



How does Entrepreneurial Education Promote Medical Students' Entrepreneurial Orientation?

Lila Bismala^{1*}, Yayuk Hayulina Manurung², Dewi Andriany³, Gustina Siregar⁴ 

^{1,2,3,4}Universitas Muhammadiyah Sumatera Utara, Medan, Indonesia

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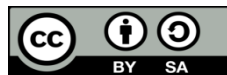
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ABSTRAK

Pendidikan kewirausahaan adalah suatu proses yang direncanakan secara matang yang mengarah pada perolehan kapasitas dan kompetensi kewirausahaan, dengan membekali peserta didik dengan pengetahuan, keterampilan, dan motivasi untuk mendorong keberhasilan kewirausahaan. Banyak tujuan yang ingin dicapai dengan menyelenggarakan pendidikan kewirausahaan, di antaranya adalah mempromosikan orientasi kewirausahaan. Namun pada kenyataannya, tidak banyak mahasiswa yang memilih karir sebagai entrepreneur, meskipun sudah memperoleh Pendidikan kewirausahaan. Orientasi kewirausahaan sangat penting dimiliki oleh wirausahawan, karena menunjukkan innovativeness, proactiveness dan risk taking. Penelitian ini bertujuan untuk meneliti bagaimana pendidikan kewirausahaan mempromosikan orientasi kewirausahaan. Dengan melakukan penelitian eksplanasi, peneliti bermaksud melakukan menguji pengaruh Pendidikan kewirausahaan terhadap orientasi kewirausahaan mahasiswa kedokteran. Penelitian dilakukan terhadap medical student yang mengambil blok kewirausahaan, dengan jumlah responden sebanyak 113 orang, di mana pengumpulan data dilakukan dengan kuesioner. Hasil penelitian menunjukkan bahwa pendidikan kewirausahaan mampu mempromosikan orientasi kewirausahaan pada medical student. Pengusaha yang memiliki orientasi kewirausahaan akan dapat mengidentifikasi peluang yang baru, menciptakan sumber daya berwujud dan tidak berwujud untuk inovasi dan peluang meluncurkan produk inovatif. Hal ini harus didukung oleh pendidikan kewirausahaan di mana kualitas penerapan standar, kurikulum dan metode Pembelajaran yang diterapkan yang mampu mempromosikan orientasi kewirausahaan Mahasiswa serta bagaimana penilaian terhadap aktivitas kewirausahaan.

ABSTRACT

Entrepreneurial education is a carefully planned process that leads to acquiring entrepreneurial capacity and competence, equipping students with the knowledge, skills, and motivation to drive entrepreneurial success. Many goals are achieved by organizing entrepreneurial education and promoting entrepreneurial orientation. In reality, only a few students choose a career as an entrepreneur, even though they have received an entrepreneurship education. Entrepreneurship orientation is crucial because it shows innovativeness, proactiveness, and risk-taking. This study aimed to examine how entrepreneurship education promotes entrepreneurial orientation. By conducting explanatory research, the researcher intends to investigate entrepreneurship education's effect on medical students' entrepreneurial orientation. The research was conducted on medical students who took the entrepreneurial block, with the number of respondents as many as 113 students, where data collection was conducted with questionnaires. The results were obtained that entrepreneurial education can promote entrepreneurial orientation in medical students. Entrepreneurs who have an entrepreneurial orientation will be able to identify new opportunities, create tangible and intangible resources for innovation, and opportunities to launch innovative products. It must be supported by entrepreneurship education in which the quality of the application of standards, curriculum, and learning methods can promote student entrepreneurial orientation and assess entrepreneurial activities.

1. INTRODUCTION

Entrepreneurs must have the ability to be proactive, take risks and be innovative, and run their businesses. It is known as entrepreneurial orientation, which is required to create competitive advantage and sustain initiatives by discovering new opportunities through future demands and developing and launching new products and services in the market (Cho & Lee, 2018). Entrepreneurial orientation is also often associated with the company's performance (Almeida et al., 2019; Hughes et al., 2007; Lumpkin & Dess, 2001; Wiklund & Shepherd, 2005; Zehir et al., 2015), where investigations are conducted on the entrepreneurial orientation of employees. It shows that entrepreneurial orientation is important not only

*Corresponding author.

E-mail addresses: lilabismala@umsu.ac.id (Lila Bismala)

for entrepreneurs but also for employees. Even for students, entrepreneurial orientation is very important, in addition to being capital in starting entrepreneurship, with the following characteristics: risk-taking, proactiveness, and innovativeness, which is also an important characteristic for strategic learning capability. Entrepreneurial orientation has become a key idea in the context of education with an innovativeness dimension (Al Mamun et al., 2017; Anderson et al., 2009; Gorostiaga et al., 2019; Mutlutürk & Mardikyan, 2018); risk-taking (Al Mamun et al., 2017; Anderson et al., 2009; Gorostiaga et al., 2019; Mutlutürk & Mardikyan, 2018), proactiveness (Al Mamun et al., 2017; Anderson et al., 2009; Gorostiaga et al., 2019; Mutlutürk & Mardikyan, 2018), competitiveness, achievement orientation, and learning orientation (Gorostiaga et al., 2019). But few still research the relationship between entrepreneurial education with entrepreneurial orientation. Previous research stated that the influence of entrepreneurial education on entrepreneurial orientation is mediated by self-efficacy (Muttutürk & Mardikyan, 2018). Meanwhile, individuals' entrepreneurial orientation moderates the relationship between entrepreneurial education and entrepreneurial intentions (Abubakar & Yakubu, 2019). It shows that research on entrepreneurial orientation positions entrepreneurial orientation as a moderator variable. However, entrepreneurial education was unrelated to entrepreneurial orientation (Cho & Lee, 2018). The research gap was that few had researched the direct influence of entrepreneurial education on entrepreneurial orientation, especially in the medical student environment. This research was conducted to fill its research gap. To meet these goals, the researcher revealed entrepreneurship education and orientation, their respective roles, and the relationship between entrepreneurship education and entrepreneurial orientation.

Education is the acquisition of knowledge, the process of developing abilities, attitudes, and other forms of behavior with positive values. Entrepreneurial education is a carefully planned process that leads to acquiring entrepreneurial capacity and competence, equipping students with the knowledge, skills, and motivation to drive entrepreneurial success (Tony, 2017). Entrepreneurial education encourages a variety of ways of thinking, enabling entrepreneurs to recognize new opportunities and implement their ideas in practical ways, creating an environment that encourages students to be entrepreneurial, including designing curriculums to meet students' needs for entrepreneurial training (Omer & Aljaaidi, 2020), can reduce the negative image of entrepreneurship and business failure (Cho & Lee, 2018). Entrepreneurial education is intended to prepare learners to enter the business world as a process by which to obtain some characteristics that will provide individual, social and economic benefits (Deveci & Cepni, 2017; Liu et al., 2019) and also the skills for students to be: more creative, highly motivated, proactive, self-aware, confident, open to challenges, communicate better, become decision-makers, leaders, better negotiators, problem solvers, work in teams, think systematically, are less dependent, can live with uncertainty and identify opportunities (Martin & Iucu, 2014). Common challenges for entrepreneurship programs are providing students with a meaningful entrepreneurial experience and developing the entrepreneurial network needed to start a new business (Erickson & Laing, 2016). Some schools develop short courses, typically one semester, to address these obstacles, to start student-run companies, offering some realistic experience, fraught with issues, such as low levels of available funding, risk, and a short period to see ventures pay off (Erickson & Laing, 2016). Students from non-business courses often have very interesting ideas. However, they must be better trained in sales and marketing (Martin & Iucu, 2014). They tend to be product-oriented in their business approach and must understand that innovative products will only be useful if the market needs them.

As in education in general, some important elements for its success are lecturers (Bismala, 2020), teaching materials, and learning methods (Bismala, 2020), similarly in entrepreneurial education. Quality of lecturers (Küttim et al., 2014), entrepreneurial climate (Kim et al., 2018; Martin & Iucu, 2014), quality of standard and curriculum implementation (Deveci & Cepni, 2017; Din et al., 2016; Martin & Iucu, 2014), as well as assessment (Ramkissoo-babwah, 2012), is an important element in entrepreneurial education. An assessment of entrepreneurial education organized by an institution is essential to assess its success in various respects, such as improving skills, characteristics, personality, and achievements. Three dimensions of entrepreneurial orientation, including risk-taking, proactiveness, and innovativeness, have contributed to strategic learning capability. Strategic knowledge is generated through experimental actions and exploration attached to entrepreneurial behavior. With innovation and proactivity as a dimension of entrepreneurial orientation, including invention and discovery at the strategic stage, it is logically consistent that strategic orientation will be the new form of awareness created by entrepreneurial orientation (Anderson et al., 2009). Research on the impact of entrepreneurial education on entrepreneurial orientation is important. The common problem is that although medical students follow entrepreneurial education, their entrepreneurial orientation still tends to be below, so they have yet to dare to take the opportunity to start entrepreneurship. They choose to work according to their educational context, while many entrepreneurship prospects focus on medical research. Given that there

is a significant potential to develop new, innovative medical goods and services, the study needs to consider the degree to which entrepreneurial education can encourage the entrepreneurial orientation of medical students. This research is important to evaluate the entrepreneurial education held in the medical faculty so that it can ultimately promote entrepreneurial orientation and increase the number of entrepreneurs among medical students. This research is expected to provide enlightenment related to the achievement of entrepreneurial orientation in medical students so that the study program can plan an entrepreneurial curriculum that can encourage entrepreneurial orientation. So far, research on entrepreneurship education is generally carried out on students in social, economic, and business study programs, never before on medical students. In addition, previous studies that examined the effect of entrepreneurial orientation on entrepreneurial education used mediating variables, such as self-efficacy, and used moderating variables for entrepreneurial orientation. So the purpose of this study is to analyze entrepreneurial education's effect on medical students' entrepreneurial orientation. Researchers believe that entrepreneurial education is an important trigger and influences entrepreneurial orientation. So this study aims to examine and analyze the effect of entrepreneurial education on entrepreneurial orientation.

2. METHODS

This research design is quantitative, which aims to confirm the research hypothesis, in which the design is presented by building phenomena, formulating hypotheses, developing sizes, choosing analytical techniques, and planning data collection (Corner, 2002). The nature of this research is explanatory, which aims to describe and explain the relationship between variables. Researchers collected data on medical students who studied the block of entrepreneurship at the University of Muhammadiyah North Sumatra by survey method. The declared valid and reliable instruments were then given to students as the research samples in the form of a google form, and the total of respondents' data was 113. In this research, they were given two days to complete the questionnaire according to the instructions. After completing the questionnaire, the researcher checked and tabulated it so that they could perform further data processing. The researcher then processed the data using SPSS 24.0 software, using data analysis techniques like descriptive statistics (frequency and percentage) and regression analysis. The level of significance in this study is 5%. The characteristics of respondents are presented in Table 1.

Table 1. Characteristics of Respondents

Characteristics		Frequency	Percentage
Age	20	54	48%
	21	53	47%
	22	6	5%
Gender	Male	39	35%
	Female	74	65%

From the data collection, it was found that the respondents consisted of 39 men (35%) and 74 women (64%) who followed the entrepreneurial block. In terms of age, 54 students aged 20 years (48%), 53 people aged 21 years (47%), and 6 people aged 22 years (5%). It is based on the importance of assessment of the influence of entrepreneurial education on the entrepreneurial orientation of medical students because the potential for developing innovative products and services is generally sourced from the medical field. Due to the large number of populations, the researchers decided to make the entire population a sample. The instrument was developed with a total of 26 questions using the Likert scale of 5 alternative answers used in the system (with a scale of five which includes: strongly agree (5), agree (4), disagree (3), disagree (2), strongly disagree (1). The instrument grid is presented in Table 2.

Table 2. Instruments Grid

Variables	Dimension	Number of Items	Validity
Entrepreneurial Education	1. Quality of lecturers	4	Valid
	2. Entrepreneurial climate	3	Valid
	3. Quality of standard application and curriculum	6	Valid
	4. Assessment	3	Valid

Variables	Dimension	Number of Items	Validity
Entrepreneurial orientation	5. Risk-taking	3	Valid
	6. Creativity and innovation	4	Valid
	7. Proactiveness	3	Valid

The reliability test result for the entrepreneurial orientation variable is 0.739 and proves the research instrument's reliability. The reliability test result for the entrepreneurial education variable is 0.844, proving the research instrument's reliability. Data analysis was performed using linear regression with the help of the SPSS Version 24 program.

3. RESULT AND DISCUSSION

Results

Entrepreneurship education is very important to foster an entrepreneurial orientation. It has been widely applied, no longer dominated by students from the socio-economic field, but has been applied to the medical field. It is very important because its orientation can also be used to solve problems faced at work. In short, entrepreneurship education implemented in universities, especially the medical faculty, should be able to promote the entrepreneurial orientation of students. Entrepreneurship Education is assessed from several dimensions: the quality of lecturers, entrepreneurial climate, curriculum quality, and assessment. The results of a survey conducted to assess entrepreneurship education obtained by medical students are presented in [Table 3](#).

Table 3. Overall Entrepreneurship Education dimensions score

Dimensions	Mean		
Entrepreneurial Education	Quality of Lecturers		
	Entrepreneurship lecturers master their field of knowledge	4.4690	
	S/he has much experience in the field of entrepreneurship	4.3628	
	S/he is open-minded	4.4425	
	The explanation given can open the students' mindset	4.3894	
	Entrepreneurial Climate	The entrepreneurial climate on campus encourages the emergence of entrepreneurial interest	4.3451
		Support from lecturers in the form of entrepreneurial guidance	4.3982
		Entrepreneurial competition is as university support	4.4248
		Quality of Standard Application And Curriculum	The learning method used requires students to be active in entrepreneurial activities
	The material given enables to grow of students' interest in entrepreneurship		4.3805
	Material given can grow entrepreneurship's orientation (proactive, creativity, innovation, and risk-taking)		4.3540
	The students can understand the material		4.3982
	The lecturers teach interactively		4.4159
	The students are introduced to the real business situation.		4.4071
	assessment		
	The assessment is carried out on students' skills in creating a business plan		4.3628
	The assessment is carried out on students' skills in starting the new business		4.3540
	The assessment is carried out on students' skills in following the entrepreneurship competition		4.2301

This orientation is needed by entrepreneurs, workers, students, and other fields of work. With a high entrepreneurial orientation, someone will dare to take risks, have creativity and innovation, and have a pro-active attitude, where all these dimensions are needed when someone does work. The results of a survey conducted to assess the entrepreneurial orientation of medical students are presented in [Table 4](#).

Table 4. Overall Entrepreneurship Orientation dimensions score

	Dimension	Mean
Entrepreneurial orientation	Risk-taking	
	Understanding of the risks when they run a business	4.3009
	The courage to take risks in running a business	4.3628
	Ability to take anticipatory action against risks	4.2478
	creativity and innovation	
	Ability to create educational-based creative ideas that are being pursued	4.3009
	Ability to learn from mistakes	4.2566
	The ability to create product/service innovations stems from issues that are currently being discussed	4.2832
	Ability to create high-value products	4.2566
	proactiveness	
	Ability to initiate product/service creation	4.3451
Ability to take initiatives related to business opportunities	4.3894	
Ability to enter the target market segment	4.3717	

Based on the results of the total score for the dimensions of entrepreneurial orientation, it is known that the proactive-ness dimension has the highest score of 4.3687, as shown in Table 5. While the results of the total score for the dimensions of entrepreneurship education, the dimension of quality of lecturers has the highest score of 4.4159, as shown in Table 5.

Table 5. Total Entrepreneurial Education and Entrepreneurial Orientation

Variables	Dimension	Mean
Entrepreneurial Education	quality of lecturers	4.4159
	entrepreneurial climate	4.3893
	quality of standard application and curriculum assessment	4.3849
Entrepreneurial orientation	risk-taking	4.31356
	creativity and innovation	4.3038
	proactiveness	4.2743
		4.3687

To assess the role of education in promoting entrepreneurial orientation, researchers conducted data processing using regression analysis with the help of the SPSS 24.0 program. The regression analysis results using SPSS 24.0 for the windows program showed that the t value was 4.469 with a Sig value. .000, which means there is a significant influence between entrepreneurial education and entrepreneurial orientation. Meanwhile, the R Square value is 0.152, meaning the influence exerted is 15.2%.

Discussion

The results of this study support research, where entrepreneurial education influences two dimensions of entrepreneurial orientation, namely innovation and proactivity (Marques et al., 2018). Entrepreneurship education influences many things, such as entrepreneurial intentions, orientation, entrepreneurial competencies, and various things that contribute to the development of entrepreneurship in general. Combining the competence of academics and practitioners in teaching entrepreneurship, learning outcomes will be more effective. The exposure to success stories, starting a new business, and ways to solve problems in business certainly become very interesting lessons. With entrepreneurship education, it is expected to be able to form and improve entrepreneurial orientation. Entrepreneurial orientation reflects the extent to which innovativeness, proactiveness, and risk-taking have in one's behavior. Innovation, or the ability to engage and support new ideas through experimentation and creativity, can result in new products or services (Nair et al., 2020). The innovative ability possessed by students will lead to efforts to create new businesses, solve problems and overview the problems from a different perspective. In this case, it makes problems into opportunities. Proactively approaches profitable projects and first trends by predicting and seeking emerging prospects and taking leadership and initiatives (Vukosi & Thembie, 2018). Proactivity requires the desire and willingness to think, take the initiative to respond to future situations and threats, and show a forward-looking perspective accompanied by innovative activities (Okhomina, 2010). While risk-taking is the potential to take risks as an entrepreneurial movement toward decision-making with insufficient knowledge and uncertain

outcomes in an unpredictable climate (Abdulwahab & Al-damen, 2015), risk-taking is needed to make risky choices faced in increasingly fierce competition. Courage in taking risks will certainly be balanced with the ability to analyze strategic choices. Entrepreneurship education will certainly provide knowledge, understanding, and competence on how students can foster innovation, being proactive and risk-taker. Entrepreneurial education must build the best beliefs, motivations, intentions, and grit to cope with a loss to succeed and win again, exceeding the focus of other companies (Welsh et al., 2016). Entrepreneurial education's performance is the responsibility of entrepreneurial lecturers and the importance of teamwork in learning preparation, delivery, and assessment, stressing qualitative and comprehensive methods (Marliyah et al., 2018). The quality of lecturers, according to students, is assessed from the student's view of quality, degree, experience, disposition, and mindset (Ginsburg & Smith, 2014). The support institutions judge the entrepreneurial climate provided to develop student entrepreneurship. The quality of the implementation of standards and curriculum can be assessed by how learning methods are applied to promote students' entrepreneurial orientation and how to assess entrepreneurial activities.

The best way to motivate students to learn entrepreneurship is to present examples of successful entrepreneurs so they can learn the process when entering the business (Martin & Iucu, 2014). Practical assignments and teaching tend to be preferred in entrepreneurial teaching rather than traditional class-based approaches (Nieuwenhuizen et al., 2016). The program should be aimed at acquiring skills for students to be: more creative, highly motivated, proactive, self-conscious, confident, open to challenges, communicate better, become decision-makers, leaders, better negotiators, problem solvers, work in teams, think systematically, are less dependent, can live with uncertainty, can identify opportunities (Martin & Iucu, 2014). An entrepreneur must have management and technical knowledge to discover new business opportunities while reading about market and community changes and have a creative entrepreneurial spirit for business activities that have a long-term vision and insight to make decisions about the market in the future (Cho & Lee, 2018). Entrepreneurs with an entrepreneurial orientation can identify new opportunities and create tangible and intangible resources for innovation and opportunities to launch innovative products (Cho & Lee, 2018).

Entrepreneurial orientation impacts business performance (Wiklund & Shepherd, 2005; Sheikh & Ali, 2014; Zehir et al., 2015; Hernández-Perlines & Rung-Hoch, 2017), and this is supported by (Effendi et al., 2013). However, the role of government as a moderator variable, managerial competence as an intervening variable, and the relationship between business orientation and the performance of SMEs (Effendi et al., 2013). It proves the importance of building an entrepreneurial orientation for SMEs. Meanwhile, on the other hand, entrepreneurial orientation is a moderating variable between corporate social responsibility and the performance of family companies (Hernández-Perlines & Rung-Hoch, 2017). The impact of entrepreneurial orientation on business performance is so great that it demands entrepreneurship education to grow and improve entrepreneurial orientation. Proactiveness has the highest score among other dimensions of entrepreneurial orientation, which indicates that medical students have a proactive attitude. A proactive attitude is needed by medical students, whether to start the entrepreneurial process or not. In the medical field, a proactive attitude shows how individuals react to the medical cases they face, requiring quick and appropriate decisions. From entrepreneurship education, the dimension of quality of lecturers has the highest value, meaning that students perceive that lecturer who teaches entrepreneurship education in the entrepreneur block already have the appropriate competence. The quality of lecturers is very important because it is related to the ability of lecturers to transfer knowledge and ensure that students can understand and even implement entrepreneurship in practice. The role of the lecturer is not just a teacher but also facilitates the realization of student entrepreneurial activities. Future research needs to be done on the influence of entrepreneurial education on business management skills. Also, it is necessary to pay attention to other ways of promoting entrepreneurial orientation apart from entrepreneurship education and conducting research on students from engineering study programs. Because it has great opportunities to create innovative products, this research's limitation is that the instruments used to measure the variables need to be more comprehensive in the hope that further research will be able to apply more instruments to measure the variables of entrepreneurship education and orientation and carry out action research to assess their impact on entrepreneurial orientation.

4. CONCLUSION

Entrepreneurship education aims to improve students' skills, competencies, and entrepreneurial orientation. If students have an entrepreneurial orientation, then it is expected that they will be able to start a new business. The results showed that entrepreneurial education is influential in promoting entrepreneurial orientation. Entrepreneurship education must be designed to promote entrepreneurial

orientation, competence, and other entrepreneurial skills to create new entrepreneurs. Entrepreneurial orientation needs to be cultivated not only after students accept entrepreneurship education, but the curriculum needs to integrate entrepreneurial orientation values in every subject they learn so that they have an entrepreneurial orientation in all their activities.

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