

The Effect of Self-Efficacy and Creative Projects through Entrepreneurship Education on Entrepreneurial Motivation in Vocational Students (Study of State Vocational Schools in Jember Regency)

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ABSTRACT

This study analyzes the impact of self-efficacy and innovative ventures on students' entrepreneurial motivation, with business education as a mediating variable. Using a quantitative approach and SEM-PLS analysis, data were collected from 164 Grade XI students at state vocational schools in Jember. The findings show that self-efficacy and innovative ventures significantly influence business education, which in turn positively affects entrepreneurial motivation. While self-efficacy directly enhances motivation, innovative ventures do not have a significant impact. The results highlight the importance of aligning vocational education with market needs to strengthen entrepreneurship programs.

INTRODUCTION

Entrepreneurial inspiration has an vital part in making strides the economy in different created and creating nations (Jiatong et al., 2021). Nations that have tall levels of entrepreneurial inspiration tend to encounter more noteworthy financial enhancement (Welsh et al., 2016). In expansion, the populace in these nations is more fruitful and the number of employments required increments each year (Xu et al., 2023). Hence, entrepreneurial inspiration plays a really imperative part in finding entrepreneurial openings and being able to act on these openings (Lang & Liu, 2019; Raghunath et al., 2020).

Developed nations such as China, the Joined together States, Japan, Spain, Russia, and other created nations have demonstrated the colossal financial development of entrepreneurial inspiration. China has demonstrated the capable part of entrepreneurial inspiration in quick financial development. Since 2011 China has experienced colossal financial development from 53 billion yuan (\$7.7 billion) to 625 billion yuan (\$90.9 billion) until presently (C. Wang & Kim, 2023). Business visionaries in Spain have too turned to e-commerce stages with more than 211 million exchanges yearly, contributing 53.4% of financial income (Ver Steeg, 2022). The Joined together States too experienced financial development of 36% in 2019 (JimÃ©nez-RodrÃ­guez et al., 2022).

Indonesia with such a huge populace and endless common resources should have the potential to extend its economy from year to year. In any case, agreeing to insights, Indonesia's economy come to \$77 billion in 2022 with an increment of 22% from the past year (Badan Pusat Statistik, 2023). A major figure in Indonesia's moderate financial development is that numerous Indonesians need entrepreneurial inspiration. Concurring to inquire about from the Worldwide Financial Finance (IMF), as it were 3.47% of Indonesians are business visionaries and 5.45% of Indonesians are unemployed (Junaidi et al., 2023). The entrepreneurial inspiration of the Indonesian populace is still underneath other Asean nations such as Singapore whose entrepreneurial populace comes to 8.5% (Junaidi et al., 2023).

Entrepreneurship education has a very important role to encourage students to have independent entrepreneurial motivation after graduating from school (Ballesteros-Sola & Magomedova, 2023). Students need to gain knowledge and practice of entrepreneurship which is a strong impetus in increasing entrepreneurial motivation (Darman et al., 2024). Entrepreneurship education taught to students is in accordance with the needs of the world of work, business opportunities, the business environment and market needs (Purwanti et al., 2024). With that, students during entrepreneurship education need to develop various aspects, such as knowledge about entrepreneurship, imagination, practical skills, learning to find new business opportunities, orientation to innovation and creative, competitive and have communication skills (Hidayati et al., 2020; Huang et al., 2023; Sreenivasan & Suresh, 2023). To realize these aspects in entrepreneurship education, it needs to be encouraged through the role of self-efficacy and creative projects.

The role of self-efficacy and creative projects through entrepreneurship education is supported by Bandura's social cognitive theory. Social cognitive theory helps researchers understand the phenomenon of lack of entrepreneurial motivation of vocational school graduates and how elements such as self-efficacy and creative projects play a role to encourage students' entrepreneurial motivation in entrepreneurship education. Social cognitive theory focuses on students' observational learning, creativity, modeling and self-efficacy (Gregori et al., 2024). Social cognitive theory states that students tend to achieve desired goals if they consider their skills and abilities capable of achieving the desired results (Jiatong et al., 2021). Social cognitive theory helps explain the role of self-efficacy and creative projects through entrepreneurship education in encouraging increased student entrepreneurial motivation (Newman et al., 2019).

This research offers novelty by examining the relationship between self-efficacy, creative projects, entrepreneurship education, and entrepreneurial motivation. Specifically, the creative project variable that will be examined in relation to entrepreneurship education and entrepreneurial motivation is a new research. To produce a comprehensive research in answering the phenomenon of high unemployment rate of vocational school graduates in Jember. Researchers involve social cognitive theory in explaining the phenomenon. Social cognitive theory has a close relationship with each variable that has been selected by researchers. Social cognitive theory helps explain the role of entrepreneurship education as a mediator of self-efficacy and creative projects in increasing the entrepreneurial motivation of vocational students in Jember.

The urgency of this research raises a problem of high unemployment of vocational school graduates in Jember. According to the Central Bureau of Statistics, the unemployment rate throughout 2023 in Jember reached 59,716 people out of 2.6 million population (Central Bureau of Statistics, 2023). The percentage of unemployment continues to increase every year, especially the percentage of unemployment from vocational school graduates in Jember Regency. The unemployment rate continues to increase every year due to the lack of labor absorption by companies. In addition, SMK graduates do not have strong enough competencies to open their own business. SMK graduates expect employment in companies. Junaidi (2023) explained that the main problem of today's school graduates is the lack of skills and the inability to accept risks and pressures in work (Junaidi et al., 2023).

The implications of this research contribute to the role of self-efficacy and creative projects mediated by entrepreneurship education in increasing the entrepreneurial motivation of vocational students in Jember Regency. The results of the correlation of each research variable can improve the curriculum and entrepreneurship education programs that are in line with the current business environment and are able to reduce unemployment rates in SMK graduates. Educational programs in SMK are able to increase students' self-efficacy and creativity in creating jobs independently after graduating from school. With that, the purpose of this study is to determine the effect of self-

efficacy on entrepreneurial motivation of public vocational students in Jember district, mediated by entrepreneurship education.

LITERATURE REVIEW

Self-Efficacy

Bandura (1977) is one of the psychological figures who tried to explain the concept of self-efficacy based on the understanding of social cognitive theory. Bandura defines self-efficacy as an individual's belief in his ability to carry out tasks to achieve goals (Saptono et al., 2021). According to Parker (1977), self-efficacy is the ability to manage all the potential that individuals have in making decisions and solving problems in business (Herbert et al., 2019). Self-efficacy is related to a person's belief in their ability to mobilize the motivation, cognitive resources, and actions that need to be taken to run a business (Jiatong et al., 2021). Individuals become successful in running a business not only relying on skills, self-efficacy has the power to control individuals in achieving the desired goals in business (Oulhou & Ibourk, 2023).

Creative Project

Creative projects are school activities that co-curriculum with the theme of entrepreneurship to foster the entrepreneurial spirit, increase students' entrepreneurial interests, ideals, achievements and motivation (Ayub et al., 2023). The creative project learning system emphasizes the learning by doing approach (Ayub et al., 2023). Students will be introduced to entrepreneurship in a reality or real reality. From the real reality, it is expected that students' mindset can be formed to be more creative. Students learn to find opportunities, problems and shortcomings that occur in the market (Yang & Luo, 2020). The results of this learning are expected to be able to form a creative project that creates a new market. According to Syahrial Ayub et al, (2023), creative project learning has three advantages in the learning system for students (Ayub et al., 2023), namely; (1) working effectively and respecting differences, (2) showing flexibility and compromise to achieve the main goal, (3) taking responsibility and appreciating the contributions of team members. In creative project learning, students will identify problems, find solutions, create tangible products and ideas, produce products, market products either directly or online, and compile reports (F. Wang & Chen, 2019).

Entrepreneurship Education

Entrepreneurship education is an educational program that makes entrepreneurial values an important part of providing students with entrepreneurial motivation (Hasan et al., 2024). Students find the motivation to run a business after graduation is largely influenced by entrepreneurship education. Entrepreneurship education is an added value in encouraging students to succeed in the future (Yusuf Iskandar & Heliani, 2023). Entrepreneurship education is an appropriate effort in developing students' abilities and skills to see business as a promising career in the future (Hasan et al., 2020; Winarno & Wijijayanti, 2018). There are three principles of entrepreneurship education that need to be applied by students, namely: (a)

Students need to understand that entrepreneurship education can take place all the time, both before starting a business until running a business (Tecilazić et al., 2024). (b) Students need to understand that entrepreneurship education does not only happen in the classroom, but also in the family and community (Olutuase et al., 2023). Students need to experience and learn from many people before starting a business independently. (c) Entrepreneurship education is very flexible because it happens at any time (Akhmetshin et al., 2019).

Entrepreneurial Motivation

Entrepreneurial motivation is a state of conscious mind that directs individual attention to an object and seeks ways to achieve it (Alam et al., 2019; Özsungur, 2019). Individuals are motivated both conceptually and empirically. Conceptual strategies to individuals allow them to have a clear understanding of the business process to success (Kusa et al., 2021). Meanwhile, empirical strategies can show problem-solving techniques in helping individuals know how to work towards a successful business (Kusa et al., 2021). The two motivational strategies of theory and practice are important according to Leher, Greene, and Kaus (2014) so that individuals see business as a journey and not a destination (Srimulyani & Hermanto, 2022). With that, students are trained since school to have the attitude, ability and responsibility to undergo business processes for a better future (Ver Steeg, 2022). Students need to learn to perform practices and actions that are continuously critical, creative, focused, flexible, adaptive and collaborative (Yan et al., 2023). All these actions according to Wiklund, et al. (2011) are very important for students in solving business problems faced in every changing business environment.

METHODOLOGY

This study uses a quantitative research type analyzed using SEM-PLS to investigate the effect of self-efficacy (X1) and creative projects (X2) on entrepreneurial motivation (Y) through entrepreneurship education (Z) (see Figure 1). The benefit of SEM-PLS is the ability to maximize the variance of the dependent and estimate data based on the dimensions of the measurement model (Hair et al., 2019).

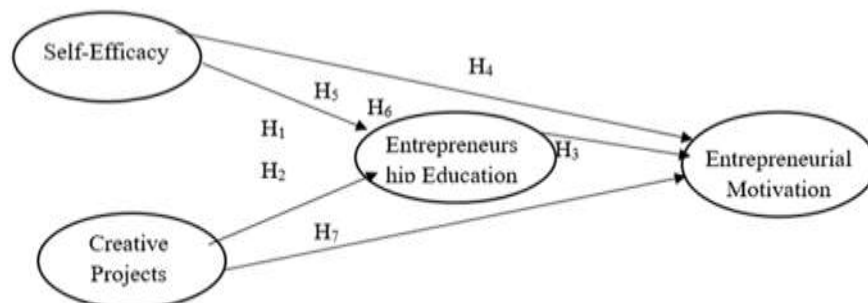


Figure 1: Research Framework Design

Respondents and Data Collection Techniques

Students of public vocational schools in Jember district participated in this study. Eight SMK Negeri became the object of the study. We surveyed a total of 283 respondents with 26 Google Form questions sent via WhatsApp. The criteria for respondents in this study were students who had received full entrepreneurship education lessons (students who had received both the theory and practice of entrepreneurship). This research was conducted from September to November 2024. The variables of this study are self-efficacy (X1), creative project (X2), entrepreneurship education (Z), and entrepreneurial motivation (Y).

Table 1. Respondent Characteristics

No	Gender	Total	Percentage
1	Male	123	71,1%
2	Female	41	28,9%
Total		Total	100%

Source: processed by researcher, 2024

Table 1 above shows that the majority of respondents in this study were dominated by male gender with a total of 123 respondents (71.1%), while the female gender amounted to 41 respondents (28.9%). From these results it can be conveyed that this research discusses and analyzes a lot about the entrepreneurial motivation of the male gender.

Instrument Development and Data Analysis

This research instrument was adapted from previous research and literature review. The questionnaire was translated from English to Indonesian and modified for the Indonesian context. The questionnaire was translated from English to Indonesian and modified for the local context. Self-efficacy was measured with three items from (Saptono et al., 2021). Creative projects were measured with three items from (Anjum et al., 2021) and (Pattanatornchai et al., 2024). Entrepreneurship education is measured by three items from (Wardana et al., 2020). Entrepreneurial motivation is measured by 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).

RESEARCH RESULT

External Model Evaluation

The PLS external model is determined to ensure the existence of reliable instruments. Models with determination criteria are said to be reliable when the composite reliability (CR) and Cronbach's Alpha > 0.05 (Hair et al., 2019). The results of this study indicate that the CR value of each construct is 0.898 to 0.913 for dependence. A significant average variance extracted (AVE) > 0.50 indicates convergent validity (Hair et al., 2019). Convergent validity in this study was achieved as all items exceeded 0.50 and the AVE of each construct ranged from 0.568 to 0.631. Cross-load factors were used to test discriminant validity and

convergent validity. The cross-loading values for all variables of self-efficacy (X1), creative project (X2), entrepreneurship education (Z), and entrepreneurial motivation ranged from 0.864 to 0.891 > 0.70, indicating discriminant validity.

Hypothesis Testing

This model tests the hypotheses using structural equation modeling (SEM-PLS). The researchers used 164 bootstrap samples to display all t-statistics. As seen in Table 2, six of the seven hypotheses in this study met the criteria, with t-values ranging from 3.241 to 10.991, which exceeded 1.96. One t-value did not meet the criteria, with a t-value of 0.625 which is less than 1.96.

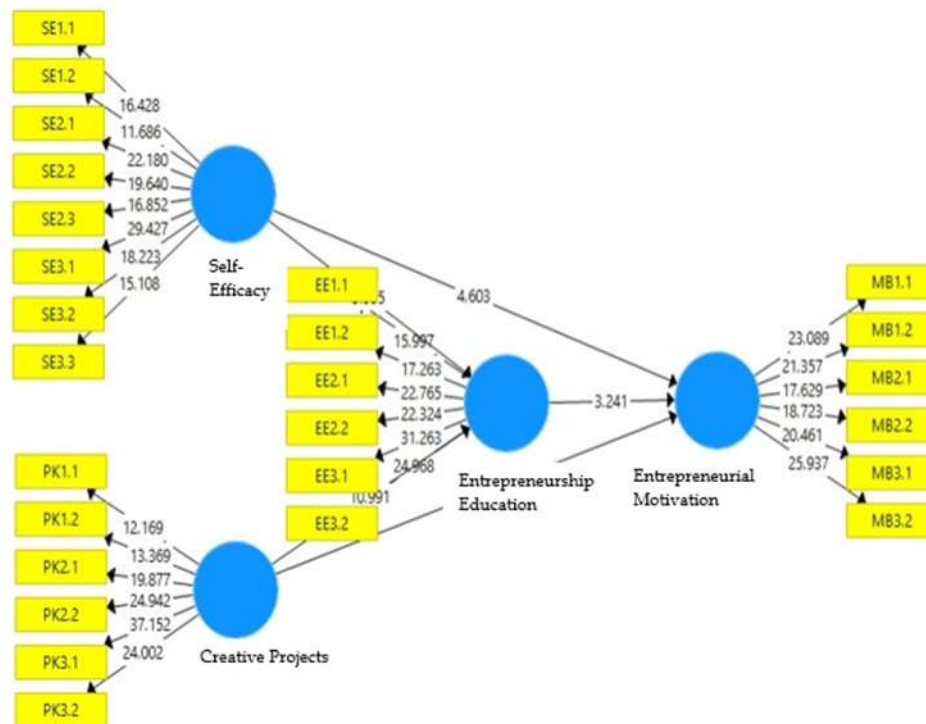


Figure 2. SEM-PLS Calculation Results

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

Table 2. R-Square Analysis Results

Variables	R-Square
Entrepreneurship Education	0.675
Entrepreneurial Motivation	0.743

Source: processed by researcher, 2024

For each variable there is an R-Square value on the entrepreneurship education variable (Z) obtained at 0.675 which indicates that 67.5% can be influenced by the self-efficacy variable (X1) and the creative project variable (X2), while the remaining 32.5% is influenced by other variables outside the

study. The R-Square value of the entrepreneurial motivation variable (Y) is obtained at 0.743 which indicates that 74.3% can be influenced by the self-efficacy variable (X1), the creative project variable (X2), and entrepreneurship education (Z), while the remaining 26.7% is influenced by other variables outside the study. So, the higher the R-Square value, the greater the ability of the independent variable to explain the dependent variable so that the better the structural equation.

Table 3. Outer Model Estimation

Construct	Item	Outer Loading	α	CR	AVE
Self-Efficacy	SE1.1	0.733	0.891	0.913	0.568
	SE1.2	0.702			
	SE2.1	0.804			
	SE2.2	0.772			
	SE2.3	0.765			
	SE3.1	0.814			
	SE3.2	0.742			
	SE3.3	0.689			
Creative Projects	PK1.1	0.682	0.864	0.898	0.597
	PK1.2	0.707			
	PK2.1	0.772			
	PK2.2	0.788			
	PK3.1	0.845			
	PK3.2	0.828			
Entrepreneurship Education	EE1.1	0.772	0.883	0.904	0.631
	EE1.2	0.768			
	EE2.1	0.791			
	EE2.2	0.794			
	EE3.1	0.819			
	EE3.2	0.821			
Entrepreneurial Motivation	MB1.1	0.796	0.873	0.911	0.611
	MB1.2	0.738			
	MB2.1	0.772			
	MB2.2	0.771			
	MB3.1	0.830			
	MB3.2	0.780			

Source: processed by researcher, 2024

Table 4. Discriminant Validity

Variable	Self-Efficacy (X ₁)	Creative Project (X ₂)	Entrepreneurship Education (Z)	Entrepreneurship Motivation (Y)
Self-Efficacy (X ₁)	0.754			
Creative Project (X ₂)	0.762	0.773		

Entrepreneurship Education (Z)	0.741	0.850	0.794	
Entrepreneurship Motivation (Y)	0.775	0.723	0.756	0.782

Source: processed by researcher, 2024

Table 5. Direct Effect Test

	Variable	Original Sample	T-Statistics	P-Values	Description
H₁	Self-Efficacy > Entrepreneurship Education	0.223	3.355	0.001	Accepted
H₂	Creative Project > Entrepreneurship Education	0.680	10.991	0.000	Accepted
H₃	Entrepreneurship Education > Entrepreneurial Motivation	0.357	3.241	0.001	Accepted
H₄	Self-Efficacy > Entrepreneurial Motivation	0.455	4.603	0.000	Accepted
H₅	Creative Project > Entrepreneurial Motivation	0.073	0.620	0.536	Rejected

Source: processed by researcher, 2024

Table 6. Indirect Effect Test

	Variable	Specific Indirect Effect	Description
H₆	Self-Efficacy > Entrepreneurship Education > Entrepreneurial Motivation	0.243	Accepted / medium influence
H₇	Creative Project > Entrepreneurship Education > Entrepreneurial Motivation	0.080	Accepted/small influence

Source: processed by researcher, 2024

DISCUSSION

Self-efficacy can affect entrepreneurship education of students of public vocational schools in Jember, with an initial sample value of 0.223, p-value of $0.001 < 0.005$, and t-statistic of $3.355 > 1.96$. Self-efficacy is proven to shape students' behavior and attitudes in carrying out entrepreneurship lessons and practices at school. The results of this study are in line with the research of Saoula et al., (2023) which explains that self-efficacy plays a significant role as a

driver of student behavior to gain knowledge about entrepreneurship. The results of research from Liu et al., (2019) added that self-efficacy plays a role in entrepreneurship education as shaping student behavior in managing, managing and practical skills in running a business. These findings are in line with the social cognitive theory proposed by Bandura in 1986. Social cognitive theory emphasizes the influence of the social environment, where individuals live, and the behavior of the surrounding community that influences individual actions (Zhang & Huang, 2021).

Creative projects are proven to influence entrepreneurship education with an initial sample value of 0.680, a p-value of $0.000 < 0.005$, and a t-statistic of $10.991 > 1.96$. Creative projects turned out to be useful in entrepreneurship education, especially in creating students who are creative and innovative towards problems in the business world. These results are in line with research from Jiatong et al., (2021) explaining that students who have a high level of creative thinking are more likely to choose a career in entrepreneurship. Creativity is about something new and innovative for those who have a creative mind are better able to articulate innovative ideas into reality which ultimately leads to entrepreneurial motivation (Raghunath et al., 2020). The results of Anjum et al.'s research, (2021) added that creative projects are needed to undergo entrepreneurship education. Creative projects can create more ideas for students to start an entrepreneurial practice (Kharimatuz Zahro et al., 2023).

Entrepreneurship education is proven to have an effect on entrepreneurial motivation with a t-statistic value of $0.357 < 1.96$, a p-value of $0.000 > 0.005$ and an original sample of 3,241. Entrepreneurship education is significant and positive to entrepreneurial motivation. The results of this study are in line with the results of previous research from Oosterbeek et al., (2020) showing that entrepreneurship education taught through practice and theory makes students understand what entrepreneurship is. In this way students are assumed to gain confidence and motivation, be proactive, creative and learn how to work to run entrepreneurship (Milliana et al., 2023). Research from Hassan et al., (2021) added that entrepreneurship education is very important in building students' entrepreneurial motivation.

Self-efficacy has a positive and significant influence on entrepreneurial motivation with a t-statistic value of $4.605 > 1.96$, an original sample value of 0.455 and a p-value of $0.000 < 0.005$. This strong belief encourages students to have the motivation to start running a business independently at public vocational high school students in Jember district. The results of the study are in line with research from Srimulyani & Hermanto, (2022) explaining that to become a successful person in entrepreneurship, it takes a strong sense of confidence to complete tasks well, balanced with strong entrepreneurial motivation. The results of research from Kromah et al., (2023) also added that self-efficacy affects the entrepreneurial motivation of students, especially students who have received entrepreneurship education. Entrepreneurship education that forms students with training, courses, and other activities can increase student self-efficacy.

Creative projects are proven to have no significant and negative influence on the entrepreneurial motivation of vocational high school students in Jember district with a t-statistic value of $0.620 > 1.96$, an original sample value of 0.073 and a p-value of $0.000 < 0.536$. With that, students need to be given further encouragement through creative projects to increase entrepreneurial motivation. Students are taught to develop in innovation, problem solving, and various entrepreneurial practices to increase entrepreneurial motivation. The insignificant and negative results of creative project research on entrepreneurial motivation are not in line with the results of research by Murniati et al., (2022) explaining the effect of creative projects on student entrepreneurial motivation to achieve new product results. The results of research from Paliwal et al., (2022) also added that creative projects can increase student entrepreneurship motivation amidst current technological developments. Students can utilize technology to produce an innovation that can become a new business.

Self-efficacy has a significant and positive influence on entrepreneurial motivation through entrepreneurship education with an indirect effect value of 0.243 . This shows that entrepreneurship education can mediate self-efficacy to entrepreneurial motivation. That is, the higher the level of student self-efficacy, the more likely students are motivated to become entrepreneurs, especially if students have a good entrepreneurship education background. The research results from Lv et al. (2021) added that self-efficacy is able to convince students to achieve success in business through entrepreneurship education in schools. Entrepreneurship education will teach students the skills and attitudes needed to independently develop a business in the future. Research from Andi Syahriana Asdar et al., (2024) & Hahn et al., (2020) added that high self-efficacy through entrepreneurship education can be a strong entrepreneurial motivation for students to start running a business independently.

Entrepreneurship education can mediate the effect of creative projects on entrepreneurial motivation with an indirect effect value of 0.080 with a small influence category. That is, creative projects contribute significantly to entrepreneurial motivation through entrepreneurship education. These results are in line with the results of research from Raghunath et al., (2020) creative projects developed through entrepreneurship education can increase students' entrepreneurial motivation. Entrepreneurial practices formed through creative project lessons are more likely to be followed by students (Fernández-Santín & Feliu-Torruella, 2020). Creative projects are a learning process for students to experience firsthand the entrepreneurial process in the field (Raghunath et al., 2020). Research results from (Kraus et al., 2023) explain that creative projects emphasize education more on improving students' skills in marketing products or services, managing money, and innovation. Entrepreneurship education teaches students to have entrepreneurial skills that match the development of the business environment (Banha et al., 2022; Mei et al., 2020).

CONCLUSIONS AND RECOMMENDATIONS

The results of this study show that self-efficacy has a positive significant effect on student entrepreneurship education. In addition, creative projects have a significant and positive influence on entrepreneurship education. Furthermore, entrepreneurship education has a significant and positive influence on entrepreneurial motivation. Self-efficacy has a significant and positive influence on entrepreneurial motivation. However, creative projects do not have a significant and negative influence on entrepreneurial motivation. This study also successfully tested the mediator role of entrepreneurship education on the relationship between self-efficacy and entrepreneurial motivation. The test results show that entrepreneurship education can be a mediator to encourage creative projects in increasing entrepreneurial motivation in public vocational students in Jember district.

This finding has very significant implications for the development of self-efficacy and creative projects through entrepreneurship education at the SMK Negeri level in Jember district. Self-efficacy and creative projects are proven to improve entrepreneurship education outcomes and encourage students to have motivation in entrepreneurship. This indicates that there needs to be further efforts to build students' confidence so that they begin to venture into business independently. Students are provided with opportunities through mentoring programs, coaching and opportunities for various ideas and experiences to improve self-efficacy and outcomes of creative projects in schools.

ADVANCED RESEARCH

Future researchers can analyze factors that influence entrepreneurial motivation with other variables such as family background, role model, social network, and so on. Future researchers can analyze the correlation of family backgrounds that have businesses and self-efficacy in increasing students' entrepreneurial motivation. In addition, the role model is very important in encouraging students to be enthusiastic in entrepreneurship lessons at school.

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