Effect of Entrepreneurship Education on the Entrepreneurship Intention of Pre-Service Teachers in Vocational Technical Education

Indah Widiastuti*, Fitri Nopita Sari, Suharno
Suharno

Mechanical Engineering Education Department, Universitas Sebelas Maret Surakarta, Surakarta, Indonesia
*Email: indahwidiastuti@staff.uns.ac.id

ABSTRACT
Entrepreneurship education focuses on fostering and using entrepreneurial attitudes and abilities in specific situations for starting new firms, expanding already-existing ones, or creating new initiatives. Using a case study on 163 student vocational engineering teacher candidates, this study intends to explore the impact of entrepreneurship education on entrepreneurial intention. The study's participants were 2017 intake student teachers at a state institution in Central Java studying mechanical, civil, and informatics engineering. This study's findings showed no association between entrepreneurship education and entrepreneurial inclinations, as shown by a tailed value larger than .05. It is intended that the findings of this research will be used to help create more effective entrepreneurship education resources, particularly for university institutions.

Keywords: *entrepreneurship education, entrepreneurial intention, correlation*

1. INTRODUCTION

Entrepreneurship is seen as a key component of the national economy's expansion. In general, people view entrepreneurship as a source of adaptability and creativity and a promising avenue for personal career advancement and employment creation [1]. In many nations, entrepreneurship education is becoming an essential part of the curriculum as a response to this situation [2]. In a competitive marketplace, the capacity to commercially exploit novel ideas is at the heart of entrepreneurship. Because of this, the necessity of encouraging entrepreneurial activity is emphasized in education and lifelong learning policy.

It is thought that one of the best ways to encourage entrepreneurial activity is to incorporate entrepreneurship into vocational education [1]. Students who pursue vocational education specifically develop their abilities and get ready to do a certain job. The idea of entrepreneurship is tied to both individual conduct at work and the process of creating new jobs. From this perspective, entrepreneurship in vocational education entails an amendment to the current schooling structure. Entrepreneurship education in vocational programs must be able to turn out graduates with creative and inventive life skills. Therefore, the goal of entrepreneurship education is to foster an entrepreneurial mindset that is capable of acting quickly in response to the environment's changing conditions. Therefore, entrepreneurship education must encourage students to think creatively and develop innovation through active involvement in entrepreneurial and managerial aspects rather than relying solely on theoretical lectures.

Teacher preparation should be the first step in any changes to the school system's entrepreneurship education program. Teachers are expected to be entrepreneurs in addition to being sources of knowledge [3]. According to Gustafsson-Pesonen and Remes [4], one of the main barriers to the success of entrepreneurship education has been demonstrated to be teacher attitudes. Therefore, the implementation of teaching entrepreneurship in the classroom is greatly influenced by how prepared teachers are in this area. Silva [5] made a similar statement, stating that educators should be familiar with the definition of entrepreneurship as well as how to put it into reality. As a result, teachers need to understand entrepreneurship education well and exhibit entrepreneurial conduct.

Entrepreneurial behavior tendencies can be predicted using entrepreneurial intention. According to the Theory of Planned Behavior, intention refers to a person's

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capacity to engage in a behavior. An individual's knowledge and commitment to starting a new firm can be characterized as entrepreneurial intention [6, 7]. Formally stated entrepreneurship education may influence and support entrepreneurial intents as part of the contextual context that affects entrepreneurial attitudes and behaviour [8]. A number of studies demonstrate how positive perceptions of entrepreneurship education influence a stronger willingness to establish their own company in the future [8, 9]. According to Schwarz, et al. [8], educational institutions can help people develop their desire to start their own businesses. A supportive environment for entrepreneurship in the classroom, on the other hand, has been identified by Autio, et al. [10] as one of the elements that affect students' career decisions and future interest in entrepreneurship.

Analyzing how entrepreneurship education in the education of prospective teachers affects entrepreneurial intentions is required in order to assess the entrepreneurial behavior of these individuals. In the vocational engineering teacher candidate education program, this study attempts to understand how students perceive entrepreneurship education and what impact it has on their entrepreneurial goals. In an effort to raise the standard of entrepreneurship education in vocational education, understanding entrepreneurial behavior in the education of future teachers will contribute to theories and models of entrepreneurship and make recommendations.

2. RESEARCH METHOD

With case studies from a teacher education program at a state university in Central Java, Indonesia, this study will analyse the impact of entrepreneurship education on the entrepreneurship intentions of prospective teachers in the engineering subject. From 190 student teacher candidates for the class of 2017, respondents for this study were chosen. However, 14 students declined to complete the questionnaire, resulting in the collection of a completed instrument from 163 students, including information on 63 students from the Mechanical Engineering Education study program, 62 students from the Building Engineering Education study program, and 51 students from the Informatics Education study program.

An instrument in the form of a questionnaire was used to conduct the research utilizing this quantitative technique for data gathering. Using 12 questions adapted from Morselli [11] and Handayati, et al. [12], the variable indicator of entrepreneurship education is measured, while the variable indicator of entrepreneurial intention uses 5 questions adapted from Davidsson [13]. This survey utilized a Likert scale with five possible responses and the scoring methodology shown in Table 1.

Table 1. Score for Answer Choice

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Score	1	2	3	4	5

On the basis of a pilot study including 53 pre-service teachers from the 2018 class, the product moment technique's validity was examined with a significance value of 5%. If an item has r counts larger than r tables, it is considered legitimate. The validity test results revealed that every question on the study instrument appeared to be valid, with an r count ranging from 0.298 to 0.866.

While Cronbach's alpha value was calculated for the reliability test. The instrument was considered reliable because the calculated Cronbach's alpha values for entrepreneurship education and entrepreneurial intention were 0.924 and 0.768, respectively.

In this study, descriptive analysis was utilized to describe how prospective teacher students perceived entrepreneurial education. The correlation between entrepreneurship education and the entrepreneurial intentions displayed by prospective vocational engineering teacher students was then examined using statistical methods for hypothesis testing.

3. RESULT

3. 1 Perceptions of Entrepreneurship Education

The investigation of the 164 respondents' responses to the 12 questions produced results with a maximum score of 60, a median of 44, and a mode of 48. Table 2 displays the distribution of attitudes toward entrepreneurial education.

The statement "entrepreneurship education provides benefits for the provision of being an entrepreneur" was strongly and generally agreed upon by 124 respondents (75.6%). However, fewer respondents—72 respondents, or 44.9%—felt that the statement "the learning method applied made me understand the concept of entrepreneurship" was true.

Table 2. Trends in Entrepreneurship Education

Score	F	Relative Frequency
$X \leq 48$	38	23.17%
$40 \leq X < 48$	96	58.54%
$32 \leq X < 40$	28	17.07%
$24 \leq X < 32$	2	1.22%
$X < 24$	0	0.00%
	164	100%

3. 2 Entrepreneurial Intention

Four items make up the questionnaire on entrepreneurial intent, and each has a score range between 0 and 1. The study performed using SPSS version 23 produced findings with the highest score of 4 and mode 3. The distribution of entrepreneurial inclinations is shown in Figure 1.

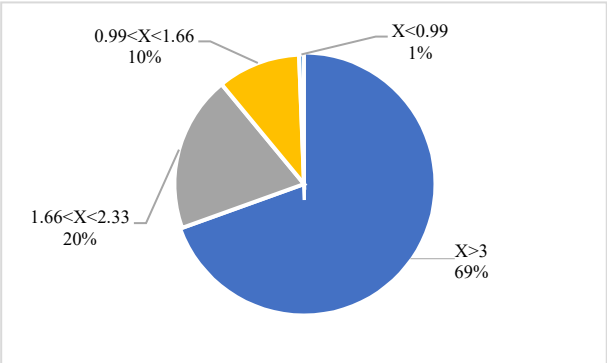

Figure 1 Diagram of entrepreneurial intention

The findings revealed that 117 respondents (71.3%) indicated that starting their own business was what they anticipated doing when they finished their education. In contrast, 161 respondents (98.2%) responded "Yes" to the second question about whether they will one day open their own businesses. It is known that 92 respondents (56.1%) selected "Yes" in response to the third question about the desire to start a business in the near future (within the next two years). 103 respondents (62.8%) responded "Yes" to the next question, which asked if they thought they might start a business within the next 2 to 5 years.

3. 3 Hypothesis Testing on the Impact of Entrepreneurship Education

A prior test for data analysis was conducted with a linearity test and a normality test before the hypothesis in this study was put to the test. The above normality test findings showed that the data was normally distributed because the Kolmogorov-Smirnov significance value was 0.2, which had a significance value of larger than 0.05. The Test of Linearity value of 0.621 indicates that the relationship between entrepreneurial education (X) and entrepreneurial intentions (Y1) was linear.

A correlation test was used to examine the premise that there is a relationship between entrepreneurship education and entrepreneurial intentions. The correlation test reveals that the influence of entrepreneurship education on entrepreneurial inclinations has a significant value of 0.558. With a Pearson correlation of 0.046, this number is higher than 0.05. Therefore, it was determined that there was no correlation between entrepreneurship education and entrepreneurial intentions, contradicting the first hypothesis of this study.

4. DISCUSSION

Based on the results of the current study, 96 respondents (58.54%) fall into the high category for the entrepreneurial education variable. This demonstrates that entrepreneurship education among students enrolled in vocational engineering education programs was adequate for students in terms of both teaching strategies and lecturers.

Although the majority of students had favourable opinions of entrepreneurship education, this does not change the desire to start their own businesses. It's possible that students are just interested in entrepreneurship courses in order to pass them with high marks without ever planning to pursue entrepreneurship themselves. According to earlier studies [14-16], there was no significant effect of entrepreneurship education on entrepreneurial inclinations. This is supported by the findings of the aforementioned study. The theory of planned behaviour demonstrates how entrepreneurial intents are influenced by entrepreneurial attitudes, arbitrary standards, and perceived behavioural control in the context of entrepreneurship education research. Through entrepreneurship education, factors like personal background, motivations, family background, and environmental influences can all have an impact on one's intention to start a business [17].

According to Jones and English [18], project-based learning is one of the action-oriented teaching strategies that may be used to promote project-based learning and foster student entrepreneurial ambitions. Reading assignments, class discussions, company plans, real-world examples from famous entrepreneurs, and scheduling guest lectures from local business owners are the most popular techniques. Increased entrepreneurial knowledge and motivation to create jobs rather than seek them out are the goals of entrepreneurship training for recent graduates. Managing current resources, gaining new resources, finding existing possibilities, and generating new opportunities are all necessary components of entrepreneurship education as stated by Klein and Bullock [19]. Entrepreneurship education should to focus on educating people—especially young people—to be responsible, to become active entrepreneurs or entrepreneurial thinkers, and to contribute to the sustainable growth of the economy and society.

5. CONCLUSIONS

It is concluded that prospective teacher students have a positive view of the entrepreneurial education offered during their teacher education program. Engineering-related candidates for vocational teaching positions

reported that the lecturers and teaching strategies used in their entrepreneurial education classes were adequate. Even if these pre-service teachers had strong ambitions to start their own businesses, this study demonstrates that there was no correlation between entrepreneurship education and entrepreneurial intentions. The findings of this study suggest that learning strategies that support entrepreneurial goals should be evaluated.

AUTHORS' CONTRIBUTIONS

Indah Widiastuti: conceptualization, methodology, writing – review, and editing

Fitri Nopita Sari: investigation, writing – original draft

Suharno: supervision, writing – review, and editing

REFERENCES

[1] K. van Dam, M. Schipper, and P. Runhaar, Developing a competency-based framework for teachers' entrepreneurial behaviour, Teaching and Teacher Education, 26(4), pp. 965 - 971, 2010. DOI: https://doi.org/10.1016/j.tate.2009.10.038

[2] I. s. Deveci and J. Seikkula-Leino, A Review of Entrepreneurship Education in Teacher Education, Malaysian Journal of Learning and Instruction, 15 (1), pp. 105-148, 2018. DOI: https://doi.org/10.1177/2515127420917355

[3] M. Johnson, New roles for educators, Milken Family Foundation.

[4] A. Gustafsson-Pesonen and L. Remes, Evaluation of entrepreneurial development coaching: Changing the Teachers' thinking and action on entrepreneurship, Annals of Innovation & Entrepreneurship, 3(1), 2012. DOI: 10.3402/aie.v3i0.17292

[5] M. C. V. Silva, Teachers training and entrepreneurship: Challenges ın supervısors work, Proceedings Book for the Conference on Enabling Teachers for Entrepreneurship Education (ENTENP), Portugal, 2013

[6] S. K. Gilmartin, M.E. Thompson, E. Morton, Q. Jin, H.L. Chen, A. Colby, S.D. Sheppard, Entrepreneurial intent of engineering and business undergraduate students, Journal of Engineering Education, 108(3), 2019, pp. 316-336. DOI: https://doi.org/10.1002/jee.20283

[7] K. M. Hmieleski and A. C. Corbett, Proclivity for Improvisation as a Predictor of Entrepreneurial Intentions, Journal of Small Business Management, 44(1), 2006, pp. 45-63. DOI: https://doi.org/10.1111/j.1540-627X.2006.00153.x.

[8] E. Schwarz, M. Wdowiak, D. Almer-Jarz, and R. Breitenecker, The Effects of Attitudes and Perceived Environment Conditions on Students' Entrepreneurial Intent, Education + Training, 51(4), 2009, pp. 272-291. DOI: 10.1108/00400910910964566.

[9] N. Franke and C. Lüthje, Entrepreneurial Intentions of Business Students: A Benchmarking Study, International Journal of Innovation and Technology Management, 1(3), 2004, pp. 269-288. DOI: 10.1142/S0219877004000209

[10] E. Autio, R. Keeley, M. Klofsten, G. Parker, and M. Hay, Entrepreneurial Intent Among Students in Scandinavia and in the USA, Enterprise and Innovation Management Studies, 2(2), 2001, pp. 145-160. DOI: 10.1080/14632440110094632.

[11] D. Morselli, The Assessment of Entrepreneurial Education, The Change Laboratory for Teacher Training in Entrepreneurship Education, Springer: SpringerBriefs in Education, 2019.

[12] P. Handayati, A. Wibowo, B. S. Narmaditya, D. D. Kusumojanto, A. B. Setiawan, and D. T. Tung, The university students enterprises development: Lesson from Indonesia, Cogent Education, 8(1), pp. 1973286, 2021. DOI: 10.1080/2331186X.2021.1973286.

[13] P. Davidsson, Determinants Of Entrepreneurial Intentions, Jonskoping International Business School, 15(22), 2022, pp. 274-285. DOI: https://doi.org/10.20473/jmtt.v15i2.36537

[14] F. Alain, B. Gailly, and N. Lassas-Clerc, Effect and Counter-Effect of Entrepreneurship Education and Social Context on Student's Intentions, Estudios de economía aplicada, 24(2), 2006, pp. 509-524.

[15] G. Graevenitz, r. weber, and D. Harhoff, The Effects of Entrepreneurship Education, Journal of Economic Behavior and Organization, 76(1), 2020, pp. 90-112. DOI: https://doi.org/10.1016/j.jebo.2010.02.015

[16] N. Peterman and J. Kennedy, Enterprise Education: Influencing Students' Perceptions of Entrepreneurship, Entrepreneurship Theory and Practice, 28(2), 2003, pp. 129-144. DOI: 10.1046/j.1540-6520.2003.00035.x.

[17] P. Sieger, U. Fueglistaller, and T. Zellweger, Entrepreneurial Intentions and Activities of Students Across the World. International Report of the GUESSS Project 2011. 2011.

[18] C. Jones and J. English, A contemporary approach to entrepreneurship education, Education + Training, 46(8/9), pp. 416-423, 2004. DOI: 10.1108/00400910410569533.

[19] P. Klein and J. Bullock, Can Entrepreneurship Be Taught?, Journal of Agricultural and Applied Economics, 38(2), 2006, DOI: 10.1017/S107407080002246X.