regression analysis are met, thereby strengthening the validity of the findings. Ethical guidelines were rigorously maintained throughout the study. All participants were provided with complete information about the research aims, assured that participation was voluntary, and informed of their right to withdraw at any time without penalty.

Anonymity and confidentiality of respondents were rigorously maintained, ensuring that the collected data were used exclusively for academic purposes. The research followed ethical guidelines to ensure the study was conducted fairly and transparently. This meticulous attention to ethics fostered trust with the participants and safeguarded the integrity of the research process.

RESULTS AND DISCUSSION

To verify the reliability of the research instrument, an internal consistency analysis was conducted using Cronbach's alpha. The outcomes of this analysis offer insight into the consistency with which the questionnaire items assess the same construct. A summary of the reliability test results is shown in Table 1 below.

Table 1. Test of Internal Consistency

Reliability Statistics		
Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	**N of Items**
.904	.906	26

Based on Table 1, the Cronbach's Alpha values of 0.904 and 0.906 (for standardized items) indicate that the instrument possesses a very high level of reliability. These values far exceed the minimum threshold of 0.70 as recommended by Hussey et al. (2025) and Kamaruzaman et al. (2022). This finding confirms that all items in the questionnaire are homogeneous and consistent in measuring the research variables—namely, students' perceptions of innovative pedagogical strategies and entrepreneurial motivation. As a result, the instrument is regarded as both valid and reliable for application in the following phases of data analysis.

As a preliminary step in the regression analysis, a normality test was performed to ensure the data met the assumption of normality. This test is crucial because valid regression results require residuals to follow a normal distribution. The assumption of normality was evaluated using the Kolmogorov-Smirnov test. The findings are detailed in Table 2.

Table 2. Test of Normality

Kolmogorov-Smirnov[a]			
	Statistic	**df**	**Sig**
Entrepreneurial Motivation	.058	99	.200*

* This is a lower bound of the true significance.

a Lilliefors Significance Correction

Based on Table 2, the Kolmogorov–Smirnov statistic value of 0.058 with a significance level (Sig.) of 0.200 shows that the data are normally distributed, as the significance value exceeds 0.05. Therefore, the data for the Entrepreneurial Motivation variable meet the normality assumption. This condition suggests that the distribution of respondents' data does not deviate significantly from normality, ensuring that the regression model used is valid for further testing, including analyses of multicollinearity and heteroscedasticity.

To confirm that the regression model is free of multicollinearity concerns, a test was performed on the independent variables to detect any strong linear relationships among them. This test is important to ensure that each independent variable uniquely contributes to the dependent variable without significant mutual influence. The results from the multicollinearity test are provided in Table 3 below.

Table 3. Result of Multicollinearity Test

Coefficients							
	Unstandardized Coefficients		**Standardized Coefficients**			**Collinearity Statistics**	
Model	**B**	**Std. Error**	**Beta**	**t**	**Sig**	**Tolerance**	**VIF**
(Constant)	24.467	4.556		5.371	.000		
Innovative Pedagogical Strategies	.408	.082	.450	4.956	.000	1.000	1.000

[a]Dependent Variable: Entrepreneurial Motivation

The results in Table 3 show Tolerance and VIF values of 1.000, indicating no multicollinearity. According to the criteria set by Hair et al. (2019), a tolerance value greater than 0.10 and a VIF value lower than 10 suggest that the correlations among the independent variables are within acceptable limits. Therefore, the regression model in this study is free of multicollinearity, meaning that the independent variable—Innovative Pedagogical Strategies—has a stable, independent influence on the dependent variable, Entrepreneurial Motivation. This condition enhances the validity of the regression analysis and ensures that the relationships observed are valid and can be interpreted with confidence. To verify that the regression model satisfies the classical assumptions, a heteroscedasticity test was performed to assess whether the residual variance is consistent across different values of the independent variable. This step is essential because heteroscedasticity can lead to inefficient and biased regression estimates. The test findings are illustrated in the scatterplot shown in Figure 1.

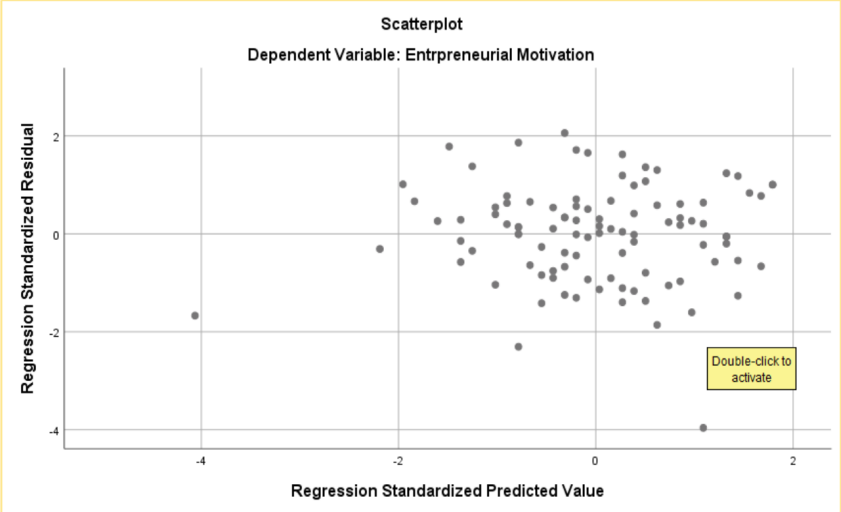

Figure 1. Results of the Heteroscedasticity Test

Based on Figure 1, the data points appear randomly distributed above and below the zero axis, with no discernible pattern. This condition indicates that heteroscedasticity is not present in the regression model. Consequently, the residual variances can be considered homogeneous (homoscedastic), meaning that the prediction errors are not dependent on the magnitude of the independent variable. These results reinforce the validity of the regression model, suggesting that the relationship between Innovative Pedagogical Strategies and Entrepreneurial Motivation can be interpreted accurately without interference from variance inconsistency. To provide a general overview of the research data, descriptive statistics were performed on the Entrepreneurial Motivation variable. This analysis aims to evaluate the central tendency and dispersion of the respondents' data, thereby revealing the overall level of entrepreneurial motivation. The results are presented in Table 4.

Table 4. Descriptive Statistic

			Statistic	**Std. Error**
Entrepreneurial Motivation	Mean		46.7778	.77870
	95% Confidence Interval for Mean	Lower Bound	45.2325	
		Upper Bound	48.3231	
	5% Trimmed Mean		47.0572	
	Median		47.0000	
	Variance		60.032	
	Std. Deviation		7.74802	
	Minimum		21.00	
	Maximum		60.00	
	Range		39.00	
	Interquartile Range		11.00	
	Skewness		-.513	.243
	Kurtosis		.896	.481

Based on Table 4, the mean of 46.78 and a standard deviation of 7.75 indicate variability in the entrepreneurial motivation levels among respondents. The lowest score of 21.00 and the highest score of 60.00 reflect a relatively broad range, while the median of 47.00 and the trimmed mean of 47.06—both closely aligned with the arithmetic mean—suggest a relatively symmetrical data distribution. A

skewness value of −0.513 indicates a slight negative skew (tails extending to the left), whereas a kurtosis value of 0.896 indicates a distribution that is somewhat more peaked than normal. Overall, these findings suggest that students' entrepreneurial motivation lies in the moderate to high range, reflecting a generally positive perception of the implementation of innovative pedagogical strategies in entrepreneurship learning. To analyze the impact of Innovative Pedagogical Strategies on students' Entrepreneurial Motivation, a simple linear regression analysis was conducted. This test aimed to measure the extent to which the independent variable, Innovative Pedagogical Strategies, explains the variance in the dependent variable, Entrepreneurial Motivation. The results are summarized in Table 5.

Table 5. Model Summary

					Change Statistics				
Model	**R**	**R Square**	**Adjusted R-Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.450[a]	.202	.194	6.95670	.202	24.563	1	97	.000

a. Predictors: (Constant), Innovative Pedagogy Strategies

The data from Table 5 reveal a correlation coefficient of 0.450, indicating a moderately strong positive relationship between the use of Innovative Pedagogical Strategies and students' Entrepreneurial Motivation. With an R^2 of 0.202, approximately 20.2% of the variation in entrepreneurial motivation can be attributed to these pedagogical strategies. This implies that other unmeasured factors—including environmental support, learning background, and personal attributes—account for the majority (79.8%) of the variance. Furthermore, the Adjusted R Square of 0.194 indicates the model's robustness, even after accounting for sample size and predictor count, confirming that it is not overfitted and maintains a satisfactory fit.

Table 6. Test of Anova[a]

Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	1188.726	1	1188.726	24.563	.000[b]
	Residual	4694.385	97	48.396		
	Total	5883.111	98			

a. Dependent Variable: Entrepreneurial Motivation

b. Predictors: (Constant), Innovative Pedagogy Strategies

The ANOVA results in Table 6 provide compelling evidence of the significant impact of Innovative Pedagogical Strategies (IPS) on entrepreneurial motivation. With an F value of 24.563 and a significance level of 0.000, the findings strongly support the hypothesis that IPS are effective in fostering entrepreneurial motivation among students. This relationship is particularly noteworthy because it highlights the critical role that actively engaging teaching methods can play in shaping entrepreneurial traits such as creativity, resilience, and value creation. The evidence suggests that the more innovative the pedagogical strategies employed in the classroom, the greater the motivation students experience to pursue entrepreneurial endeavours.

One of the novel contributions of this study is its specific focus on the direct link between Innovative Pedagogical Strategies (IPS) and entrepreneurial motivation, a relationship that has not been widely examined in the existing literature. While prior research has primarily highlighted the role of active learning and problem-based learning in developing creativity and critical thinking, this study shifts the focus to their direct impact on entrepreneurial drive (Anggraeni et al., 2023; Barabanova et al., 2020; Kamenetskiy, 2020; Zhuplev & Christiansen, 2025). This study uniquely

connects these pedagogical methods to entrepreneurial motivation as a specific outcome. This is particularly important because entrepreneurial motivation is a key driver of entrepreneurial behaviour, yet it has often been treated as a broader outcome of general education rather than something that specific teaching strategies can directly influence. Consequently, this research contributes a novel perspective to the existing literature by demonstrating that Innovative Pedagogical Strategies (IPS) extend beyond enhancing academic achievement to serve a vital function in fostering students' entrepreneurial motivation.

Furthermore, the results are reinforced by recent research that corroborates its central thesis. For example, Curtis et al. (2021), Mumtaz and Hatammimi (2026), Nair et al. (2023), Rajah (2025), and Sun and Yang (2025) corroborate the idea that innovative teaching strategies significantly enhance students' entrepreneurial mindsets. These studies have found that active learning environments, which prioritize student engagement and real-world problem-solving, foster crucial skills for entrepreneurship, including critical thinking, independence, and adaptability. Additionally, Dutta et al. (2025), Gazi et al. (2025), Joensuu-Salo et al. (2021), Kumar et al. (2025), Loes (2022), Matongo and Goronga (2024), and Shaik (2025) further support the notion that IPS are instrumental in motivating students to pursue entrepreneurial ventures by creating learning environments that encourage collaboration and risk-taking. The consistent findings across these studies and the present one reinforce the argument that innovative pedagogical strategies are a key factor in shaping entrepreneurial attitudes.

An additional significant contribution of this research is the unexpected discovery concerning the role of collaborative learning. The data reveal that students who participated in collaborative projects exhibited significantly higher entrepreneurial motivation than those who completed individual assignments. This suggests that the social and interactive elements of collaborative learning may foster a sense of shared responsibility and collective problem-solving, which are central to entrepreneurial activities. These results are consistent with Davletova et al. (2025), Salimi et al. (2024), and Swartz et al. (2021), who found that group-based learning approaches, which encourage peer interaction and teamwork, promote creativity and innovation—two essential qualities for entrepreneurship.

The implications of these findings reach beyond academic theory into practical application. This study not only adds to the expanding body of literature on innovative pedagogies but also provides tangible guidance for educators and policymakers aiming to foster entrepreneurial mindsets in students. By showing that IPS significantly enhance entrepreneurial motivation, this research advocates integrating pedagogical strategies that emphasize active learning, problem-solving, and collaboration. Such methods can transform traditional educational environments into spaces that better prepare students for the dynamic challenges of the entrepreneurial world. In particular, the study suggests that curriculum designers should consider incorporating more collaborative and project-based learning opportunities to help students develop the entrepreneurial skills necessary for success in today's fast-paced global economy.

Like all research, this study has its limitations that need to be acknowledged. The study was conducted within a specific educational context, which may limit the generalizability of the findings to other environments. Future research should explore the impact of IPS in different cultural and institutional contexts to determine whether the results are consistent or influenced by factors such as teaching methods, student demographics, or academic disciplines. Additionally, the study relied on self-reported data, which can be prone to biases, as students' perceptions of their motivation may not fully reflect their actual entrepreneurial intentions. To mitigate this, future studies could utilize more objective measures of entrepreneurial behavior or adopt longitudinal designs to monitor changes in entrepreneurial motivation over time.

This study offers a significant contribution to entrepreneurship education by establishing innovative pedagogical strategies (IPS) as an effective means of increasing entrepreneurial motivation. It not only expands upon previous research by forging a direct connection between IPS and motivation but also yields novel insights into the critical role of collaborative learning in developing entrepreneurial traits. The results align with recent scholarship, strengthening the evidence base for the efficacy of active learning methods in this field. Therefore, it is recommended that educators incorporate more IPS into their curricula, with a specific focus on strategies that promote collaboration and problem-solving. To build upon these findings, future research should investigate the long-term effects of IPS on actual entrepreneurial behaviour and explore the adaptability of these strategies across varied educational and cultural settings. Through such continued inquiry, we can further refine our approaches to nurturing students' entrepreneurial potential and equipping them for the demands of a rapidly evolving, innovation-driven world.

CONCLUSION

The study revealed that the use of Innovative Pedagogical Strategies (IPS), specifically Project-Based Learning (PjBL) and Problem-Based Learning (PBL), has a significant positive effect on students' entrepreneurial motivation. The regression analysis showed that 20.2% of the variance in entrepreneurial motivation could be attributed to the application of these strategies. This result underscores the importance of incorporating innovative teaching methods into secondary school entrepreneurship curricula, as they not only improve academic outcomes but also foster key entrepreneurial traits such as creativity, autonomy, and resilience. By enhancing student engagement through participatory, real-world learning experiences, these strategies help prepare students to become adaptive, value-driven entrepreneurs, ultimately benefiting both the social and economic sectors. The findings provide valuable insights for educators and policymakers to consider in curriculum development, emphasizing the need to integrate active learning approaches that cultivate entrepreneurial mindsets among young learners.

DECLARATION OF GENERATIVE AI

The authors declare that no generative AI or AI-assisted technologies were used in the writing process of this manuscript.

CONFLICTING INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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