JIKAP
Jurnal Informasi dan Komunikasi Administrasi Perkantoran
Vol. 10, No.6, Tahun 2026
Hlm. 645

Entrepreneurship learning and school environment on vocational students' entrepreneurial skills

Sri Eko Ariwibowo*, Susantiningrum Susantiningrum

Office Administration Education, Sebelas Maret University, Surakarta, Indonesia

Email: sriekoariwibowo@student.uns.ac.id

Abstrak

Keterampilan berwirausaha merupakan kompetensi esensial yang perlu dimiliki siswa Sekolah Menengah Kejuruan (SMK) agar mampu menciptakan lapangan kerja secara mandiri. Keterampilan tersebut dipengaruhi oleh berbagai faktor, di antaranya kualitas pembelajaran kewirausahaan dan kondisi lingkungan sekolah. Penelitian ini bertujuan menguji pengaruh pembelajaran kewirausahaan dan lingkungan sekolah baik secara parsial maupun simultan terhadap keterampilan berwirausaha siswa kelas XI SMK Negeri 1 Surakarta. Pendekatan kuantitatif dengan desain asosiatif kausal digunakan dalam penelitian ini. Sampel berjumlah 176 siswa dari populasi 313, ditentukan dengan rumus Slovin dan teknik proportionate stratified random sampling. Data dikumpulkan melalui kuesioner skala Likert modifikasi empat poin dan dianalisis menggunakan regresi linear berganda dengan IBM SPSS Statistics versi 27. Hasil penelitian menunjukkan bahwa pembelajaran kewirausahaan (t = 9,145; p = 0,000) dan lingkungan sekolah (t = 8,062; p = 0,000) masing-masing berpengaruh positif dan signifikan terhadap keterampilan berwirausaha. Secara simultan, kedua variabel menjelaskan 45,9% variansi keterampilan berwirausaha (F = 73,517; p = 0,000). Pembelajaran kewirausahaan memberikan sumbangan efektif lebih besar (25,9%; relatif: 56,4%) dibandingkan lingkungan sekolah (20,1%; relatif: 43,6%). Sekolah disarankan memperkuat pembelajaran berbasis praktik melalui project-based learning dan simulasi usaha, sekaligus mengoptimalkan lingkungan sekolah sebagai faktor pendukung.

Kata kunci: pembelajaran berbasis praktik; pendidikan vokasi; regresi linear berganda; sumbangan efektif; sumbangan relatif

Abstract

Entrepreneurship skills are essential competencies that vocational high school (SMK) students must develop to independently create employment opportunities. These skills are shaped by multiple factors, including the quality of entrepreneurship learning and the conditions of the school environment. This study examined the partial and simultaneous effects of entrepreneurship learning and the school environment on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta. A quantitative approach with a causal-associative design was employed. The sample consisted of

---

* *Corresponding author*

Citation in APA style: Ariwibowo, S.E., & Susantiningrum, S. (2026). Entrepreneurship learning and school environment on vocational students' entrepreneurial skills. *Jurnal Informasi dan Komunikasi Administrasi Perkantoran, 10*(6), 645-654.
https://dx.doi.org/10.20961/jikap.v10i6.123700

176 students from a population of 313, selected through the Slovin formula and proportionate stratified random sampling. Data were collected via a modified four-point Likert-scale questionnaire and analyzed using multiple linear regression with IBM SPSS Statistics Version 27. Results showed that entrepreneurship learning (t = 9.145, p = .000) and the school environment (t = 8.062, p = .000) each exerted a positive and significant effect on entrepreneurship skills. Simultaneously, both variables explained 45.9% of the variance (F = 73.517, p = .000). Entrepreneurship learning yielded a larger effective contribution (25.9%; relative: 56.4%) than the school environment (20.1%; relative: 43.6%). Schools are advised to strengthen practice-based learning through project-based activities and business simulation, while optimizing the school environment as a supporting factor.

Keywords: effective contribution; practice-based learning; relative contribution; vocational education; multiple linear regression

Received July 10, 2026; Revised August 08, 2026; Accepted September 12, 2026; Published Online November 02, 2026

https://dx.doi.org/10.20961/jikap.v10i6.123700

Introduction

Entrepreneurship skills constitute an essential competency that young people including graduates of vocational high schools (Sekolah Menengah Kejuruan, SMK) must possess in order to independently create employment opportunities rather than relying solely on the limited availability of formal employment. Widodo et al. (2025) affirm that entrepreneurship education models in Indonesian vocational schools require support from a conducive school ecosystem so that graduates' entrepreneurship skills can develop optimally, a trajectory consistent with global vocational education trends that increasingly emphasize entrepreneurship competencies from the secondary level onward.

This ideal condition has not yet been fully realized at SMKN 1 Surakarta. Based on preliminary observations and interviews with the entrepreneurship subject teacher, only approximately 40% of the 35 observed Grade XI students demonstrated adequate ability to compose and present business plans, while the remainder required intensive guidance particularly in creative value-added product development, business resource management, and self-confidence in communicating business ideas. These observations raise questions regarding the factors underlying students' limited entrepreneurship skills, especially those stemming from instructional processes and the daily school environment.

Entrepreneurship learning was selected as a key variable hypothesized to influence entrepreneurship skills because it constitutes the school's most direct intervention for cultivating students' entrepreneurial knowledge, attitudes, and competencies through the integration of theory and practice (Nurhasanah et al., 2023; Sagita et al., 2025). The school environment was similarly selected because it represents contextual factors beyond the formal curriculum encompassing physical conditions, social dynamics, facilities and infrastructure, and teacher–student interaction that theoretically contribute to shaping students' character and entrepreneurial readiness (Sofian et al., 2023; Sumardi et al., 2022). Together, these two variables represent complementary determinants of entrepreneurship skills: instructional factors and contextual factors, respectively. Testing their simultaneous effects is therefore expected to yield a more comprehensive picture than examining either factor in isolation.

Prior studies have demonstrated that entrepreneurship learning and the school environment each play important roles in shaping students' entrepreneurship skills (Manalu et al., 2024; Sumardi et al., 2022). For instance, Fariera et al. (2024) demonstrated that Creative Products and Entrepreneurship learning significantly influenced the entrepreneurial interest of Grade XI Culinary Arts students at SMKN 4 Surakarta; however, that study focused on entrepreneurial interest rather than applied skills and did not incorporate the school environment as a variable. To the best of the authors' knowledge, no prior study has specifically examined the simultaneous effects of entrepreneurship learning and the school environment while also comparing their relative contributions to the entrepreneurship skills of SMK students in Surakarta. The novelty of the present study lies in its simultaneous reporting of the effective and relative contributions of both variables, which can serve as a basis for prioritizing institutional interventions to enhance students' entrepreneurship skills.

Accordingly, this study addresses the following research question: Do entrepreneurship learning and the school environment exert a partial and simultaneous influence on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta?

This study aims to determine (1) the influence of entrepreneurship learning on entrepreneurship skills, (2) the influence of the school environment on entrepreneurship skills, and (3) the simultaneous influence of both variables on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta. By testing and comparing each variable's contribution, this study also provides a critical evaluation of prior research that has tended to examine entrepreneurship learning and the school environment independently (Manalu et al., 2024; Sumardi et al., 2022), positioning the present findings as both a complement to and a counterpart of those earlier works.

Entrepreneurship skills refer to students' ability to plan, manage, and develop business activities effectively, encompassing conceptual, creative, leadership, communication, and technical business competencies (Nurrachmi et al., 2021). Entrepreneurship learning is a purposefully designed educational process intended to cultivate students' entrepreneurial knowledge, attitudes, and skills through both theoretical instruction and practical activities (Nurhasanah et al., 2023; Sagita et al., 2025). The school environment encompasses the physical conditions, social dynamics, facilities and infrastructure, and teacher–student interactions that collectively shape students' character and competencies, including entrepreneurship skills (Sofian et al., 2023; Sumardi et al., 2022).

Based on the foregoing, the following hypotheses are proposed: H_1: Entrepreneurship learning has a positive and significant effect on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta. H_2: The school environment has a positive and significant effect on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta. H_3: Entrepreneurship learning and the school environment simultaneously exert a positive and significant effect on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta.

Research Methods

This study employed a quantitative approach with a causal-associative design to examine the influence of two independent variables on one dependent variable through multiple linear regression analysis. The study population comprised all 313 Grade XI students enrolled at SMKN 1 Surakarta during the 2025/2026 academic year, based on data from the school administration (SMKN 1 Surakarta, 2025). The terms population and sample follow the definitions provided by Subhaktiyasa (2024). The sample size was determined using the Slovin formula at a 5% margin of error, yielding 176 students, selected using proportionate stratified random sampling to ensure balanced proportional representation across all classes (Firmansyah & Dede, 2022; Sugiyono, 2023).

Prior to data collection, formal research permission was obtained from SMKN 1 Surakarta through an official research permit letter. Student participation was entirely voluntary; all respondents were informed of the study's purpose and assured of data confidentiality before completing the online questionnaire. Given that some respondents are minors, informed consent was facilitated through the school administration.

The sample for each class was determined proportionally using the formula $n_i = (N_i/N) \times n$. The distribution across the four areas of expertise is detailed in Table 1.

Table 1

Sample Distribution by Area of Expertise

Area of Expertise	Population (N)	Calculation	Sample (n)
XI DKV	32	(32/313) × 176	18
XI MPLB	105	(105/313) × 176	59
XI PM	69	(69/313) × 176	39
XI AKL	107	(107/313) × 176	60

Source: Data from the SMKN 1 Surakarta school administration (2025), processed by the researcher.

The total sample of 176 students was allocated proportionally across all four vocational programs, ensuring that the sample proportion in each stratum was commensurate with its corresponding population proportion.

The research instrument was developed based on the operationalization of the three study variables. Indicators for entrepreneurship learning (X_1) were adapted from Sagita et al. (2025) and encompass five dimensions: entrepreneurship curriculum, entrepreneurship practice activities, teacher roles, supportive academic environment, and access to business information and networks, operationalized into 15 statement items. Indicators for the school environment (X_2) were adapted from Wihardjo & Rahmayanti (2021) and Sumardi et al. (2022), comprising five dimensions: physical environment, social environment, facilities and infrastructure, teacher–student interaction, and school climate, also operationalized into 15 statement items. Indicators for entrepreneurship skills (Y) were adapted from Nurrachmi et al. (2021), encompassing five dimensions: conceptual skills, creative skills, leadership and management skills, communication and interaction skills, and technical business skills, operationalized into 15 statement items. All three instruments employed a modified four-point Likert scale without a neutral option, yielding a total instrument of 45 statement items.

Prior to main data collection, all three instruments were piloted with 35 Grade XI students at SMKN 1 Surakarta who were outside the research sample but had completed entrepreneurship learning and participated in entrepreneurship practice activities. Item validity was assessed using the product moment correlation coefficient in SPSS Version 27, with items declared valid when r-computed exceeded r-table (r-table = 0.334 for n = 35, at the 5% significance level). Reliability was assessed using Cronbach's Alpha, with instruments considered reliable when Alpha exceeded 0.70. As summarized in Table 2, all 45 items across the three variables were found to be valid and reliable.

All items across the three variables yielded r-computed values exceeding the r-table criterion of 0.334, confirming their validity as measurement instruments. Cronbach's Alpha values for all three instruments exceeded the threshold of 0.70 (0.775 for X_1, 0.811 for X_2, and 0.816 for Y), confirming reliable internal consistency.

Data were collected through preliminary observation, documentation, and a structured questionnaire. Preliminary observations and interviews with the entrepreneurship teacher identified baseline conditions regarding students' entrepreneurship skills, as described in the Introduction, while documentation was used to obtain supporting data such as the student population count. Primary data were collected via the questionnaire distributed through Google Forms (Sugiyono, 2023).

Data were analyzed using multiple linear regression with IBM SPSS Statistics Version 27. Prior to hypothesis testing, a series of classical assumption tests was conducted: normality (Kolmogorov-Smirnov test), linearity (deviation from linearity test), multicollinearity (Tolerance and VIF), heteroscedasticity (Glejser test), and autocorrelation (Durbin-Watson statistic), to verify that all regression model assumptions were satisfied.

Table 2

Ringkasan Hasil Uji Validitas dan Reliabilitas Instrumen

Variable	No. of Items	r Range	Cronbach's α	Status
Entrepreneurship Learning (X_1)	15	0,366 – 0,591	0,775	Valid & Reliable
School Environment (X_2)	15	0,342 – 0,708	0,811	Valid & Reliable
Entrepreneurship Skills (Y)	15	0,363 – 0,748	0,816	Valid & Reliable

Source: Primary data from the instrument pilot test, processed by the researcher (2026).

Results and Discussion

This section presents the research findings supported by statistical analyses, followed by a discussion from theoretical and empirical perspectives.

Research Results

Prior to hypothesis testing, descriptive statistics and level categorization (low, moderate, high) were computed for all three research variables to provide an initial characterization of the data distribution. The descriptive statistics are presented in Table 3.

Table 3

Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Deviation
Entrepreneurship Learning (X_1)	176	27	47	37,37	3,726
School Environment (X_2)	176	29	47	38,82	3,680
Entrepreneurship Skills (Y)	176	29	46	37,28	3,489

Source: Primary research data, processed by the researcher (2026).

Table 4

Level Categorization of Research Variables

Variable	Low	Moderate	High
Entrepreneurship Learning (X_1)	28 (15,91%)	127 (72,16%)	21 (11,93%)
School Environment (X_2)	35 (19,89%)	116 (65,91%)	25 (14,20%)
Entrepreneurship Skills (Y)	26 (14,77%)	117 (66,48%)	33 (18,75%)

Source: Primary research data, processed by the researcher (2026).

Variable scores were categorized into three levels low, moderate, and high according to the Arikunto (2013) categorization formula: low ($X < \mu - \sigma$), moderate ($\mu - \sigma \leq X \leq \mu + \sigma$), and high ($X > \mu + \sigma$). The categorization results for all three variables are presented in Table 4.

As shown in Table 4, the majority of respondents fell within the moderate category across all three variables: 72.16% for entrepreneurship learning (X_1), 65.91% for the school environment (X_2), and 66.48% for entrepreneurship skills (Y). This distribution indicates that all three constructs were at a generally adequate but improvable level among Grade XI students at SMKN 1 Surakarta.

Data satisfying all classical assumption tests were subsequently analyzed using multiple linear regression. The analysis yielded the regression equation $\hat{Y} = 2.812 + 0.479X_1 + 0.427X_2$, indicating that a one-unit increase in entrepreneurship learning (X_1) would increase entrepreneurship skills (Y) by 0.479 units, and a one-unit increase in the school environment (X_2) would increase entrepreneurship skills by 0.427 units, holding the other variable constant.

Classical assumption tests were conducted prior to regression analysis. The Kolmogorov-Smirnov normality test yielded an Asymp. Sig. (2-tailed) of 0.200 ($p > .05$), confirming normally distributed residuals. Linearity tests produced deviation from linearity significance values of 0.365 for the X_1–Y relationship and 0.238 for the X_2–Y relationship (both $p > .05$), confirming linear relationships. The multicollinearity test yielded Tolerance = 1.000 (> .10) and VIF = 1.000 (< 10) for both predictors, indicating the absence of multicollinearity. The identical Tolerance and VIF values verified in SPSS Version 27 output reflect a near-zero correlation between the two independent variables such that they exhibit no statistical overlap and Tolerance approaches its maximum of 1.000. The Glejser heteroscedasticity test yielded significance values of 0.639 for X_1 and 0.466 for X_2 (both $p > .05$), confirming homoscedasticity. The Durbin-Watson statistic of 1.816 fell within the non-autocorrelation region ($dU = 1.79 < DW < 4 - dU = 2.21$) for $n = 176$ and $k = 2$, confirming the absence of autocorrelation. A summary of these results is presented in Table 5.

Table 5

Summary of Classical Assumption Test Results

Test	Statistic	Criterion / Interpretation
Normality (Kolmogorov-Smirnov)	Sig. = 0,200	> 0,05 → residuals normally distributed
Linearity: $X_1 \rightarrow Y$ (Deviation from Linearity)	Sig. = 0,365	> 0,05 → linear relationship confirmed
Linearity: $X_2 \rightarrow Y$ (Deviation from Linearity)	Sig. = 0,238	> 0,05 → linear relationship confirmed
Multicollinearity (Tolerance / VIF)	1,000 / 1,000	Tolerance > 0,10; VIF < 10 → no multicollinearity
Heteroscedasticity (Glejser: X_1 / X_2)	Sig. = 0,639 / 0,466	> 0,05 → homoscedasticity confirmed
Autocorrelation (Durbin-Watson)*	DW = 1,816*	dU (1,79) < DW < 4-dU (2,21) → no autocorrelation

Source: Primary research data, processed by the researcher (2026).

**The Durbin-Watson statistic was computed from regression residuals based on study data (n = 176, k = 2).*

The t-test results indicated that entrepreneurship learning exerted a positive and significant effect on entrepreneurship skills ($t = 9.145$, $p = .000 < .05$), and the school environment likewise exerted a positive and significant effect ($t = 8.062$, $p = .000 < .05$), confirming both partial hypotheses H_1 and H_2. The F-test produced $F = 73.517$ ($p = .000 < .05$), confirming that the two variables jointly exerted a positive and significant effect on entrepreneurship skills, thus confirming H_3. The coefficient of determination ($R^2 = 0.459$) indicates that 45.9% of the variance in entrepreneurship skills is explained by the two predictor variables, while the remaining 54.1% is

attributable to other factors not examined in this study. The multiple regression coefficients and hypothesis test results are presented in Table 6.

Table 6
Multiple Linear Regression Coefficients and Hypothesis Test Results

Model	B	Std. Error	Beta	t	Sig.
Constant	2,812	2,861	-	0,983	0,327
Entrepreneurship Learning (X_1)	0,479	0,052	0,511	9,145	0,000
School Environment (X_2)	0,427	0,053	0,451	8,062	0,000

Source: Primary research data, processed by the researcher (2026)

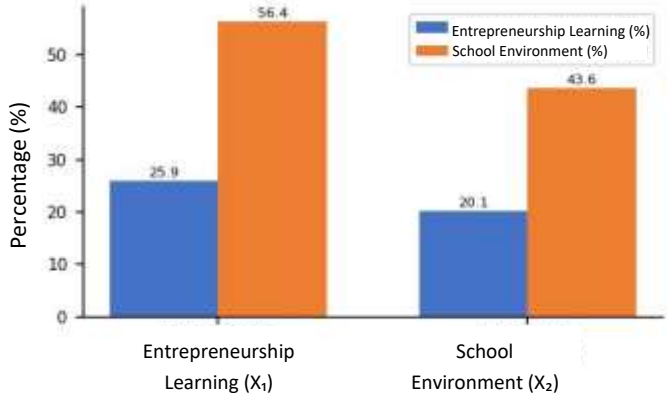
Effective contributions (SE) were calculated using the formula $SE(X)\% = \beta X \times rXY \times 100\%$, where βX is the standardized regression coefficient (Beta) and rXY is the product moment correlation coefficient between the predictor and entrepreneurship skills. The effective contribution of entrepreneurship learning was 25.9% (0.511 × 0.506 × 100%), and that of the school environment was 20.1% (0.451 × 0.445 × 100%). The sum of both effective contributions (45.9%) is consistent with the R^2 value, confirming internal consistency. The relative contributions were 56.4% for entrepreneurship learning and 43.6% for the school environment. These values are detailed in Table 7 and illustrated in Figure 1.

Table 7
Effective and Relative Contributions of Predictor Variables

Variable	Standardized β	r	SE (%)	SR (%)
Entrepreneurship Learning (X_1)	0,511	0,506	25,9	56,4
School Environment (X_2)	0,451	0,445	20,1	43,6

Source: Primary research data, processed by the researcher (2026).

Figure 1
Effective contribution (SE) and relative contribution (SR) of entrepreneurship learning (X_1) and the school environment (X_2) to the variance in entrepreneurship skills



Discussion

The finding that entrepreneurship learning exerts a positive and significant effect on students' entrepreneurship skills is consistent with Fahmi & Ferdiansyah (2023), who demonstrated that entrepreneurship learning delivered with a balanced integration of theory and practice optimally shapes students' entrepreneurial attitudes and skills. Rusdiana (2022) further affirms that

purposefully designed entrepreneurship education with clearly defined objectives produces graduates who are independent, creative, and prepared to apply entrepreneurship skills in real-world contexts. The mechanism underlying this effect can be attributed to the instructional model at SMKN 1 Surakarta, in which entrepreneurship learning integrates classroom instruction with production and product marketing activities through school-based entrepreneurship practice. This applied experience directly trains multiple dimensions of entrepreneurship skills ranging from business planning (conceptual) to interaction with prospective buyers (communication) while active teacher mentoring throughout the business plan development and presentation process further reinforces the effect. These findings confirm that practice-oriented entrepreneurship learning is substantially more effective in developing entrepreneurship skills than exclusively theoretical instruction.

The positive and significant effect of the school environment on students' entrepreneurship skills reinforces the conclusions of Sofian et al. (2023) and Sumardi et al. (2022), who found that school environment components including physical conditions, social dynamics, facilities and infrastructure, and teacher–student interaction make substantive contributions to students' character and competency development. Wihardjo & Rahmayanti (2021) additionally note that a conducive school environment encourages students to more actively develop their potential and skills, including entrepreneurship skills. The underlying mechanism may be explained through the school environment's role as an ecosystem that enables students to apply entrepreneurial knowledge acquired through instruction. The availability of practice workshops within each vocational program, combined with social support from teachers and peers, creates the psychological safety and motivation necessary for students to engage in iterative entrepreneurship practice a process that is difficult to sustain without a supportive environment. This finding confirms that the school environment actively shapes entrepreneurship skills through social interaction and the provision of structured practice opportunities, rather than serving merely as a physical backdrop.

The simultaneous effect of entrepreneurship learning and the school environment, accounting for 45.9% of the variance in entrepreneurship skills ($R^2 = 0.459$), is consistent with Widodo et al. (2025), who demonstrated that entrepreneurship education models in Indonesian vocational schools must be supported by a conducive school ecosystem for students' entrepreneurship skills to develop optimally. This finding also aligns with Mulyawati et al. (2025), who found that entrepreneurship skills contribute to the business success of SMK students. The remaining 54.1% of unexplained variance is likely attributable to factors not examined in this study, such as individual motivation, family support, and field internship experience. The 45.9% contribution magnitude is consistent with the categorization findings in Table 4, which show that 66.48% of students fell within the moderate entrepreneurship skills category rather than the high category. This convergence suggests that while the combined effect of the two predictors is statistically significant, it has not been sufficient to drive most students to attain the highest level of entrepreneurship skills, indicating the need for future research to incorporate individual-level factors such as self-efficacy and risk tolerance.

As illustrated in Figure 1, entrepreneurship learning (X_1) contributed 25.9% effectively and 56.4% relatively to the explained variance in entrepreneurship skills, while the school environment (X_2) contributed 20.1% effectively and 43.6% relatively. The proportionally larger contribution of entrepreneurship learning indicates that direct instructional intervention has a greater leveraging effect on entrepreneurship skills than the organization of the school's physical and social environment. These findings imply that schools should prioritize enhancing the quality of practice-based entrepreneurship learning through approaches such as project-based learning and business simulation while simultaneously optimizing available practice facilities and improving the school climate as complementary supporting conditions.

Conclusion

This study concludes that both entrepreneurship learning and the school environment exerted a positive and significant effect on the entrepreneurship skills of Grade XI students at SMKN 1 Surakarta, both individually and in combination, collectively explaining 45.9% of the variance, while the remaining 54.1% is attributable to factors not examined in this study. Entrepreneurship learning emerged as the more dominant predictor, accounting for a relative contribution of 56.4% compared to 43.6% for the school environment. This carries the theoretical implication that SMK students' entrepreneurship skills are not solely innate individual attributes but can be meaningfully cultivated through targeted instructional interventions, with the teaching and learning process playing a more determining role than environmental factors alone. In practical terms, entrepreneurship teachers at SMKN 1 Surakarta are advised to reorient instruction toward authentic practice activities such as project-based learning and business simulation, while the school administration should continue to optimize practice facilities and improve the school climate as complementary supporting conditions. The present study is limited by its single-school scope and restriction to two predictor variables, which precludes broad generalization across all SMK schools. Future research should extend the scope to multiple schools and incorporate additional variables—such as student motivation and self-efficacy to provide a more comprehensive understanding of the determinants of entrepreneurship skills.

References

Arikunto, S. (2013). *Prosedur penelitian: Suatu pendekatan praktik*. Rineka Cipta.

Fahmi, N. N., & Ferdiansyah, H. (2023). Implementasi pendidikan kewirausahaan dalam membentuk sikap wirausaha siswa MA Darussalam Puncak Siliragung Banyuwangi. *Jurnal Manajemen Pendidikan Islam Darussalam, 5*(1), 1–16.

Fariera, M. J. A., Suryatna, B. S., Wahyuningsih, W., & Ansori, M. (2024). Pengaruh hasil pembelajaran produk kreatif dan kewirausahaan terhadap minat berwirausaha siswa kelas XI Kuliner SMK N 4 Surakarta. *Food Science and Culinary Education Journal, 13*(1), 57–62.

Firmansyah, D., & Dede. (2022). Teknik pengambilan sampel umum dalam metodologi penelitian: Literature review. *Jurnal Ilmiah Pendidikan Holistik (JIPH), 1*(2), 85–114. https://doi.org/10.55927/jiph.v1i2.937

Manalu, C. L. N., Marpaung, D. T., Siagian, I., Limbong, N., Tampubolon, N. C., Hutasuhut, S., & Tarigan, S. W. B. (2024). Pengembangan keterampilan kewirausahaan di sekolah menengah: Mengidentifikasi cara-cara efektif untuk mengembangkan keterampilan kewirausahaan di kalangan siswa sekolah menengah. *Future Academia: The Journal of Multidisciplinary Research on Scientific and Advanced, 2*(4), 585–600.

Mulyawati, F. P., Swaramarinda, D. R., & Maulida, E. (2025). Pengaruh pendidikan kewirausahaan dan keterampilan berwirausaha terhadap keberhasilan usaha siswa SMK Negeri 8 Jakarta. *Jurnal Penelitian Ilmu Pendidikan Indonesia, 4*(3), 1631–1644. https://doi.org/10.31004/jpion.v4i3.619

Nurhasanah, N., Perkasa, D. H., Magito, M., Fathihani, F., Abdullah, M. A. F., & Kamil, I. (2023). Keinginan berwirausaha mahasiswa pada pengaruh kompetensi kewirausahaan, motivasi berwirausaha dan kreativitas berwirausaha. *Jurnal Manajemen dan Bisnis, 3*(1), 27–44.

Nurrachmi, I., Maharani, D., Syahidin, S., Maulana, W., Nurhayati, Y., Sugiarto, M., & Yusdita, E. E. (2021). *Kewirausahaan pola pikir, pengetahuan dan keterampilan*. Widina Bhakti Persada Bandung.

Rusdiana, H. A. (2022). *Pendidikan kewirausahaan*. Insan Komunika.

Sagita, I., Rejeki, P. W. A., Nugroho, A. B., & Wijayanti, R. (2025). Efektivitas pendidikan kewirausahaan terhadap kompetensi dan karakteristik wirausahawan pada siswa SMK di Kota Bandung. *GEMAH RIPAH: Jurnal Bisnis, 5*(03), 362–371.

Sofian, S., Hasibuan, R. F., Fachruddin, F., & Syukri, M. (2023). Unsur-unsur pengorganisasian sekolah. *Jurnal Ilmiah Wahana Pendidikan, 9*(6), 550–557.

Subhaktiyasa, P. G. (2024). Menentukan populasi dan sampel: Pendekatan metodologi penelitian kuantitatif dan kualitatif. *Jurnal Ilmiah Profesi Pendidikan, 9*(4), 2721–2731.

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D* (3rd ed.). Alfabeta.

Sumardi, W. P., Sabillah, B. M., Khaedar, M., & Jusmawati, J. (2022). Pengaruh lingkungan sekolah terhadap motivasi belajar siswa. *Kelola: Journal of Islamic Education Management, 7*(1), 35–48.

Widodo, Baswedan, A. R., Suyata, P., & Saputra, W. N. E. (2025). Entrepreneurship education in vocational schools: An Indonesian model. *International Journal of Evaluation and Research in Education, 14*(1), 373–381. https://doi.org/10.11591/ijere.v14i1.32317

Wihardjo, R. S. D., & Rahmayanti, H. (2021). *Pendidikan lingkungan hidup*. Penerbit Nem.