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Measuring Entrepreneurial Skills with Digital Literacy and Entrepreneurship Literacy as Mediators (A Study of Vocational High School Students in Blitar Regency)

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Abstract

This study aims to analyze the effect of entrepreneurship education on the entrepreneurial skills of vocational high school students, taking into account the role of digital literacy and entrepreneurship literacy as mediating variables. This study uses a quantitative approach with a survey method through hypothesis testing. The research sample involved 223 12th grade vocational high school students in Blitar Regency. Data analysis was conducted using the Structural Equation Modeling-Partial Least Square (SEM-PLS) method. The results of this study indicate that entrepreneurship education does not have a significant or negative effect on entrepreneurial skills. This occurs because the entrepreneurship education process applied to students is more theoretical, lacks practical application, and the material is not aligned with students' needs in the workplace. Meanwhile, entrepreneurship education can have a significant and positive impact on digital literacy and entrepreneurship literacy. These results indicate that entrepreneurship education can enhance students' skills in using digital technology. Entrepreneurship education serves as the foundation for digital knowledge and entrepreneurial understanding, enabling students to create businesses in the future. The implications of this study are highly useful for developing policies, business practices, and approaches that enhance the entrepreneurial skills of vocational high school students in Blitar Regency.

Keyword: Entrepreneurial Skills, Digital Literacy, Entrepreneurship

INTRODUCTION

Continuous developments in digital innovation can influence shifts in entrepreneurial

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industry trends (Douglas & Prentice, 2019). These shifts encourage public vocational high school (SMKN) students to acquire entrepreneurial skills that are relevant to the business environment (Avelar et al., 2024). SMKN students need to possess entrepreneurial skills that align with the current consumer electronics market demands (Woodside et al., 2020). Entrepreneurial skills are the primary parameters that SMKN students possess to identify opportunities and address market needs (Ripollés & Blesa, 2023). The skills possessed by SMKN students encompass various aspects such as leadership, creativity, communication, risk-taking ability, and marketing proficiency (Bernardus et al., 2022). However, many SMKN students in Blitar Regency still lack entrepreneurial skills that align with industry needs, new technologies, and changes in customer behavior (Imjai et al., 2024).

The research findings of Junaidin, Suhardi M. Anwar, & Sahrir (2023) reveal that 12% of unemployed individuals in Indonesia are young people with diplomas, an increase from 7.92% in 2018. The unemployment rate among young Indonesians has been rising annually. This trend inevitably impacts the nation’s economic growth, which is slowing down. Even the International Monetary Fund (IMF) (2023) presented data from a study showing that 3.10% of Indonesia's population are entrepreneurs and 5.3% of Indonesia's population are unemployed. One of the factors causing youth unemployment is the lack of entrepreneurial skills (Tseng et al., 2022). This is evidenced by research findings from Skeldon (2019), which found that more than 90% of online start-up businesses fail within the first 120 days due to inadequate entrepreneurial knowledge and skills. The lack of skills among young people will certainly have a negative impact on Indonesia's economic growth in the future.

The urgency of this research is very important considering the entrepreneurial skills of vocational high school students in Blitar Regency, which have an impact on national and independent economic growth. By understanding the lack of entrepreneurial skills, this research will provide an understanding of the development of entrepreneurship education that supports students' entrepreneurial skills with increased digital literacy and entrepreneurial literacy. Improving digital literacy and entrepreneurial literacy are key factors in the success of vocational high school students in Blitar Regency in becoming skilled in the digital business world. Entrepreneurial skills are important for the following reasons: (1) Modern businesses are now highly dependent on digital technology. Digital literacy and entrepreneurial literacy enable vocational high school students in Blitar Regency to utilize digital technology to become skilled in the business world. (2) Entrepreneurship education that emphasizes the improvement of digital literacy and entrepreneurial literacy provides a competitive advantage for vocational high school students to become skilled in the business world. SMKN students possess entrepreneurial skills

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to compete locally, nationally, and internationally. (3) Entrepreneurship education that emphasizes improving digital literacy and entrepreneurial literacy can encourage SMKN students to develop entrepreneurial skills in creating job opportunities, enhancing creativity, and fostering economic growth.

The government and educators need to be aware of the declining skills of young people in Indonesia (Habeberg, 2022) (Hasan, 2020). Educators must provide encouragement and guidance to vocational high school students to foster their enthusiasm for improving entrepreneurial skills (Welsh et al., 2016). The entrepreneurial skills of SMKN students need to be enhanced through entrepreneurship education, digital literacy, and entrepreneurial literacy. Entrepreneurship education will encourage the improvement of resources, physical limitations, and deficiencies among students at school (Effendy & Sunarsi, 2020). Digital literacy is the ability of SMKN students to utilize digital technology to access, manage, and evaluate information (Suryani & Chaniago, 2023). Meanwhile, entrepreneurial literacy is the ability of SMK students to understand, manage, and apply entrepreneurial skills through digital and conventional technology (Hammoda, 2024).

The research gap in this study lies in the empirical gap, which differs from previous research. This research gap is related to the differences in the results of previous studies, which were not significant enough to be remeasured among SMKN students in Blitar Regency. Research by J. Zhang et al. (2022) found that entrepreneurship education does not influence entrepreneurial skills, particularly for students who are not from entrepreneurial families. Hidayati et al. (2023) found that digital literacy does not significantly influence entrepreneurial interest and entrepreneurial skills in the startup sector in Jambi, Indonesia. Similarly, research by Chen et al. (2021), Nájera-Sánchez et al. (2023), and de Sousa et al. (2022) found negative effects influenced by interaction factors and reduced direct experience due to the pandemic. Entrepreneurship literacy is less effective for students' entrepreneurial skills.

The novelty offered in this study is research to fill the gap in the differences in research results on the influence of entrepreneurship education on entrepreneurial skills, as well as the role of digital literacy and entrepreneurial literacy as mediating variables. The independent variable (entrepreneurship education), dependent variable (entrepreneurial skills), and control variables (digital literacy and entrepreneurship literacy) will be re-examined for their influence on 12th-grade students in the Digital Business Department at SMKN in Blitar Regency. Validating the relationship between these variables is crucial for developing entrepreneurial skills among 12th-grade students in the Digital Business Department at SMKN in Blitar District. This study also offers an analysis of skill enhancement through the theory of logical thinking development. The theory

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of logical thinking development serves as foundational knowledge to facilitate SMKN students in the effectiveness of business activities.

The implications of this study are very useful for developing policies, business practices, and approaches that improve the entrepreneurial skills of vocational high school students in Blitar Regency. Therefore, the purpose of this study is to analyze the influence of entrepreneurship education on the entrepreneurial skills of vocational high school students, with a focus on the role of digital literacy and entrepreneurship literacy as mediating variables. The results of this study are expected to strengthen the entrepreneurial education ecosystem, thereby contributing to the improvement of entrepreneurial skills among vocational high school students in Blitar Regency.

LITERATURE REVIEW

Entrepreneurship Education

Entrepreneurship education is a subject that equips vocational high school students with the knowledge to understand the world of entrepreneurship or business and identify commercial opportunities for products and services (Ver Steeg, 2022). Entrepreneurship education teaches vocational high school students the proper steps in managing a business and the appropriate actions to take when faced with opportunities (Walmsley & Wraae, 2022). Ratten & Jones (2020) identified three fundamental objectives of entrepreneurship education: (a) fostering new awareness among vocational high school students in developing skills (Mawson et al., 2023), (b) encouraging vocational high school students to engage in entrepreneurship (Pertiwi & Khafid, 2021), and (c) facilitating vocational high school students with new knowledge (Saptono et al., 2021a). In addition, Chunmin Lang & Chuanlan Liu (2019) explain three entrepreneurship programs, namely opportunity recognition, digital literacy, and the ability to create a product and service.

Entrepreneurial Skills

Entrepreneurial skills are defined as the ability to apply knowledge, attitudes, and skills toward successful business operations (Jardim, 2021). Entrepreneurial skills can be measured through vocational high school students' ability to analyze, creatively and practically manage businesses effectively and efficiently (Edokpolor, 2020; van Lunenburg, 2024). Entrepreneurial skills are the ability of vocational high school students to create and market products and services based on customer needs (Kristiawan et al., 2019). Moreover, businesses have now shifted from conventional marketing to digital marketing (Olutuase et al., 2023). Vocational high school

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students are expected to have good digital skills to be able to adapt to the current business environment. The entrepreneurial skills possessed by vocational school students include creativity, communication, a proactive attitude, the ability to take risks, marketing skills, and tolerance for stress (Akhmetshin et al., 2019). The Netherlands has seen economic growth of up to 95% over 6 years due to the role of entrepreneurial skills (Prüfer & Prüfer, 2020).

Digital Literacy

Digital literacy is the ability of vocational high school students to understand and utilize digital technology for marketing products and services (Imjai et al., 2024). According to Reddy et al. (2023), digital literacy is the ability of students not only to use digital technology but also to utilize it for market analysis. Meanwhile, Sri S. & Harmon C. (2023) define digital literacy as the skill to communicate information to consumers accurately and efficiently. Narinthon et al. (2024) explain four competencies possessed by vocational high school students to measure their digital literacy skills in running an e-commerce business, namely:

1. Digital content creation, which includes the ability of vocational high school students to edit digital content, such as documents, presentations, graphics, and videos using various software and platforms (Kazak et al., 2023).
2. The ability of students to promote digital content across e-commerce platforms and media, such as Shopee, Tokopedia, Bukalapak, YouTube, Instagram, Facebook, TikTok, and others.
3. Online research skills, which include the ability of vocational high school students to search for, evaluate, and utilize information from the internet efficiently (Zhu et al., 2023).
4. Vocational high school students also have the ability to assess all information disseminated in digital technology (George et al., 2021).

Entrepreneurship Literacy

Entrepreneurship literacy is education that focuses on improving the knowledge, attitudes, and skills of vocational high school students in finding opportunities and utilizing those business opportunities (Mutanda & Moyo, 2021). Entrepreneurship literacy needs to be taught to vocational high school students so that they have the ability to analyze the market. According to Mary Mutanda (2021), European countries prioritize improving entrepreneurship literacy to achieve business growth of 90-100% annually (Mutanda & Moyo, 2021). Entrepreneurial literacy is a key factor in changing the entrepreneurial mindset of vocational high school students to achieve independence, creativity, discipline, and progress in business (Sutisna et al., 2021). Entrepreneurial literacy is applied to vocational high school students so that after graduation,

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they are able to create their own jobs. Vocational high school students who have received entrepreneurship literacy education are expected to be able to overcome poverty and improve the economy. Vocational high school students have new and modern ideas, are able to create businesses, are willing to take risks, and are able to promote new products to the wider community (Guampe et al., 2022).

METHOD

This study uses quantitative research analyzed using SEM-PLS to investigate the effect of entrepreneurship education (X) on entrepreneurial skills (Y) through digital literacy (Z1) and entrepreneurial literacy (Z2) (see Figure 1). The advantage of SEM-PLS is its ability to maximize the variance of the dependent variable and estimate data based on the dimensions of the measurement model (Hair et al., 2019).

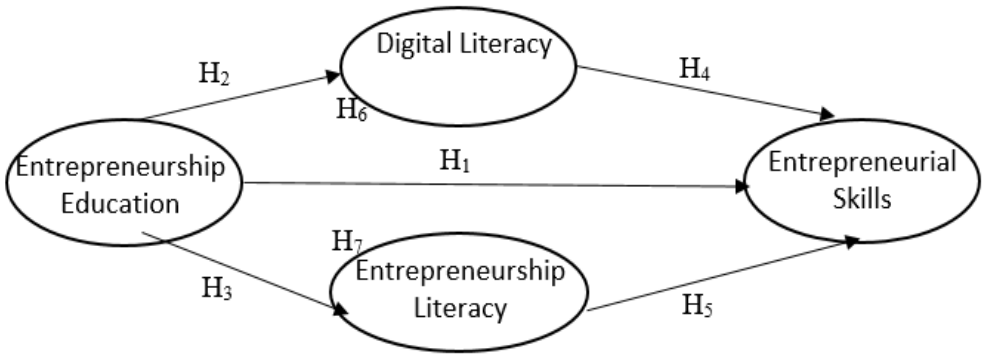


Figure 1. Research Framework Design

Respondents and Data Collection Techniques

Vocational high school students in Blitar Regency participated in this study. Five vocational high schools were the subjects of this study. We surveyed a total of 223 respondents with 27 Google Form questions sent via WhatsApp. The criteria for respondents in this study were students who had taken entrepreneurship lessons with a focus on digital business. This study was conducted from November 2024 to April 2025. The variables in this study were entrepreneurship education (X), entrepreneurial skills (Y), digital literacy (Z1), and entrepreneurship literacy (Z2).

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Table 1. Characteristics of Respondents Based on Gender

No	Gender	Total	Percentage
1	Female	175	78,48%
2	Male	48	21,52%
Total		223	100%

Source; processed by researcher, 2025

Instrument Development and Data Analysis

The research instruments were adapted from previous studies and literature reviews. The questionnaire was translated from English into Indonesian and modified for the Indonesian context. The questionnaire was translated from English into Indonesian and modified for the local context. Self-efficacy was measured using three items from (Saptono et al., 2021b). Creative projects were measured using three items from (Anjum et al., 2021) and (Pattanatornchai et al., 2024). Entrepreneurship education was measured using three items from (Wardana et al., 2020). Entrepreneurial motivation was measured using three items from (Hassan et al., 2021). The questionnaire used asked participants to rate each statement from 1 (strongly disagree) to 5 (strongly agree). This study used Smart PLS 3.0 for least squares structural equation modeling (PLS-SEM).

RESULTS AND DISCUSSION

External Model Evaluation

The PLS external model was determined to ensure the reliability of the instruments. A model with determination criteria is considered reliable when the composite reliability (CR) and Cronbach's Alpha > 0.05 (Hair et al., 2019). The results of this study show that the CR values for each construct range from 0.827 to 0.922 for dependency. The average extracted variance (AVE) > 0.50 indicates convergent validity (Hair et al., 2019). Convergent validity in this study was achieved because all items exceeded 0.50 and the AVE for each construct ranged from 0.571 to 0.679. Cross-loading factors were used to test discriminant validity and convergent validity. The cross-loading values for all variables of entrepreneurial education (X), entrepreneurial skills (Y), digital literacy (Z1), and entrepreneurial literacy (Z2) ranged from 0.703 to 0.852 > 0.70, indicating discriminant validity.

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Hypothesis Testing

This model tests hypotheses using structural equation modeling (SEM-PLS). Researchers used 223 bootstrap samples to display all t-statistics. As shown in Table 2, six of the seven hypotheses in this study met the criteria, with t-values ranging from 3.271 to 15.279, exceeding 1.96. One t-value did not meet the criteria, with a t-value of 0.039, which is less than 1.96:

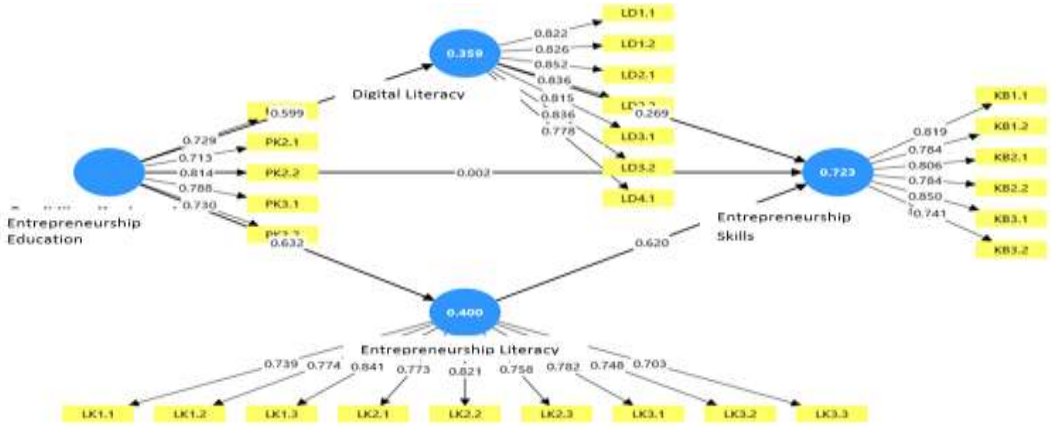


Figure 2. SEM-PLS Calculation Results

This study uses the R-Square (R2) model to show the accuracy of the model's predictions. The coefficient of determination is used to determine the accuracy of the prediction and to show the magnitude of the influence of exogenous variables on endogenous variables. If the model fits the data 100% with a value close to 1, it can be said that the model explains the variation in the endogenous variable (Fisher et al., 1995). The following are the results of the coefficient of determination based on data processing using SmartPLS 4.0.

Table 2. R-Square Analysis Results

Variables	***R-Square***
Entrepreneurial Skills	0.723
Digital Literacy	0.359
Entrepreneurial Literacy	0.400

Source; processed by researcher, 2025

For each variable, the R -Square value for the entrepreneurial skills variable (Y) is 0.723, indicating that 72.3% can be influenced by the entrepreneurial education variable (X), the digital

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literacy variable (Z1), and the entrepreneurial literacy variable (Z2), while the remaining 27.7% is influenced by other variables outside the scope of this study. The R-Square value for the digital literacy variable (Z1) is 0.359, indicating that 35.9% can be influenced by the entrepreneurship education variable (X), while the remaining 64.1% is influenced by other variables outside the scope of this study. Meanwhile, the R-Square value for the entrepreneurial literacy variable (Z2) was 0.400, indicating that 40% can be influenced by the entrepreneurial education variable (X), while 60% is influenced by other variables outside the scope of the study. Thus, the higher the R-Square value, the greater the ability of the independent variable to explain the dependent variable, resulting in a better structural equation.

Table 3. Outlier Model Estimates

Construct	Item	Outher Loading	α	CR	AVE
Entrepreneurship Education (PK)	PK1.1	0.729	0.813	0.827	0.571
	PK2.1	0.713			
	PK2.2	0.814			
	PK3.1	0.788			
	PK3.2	0.730			
Digital Literacy (LD)	LD1.1	0.822	0.921	0.922	0.679
	LD1.2	0.826			
	LD2.1	0.852			
	LD2.2	0.836			
	LD3.1	0.815			
	LD3.2	0.836			
	LD4.1	0.778			
Entrepreneurship Literacy (LK)	LK1.1	0.739	0.915	0.916	0.596
	LK1.2	0.774			
	LK1.3	0.841			
	LK2.1	0.773			
	LK2.2	0.821			
	LK2.3	0.758			
	LK3.1	0.782			
	LK3.2	0.748			

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	LK3.3	0.703			
Entrepreneurial Skills (KB)	KB1.1	0.819	0.886	0.888	0.637
	KB1.2	0.784			
	KB2.1	0.806			
	KB2.2	0.784			
	KB3.1	0.850			
	KB3.2	0.741			

Source; processed by researcher, 2025

Table 4. Discriminant Validity

Variables	**Entrepreneurship Education (X)**	**Digital Literacy (Z1)**	**Entrepreneurship Literacy (Z2)**	**Entrepreneurial Skills (Y)**
Entrepreneurship Education (X)	0.756			
Digital Literacy (Z_1)	0.599	0.824		
Entrepreneurship Literacy (Z_2)	0.632	0.790	0.772	
Entrepreneurial Skills (Y)	0.555	0.760	0.834	0.798

Source; processed by researcher, 2025

Table 5. Direct Effect Test

	Variables	**Original Sampel**	**T-*Statistics***	**P-*Values***	Description
H_1	Entrepreneurship Education > Entrepreneurial Skills	0.002	0.039	0.969	Rejected
H_2	Entrepreneurship Education > Digital Literacy	0.599	15.279	0.000	Accepted
H_3	Entrepreneurship Education > Entrepreneurship Literacy	0.632	14.680	0.00	Accepted

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H_4	Digital Literacy > Entrepreneurial Skills	0.269	3.481	0.001	Accepted
H_5	Entrepreneurship Literacy > Entrepreneurial Skills	0.620	7.814	0.000	Accepted

Source; processed by researcher, 2025

Table 6. Indirect Effect Test

	Variables	**Original Sampel**	**T-*Statistics***	**P-*Values***	Description
H_6	Entrepreneurship Education > Digital Literacy > Entrepreneurial Skills	0.161	3.271	0.001	Accepted
H_7	Entrepreneurship Education > Entrepreneurship Literacy > Entrepreneurial Skills	0.392	6.568	0.000	Accepted

Source; processed by researcher, 2025

DISCUSSION

Based on the results of measuring the effect of entrepreneurship education on entrepreneurial skills, with a t-statistic value of 0.039 < 1.960 and a p-value of 0.969 > 0.005, this indicates that entrepreneurship education has an insignificant or negative effect on entrepreneurial skills. The main factor is the lack of entrepreneurship skills training provided to students in schools. Additionally, the entrepreneurship skills training provided to students is often ineffective. These results are consistent with research by Oosterbeek (2020), who found that entrepreneurship education has an insignificant effect on students' entrepreneurial skills. Hahn (2020) also found that the influence of entrepreneurship education on entrepreneurial skills tends to be insignificant because entrepreneurship education is a mandatory subject for students. Therefore, the researcher suggests evaluating the entrepreneurship education implemented for vocational high school students. Entrepreneurship education should be an elective subject for students so that the education system remains focused on improving students' skills. Three key areas—training, entrepreneurial experience, and mentoring—are the main focus of entrepreneurship education.

The influence of entrepreneurship education on digital literacy, with an initial sample value of 0.599, a p-value of 0.000 < 0.005, and a t-statistic of 15.279 > 1.96, shows significant and

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positive results. These results align with research by Dvorakova & Polents (2021), who found that entrepreneurship education is one of the prerequisites for fostering young entrepreneurs who can drive economic growth and create new job opportunities through digital technology. The entrepreneurship education system contributes to the development of digital entrepreneurship competencies among students. Andi Syahriana Asdar (2024) explains that entrepreneurship education aims to foster the impact of self-efficacy, financial literacy, and digital literacy. Zeynalov & Doğantan (2025) also add that entrepreneurship education not only encourages students' entrepreneurial intentions but also provides them with knowledge and skills aligned with market conditions for conducting entrepreneurship using innovative technology. Therefore, in this rapidly evolving technological era, entrepreneurship education is shifting the curriculum toward enhancing students' digital literacy. Improving digital literacy is crucial for students to adapt to the increasingly digital business landscape.

Entrepreneurship education on entrepreneurship literacy with a t-statistic value of 14.680 > 1.96, a p-value of 0.000 > 0.005, and an original sample of 0.632 also showed significant and positive results. Students strongly agree that entrepreneurship education in schools teaches them to think creatively and critically. Students are trained to think critically in sorting business information and making decisions based on optimal considerations. These results align with research by Narmaditya (2024), who found that entrepreneurship literacy emphasized to students through entrepreneurship education is highly beneficial in identifying business opportunities, evaluating the feasibility of business ideas, and developing well-thought-out business plans for the future. Hasan (2020) explains that entrepreneurial literacy can be developed through entrepreneurship education with an emphasis on values, attitudes, and behaviors as outstanding human beings. This research result aligns with the theory developed by Jean Piaget, namely entrepreneurship education as a means of cognitive stimulation. Entrepreneurship education not only teaches business knowledge but also develops critical and logical thinking skills, trains students to analyze risks and opportunities, and sharpens their ability to make data-driven decisions. Thus, logical thinking skills form an important foundation for the development of entrepreneurial literacy, as students are more likely to understand, manage, and apply entrepreneurial concepts in a rational and responsible manner.

Digital literacy on entrepreneurial skills with a t-statistic measurement result of 3.481 > 1.96, an original sample value of 0.269, and a p-value of 0.001 < 0.005 indicates a significant and positive influence. These results indicate that digital literacy has a positive and significant influence on entrepreneurial skills. Digital literacy enables students to create business content, identify opportunities, seek information, and evaluate the appropriate information for business.

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According to Yanto (2022), digital literacy fundamentally changes business models, how work is done and managed, the types of skills required in the workplace, and alters expectations regarding digital skills and traditional leadership models of business owners, which are no longer sufficient to drive innovative entrepreneurship that leads the market and business returns. Mbaeri & Okechukwu (2023) emphasize that digital literacy can enhance students' entrepreneurial skills through innovations such as increased business transaction volumes and lower service costs for customers. Wijayanto (2023) also found that digital literacy can improve entrepreneurial skills among students. Digital literacy provides students with access to information and knowledge about entrepreneurship online through digital books, video tutorials, and online discussions (Mugabi et al., 2021). When viewed through the perspective of Jean Piaget's theory of logical thinking skill development, digital literacy can accelerate the assimilation and accommodation processes, which ultimately form a more complex and logical thinking structure in line with the characteristics of the formal operational stage. With that, the strengthening of digital literacy in entrepreneurship education continues to be improved by encouraging reflection, critical analysis, and problem solving.

Entrepreneurial literacy has a positive and significant effect on entrepreneurial skills with a t-statistic value of 7.814 > 1.96, an original sample value of 0.620, and a p-value of 0.000 < 0.005. Entrepreneurial literacy can help students identify business opportunities, evaluate the feasibility of ideas, and develop business plans. Several studies have shown positive results from the influence of entrepreneurial literacy on entrepreneurial skills among students. Rahmatullah (2022) found that digital literacy influences entrepreneurial skills by continuously improving students' entrepreneurial strategies and motivation. Susanti et al. (2022) discovered that entrepreneurial literacy can enhance students' entrepreneurial skills independently. The results presented by Oggero (2020) also indicate that entrepreneurial literacy can improve students' entrepreneurial skills. With entrepreneurial literacy, students are able to formulate businesses in line with market opportunities and needs. Thus, entrepreneurial literacy should not only be taught as knowledge but also trained through cognitively challenging activities for students. Students are trained to develop skills through various entrepreneurship strategies and exercises at school. Improved entrepreneurial literacy enables students to make decisions based on logical considerations, risk and opportunity analysis, and systematic business strategies.

Digital literacy mediates the influence of entrepreneurship education on entrepreneurial skills with an original sample value of 0.161, a t-statistic value of 3.271 > 1.96, and a p-value of 0.000 not exceeding the maximum limit of 0.05. The digital literacy mediation value is 0.000 < 0.05. According to Hair et al. (2017), digital literacy in this study falls under the category of full

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mediation. This means that entrepreneurship education on entrepreneurial skills becomes more effective through improved digital literacy. Digital literacy serves as a crucial tool in digital business practices, such as online marketing, digital market research, and consumer interaction. Previous research by Wijayanto (2023) found that digital literacy has a significant influence in mediating the influence of entrepreneurship knowledge on entrepreneurial skills. Digital literacy provides students with access to information and knowledge about entrepreneurship online through various sources, such as digital books, video tutorials, and online discussions (Wijayanto et al., 2023). Yawisah (2019) also found that digital literacy has an influence in mediating the effect of entrepreneurship education on entrepreneurial skills. With digital literacy, students become more skilled in reading, interpreting, and making business decisions correctly. The results of this study reflect the reality of entrepreneurship education, which requires students not only to understand entrepreneurship theory but also to be able to access, evaluate, and apply digital information in real business contexts. With the current development of technology, entrepreneurial skills cannot develop optimally without good digital literacy skills. Digital literacy enables students to independently explore entrepreneurship information, understand market dynamics through social media, and develop business ideas based on data.

Entrepreneurship literacy can mediate the influence of entrepreneurship education on entrepreneurial skills with an original sample value of 0.392, a t-statistic of 6.568, and a p-value of 0.000 that does not exceed the maximum limit of 0.05 (Hair et al., 2017). Entrepreneurial literacy in this study acts as partial mediation based on the theory of Hair et al. (2017). This means that entrepreneurship education has a significant and positive effect on entrepreneurial skills, but entrepreneurial literacy as a mediating variable can strengthen this effect. The results of this study provide a concrete solution to the problem of high unemployment rates among vocational school graduates. Entrepreneurship education cannot stand alone but must be accompanied by the development of a deep understanding and mindset of entrepreneurship to produce skilled students. These results align with the findings of Nguyen (2024), who discovered that entrepreneurial literacy can strengthen the impact of entrepreneurship education on entrepreneurial skills. Entrepreneurial literacy acts as a bridge that helps students translate theory into practice, enabling entrepreneurial skills to develop concretely. Subandi (2023) also found that entrepreneurial literacy can enhance students' confidence to start entrepreneurship. High confidence motivates students to become increasingly skilled in running entrepreneurial activities. Based on the results of this study, entrepreneurial literacy serves as a crucial cognitive bridge in connecting entrepreneurship education to entrepreneurial skills. Entrepreneurial literacy is used to train logical thinking processes honed through entrepreneurship education and

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practice. Entrepreneurship education and entrepreneurial literacy can play a role in enhancing students' entrepreneurial skills.

CONCLUSION

The results of the measurement of the seven research hypotheses found that one hypothesis was insignificant or negative. Meanwhile, the other six hypotheses showed significant and positive results. The first hypothesis, the effect of entrepreneurship education, was insignificant and negative on entrepreneurial skills. This was because the entrepreneurship education taught to students was more theoretical, lacked practical experience, and had minimal training facilities for students. Students feel they lack direct experience in running a business. Additionally, facilities and guidance are still limited, such as business laboratories and industry mentors. Meanwhile, the influence of entrepreneurship education on digital literacy and entrepreneurship literacy showed significant and positive effects. Digital literacy and entrepreneurship literacy also significantly and positively influenced entrepreneurial skills. Digital literacy and entrepreneurship literacy acted as mediating variables in this study. Measurement results indicate that digital literacy significantly mediates the full effect of entrepreneurship education on entrepreneurial skills. This means that digital literacy plays an important role in strengthening students' skills in facing an increasingly digital business world. Entrepreneurial literacy significantly mediates part (partial mediation) of the influence of entrepreneurship education on entrepreneurial skills. Entrepreneurial literacy helps students to better understand business principles, manage risks, and apply entrepreneurial concepts independently.

These findings have specific implications for educators to participate in entrepreneurship training, seminars, and workshops; students should be required to attend entrepreneurship events and exhibitions as part of their academic activities. Additionally, students need to improve their digital skills and entrepreneurship literacy. Schools can achieve this by mapping entrepreneurship education and adding entrepreneurship practices. Future researchers can further develop this study by conducting research in a broader scope, adding other variables that may influence students' entrepreneurial behavior. For future research, the subject of the study could be expanded beyond vocational high school (SMK) students to include senior high school (SMA) students taking entrepreneurship courses, as well as expanding the supporting variables that may influence entrepreneurial behavior, such as family background or other variables.

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