



DO ENTREPRENEURIAL EDUCATION AND TRAINING IMPACT ON ENTREPRENEURIAL SKILLS-BASED ECOPRENEURSHIP?

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ABSTRACT

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This paper examines the effect of entrepreneurship education and training on entrepreneurial skills of ecopreneurship students at public vocational secondary schools. This study applied a quantitative research method using analysis regression model to examine the relationship between variables. The population of the study was students in the second grade of vocational school in Jakarta, and the sample was about 200 students gathered using purposive random sampling. The data was taken using a questionnaire following a Likert scale. The findings showed that there is a correlation between entrepreneurship education and entrepreneurial skills. Entrepreneurship training positively affects entrepreneurial skills. Entrepreneurship education and entrepreneurship training have an influence on entrepreneurial skills based on students'. Based on these findings, schools are expected to improve the quality of learning through more innovative entrepreneurial materials oriented towards ecopreneurship to enhance students' entrepreneurial mindset. In addition, schools are expected to hire experienced training mentors in the field of environment-based entrepreneurship so that the training will be of a higher standard.

Contribution/Originality: The paper's primary contribution is finding that education, entrepreneurship training lead to entrepreneurship skills-based ecopreneurship. This research can also be used for stakeholders to improve entrepreneurship education at senior high schools.

1. INTRODUCTION

Research examining the impact of entrepreneurship education receives special attention from academics in various parts of the developed and developing countries (Kuratko, 2005; Cheng *et al.*, 2009; Othman and Nasrudin, 2016; Wibowo *et al.*, 2018).

Entrepreneurship education forms not only the basis of students' knowledge of entrepreneurship but also provides them with business skills to create prosperity for their country (Purwana and Suhud, 2017). Some studies concluded that the role of entrepreneurship education is increasingly dense and complicated because entrepreneurial

skills should be developed appropriately (Collins *et al.*, 2006). Through effective entrepreneurship education, leadership skills, communication, and managing a business can be taught to students.

The urgency of entrepreneurship education and training in Indonesia has received serious attention. The 2013 curriculum was developed by future competencies and the rise of the creative industries (Kemendikbud, 2014). The implementation of entrepreneurship in the curriculum is also based on the number of entrepreneurs in Indonesia, which is still 3.1 percent of the total population (Kominfo, 2017). In comparison, the number of entrepreneurs in Malaysia is 5 percent, while Japan and the United States are at 10 percent (Kominfo, 2017).

Several schools in Indonesia train their students to have environmental-based entrepreneurship skills which is also known as ecopreneurship. Ecopreneurship is an environmentally friendly skillset, where skills and creativity become one of the drivers to be able to create innovative products (Hussain, 2017). In order to produce higher quality products, today's global challenges are not only focused on profit but are environment focused.

Ecopreneurship was first introduced at the Harvard Business Review 1970 mentioning that ecology movement could be profitable (de Bruin, 2016).

The ecopreneur study was developed by Pastakia (1998) in response to market disruption in dealing with the negative ecological impacts caused by industry. Isaak (2017) designed a literature study on ecopreneurs as a social activity in the proactive environment-oriented business sector. In addition, it has been argued that the adverse effects caused by industry could be reduced through ecopreneurs. Isaak (2017); McEwen (2013); Anih (2015) stated that ecopreneurship education is a planned effort to create an atmosphere of learning and learning processes so that students have the knowledge, attitudes, and skills needed to become entrepreneurs who care about the environment, develop innovation to overcome environmental problems, and exploit the opportunities that exist in the atmosphere by paying attention to its sustainability. Anih (2015) concluded that ecopreneur-based entrepreneurship education trains students to have ecopreneur skills.

Soedjiran *et al.* (1984) suggested that ecopreneurship is the ability to think creatively and innovatively to create something new and different businesses by utilizing opportunities that exist around the environment and made into products that can generate profits. In addition, Archana and Nehajoan (2014) stated that green businesses are models that can help show the way to increase productivity while reducing resource use in a manner that is harmonious with human health, and the sustainability of non-human species as well. Galkina and Hultman (2016) showed that ecopreneurship is the practice of starting a new business in response to an identified opportunity to earn a profit and provide (minimize) a positive or negative environmental externality.

Arien (2012) assumed that green innovations are new technical improvements or administrative practices for improving the natural environmental performance and competitive advantages of an organization. These experts agree that ecopreneurship is a business activity that is not only profit-oriented but strongly emphasizes environmental aspects to be conserved as a response to minimize adverse environmental impacts.

Gibb (1993) argued that the process of entrepreneurship includes behaviors, skills, and attributes belonging to a person in entrepreneurial education. Suryana (2006); (Polas *et al.*, 2019) stated that the qualifications that must be possessed by entrepreneurs include:

- 1) Conceptual skills in managing strategies and calculating risks.
- 2) Creative skills in creating added value.
- 3) Skills in leading and managing.
- 4) Communication and interacting skills.
- 5) Business technical skills to be carried out.

According to Maigida *et al.* (2013) entrepreneurship skills could help the youth acquire the mindset and know-how necessary to make self-employment a viable career option.

Entrepreneurs also should have personal skills such as innovation, risk-taking, and persistence (Henry *et al.*, 2005). Chang and Rieple (2013) mentioned that entrepreneurial skills are included in the preparation of business

plan concepts. Ibrahim and Lucky (2014); Demirtas *et al.* (2017) argued that in the entrepreneurship context, for example, talent has been identified as one of the most critical factors required to become entrepreneurs to be successful in their entrepreneurial practices, including those that have the intention to become entrepreneurs. Melinda (2017) argued that entrepreneurial skills are the ability to use ideas and creativity through training and learning to create and produce something that has added value for one's own and others' interests.

The outlined research shows that entrepreneurial skills are the ability of a person to combine ideas, innovations, and creativity through behavior to be able to create a business that has added value with careful business planning.

Entrepreneurship education refers to providing knowledge about entrepreneurship or the business world. Liñán (2004) stated that entrepreneurship education should be considered a model of lifelong learning, meaning that entrepreneurship education is considered a permanent learning model. Hisrich *et al.* (2008), revealed that entrepreneurial knowledge is the basis of entrepreneurial resources found in individuals. Entrepreneurship education engages students at all levels, entrepreneurs, business support professionals, and learning facilitators according to Collins *et al.* (2006)

According to Alvarez and Albuquerque (2012) entrepreneurship education intends to reveal the usefulness and the dynamic potential in each person. Chang and Rieple (2013) stated that entrepreneurship education aims to develop students' mindsets, behaviors, skills, and capabilities, to create the entrepreneurs of the future.

Liñán (2004) stated that entrepreneurship education would seek the effective creation of enterprises and their subsequent dynamism and that entrepreneurial education would look for the next creator of competent and dynamic companies. In developing students' abilities to become entrepreneurs, alternative approaches are achieved by learning while doing. It can be concluded that entrepreneurship education is a provision of competencies provided to help a person or individual have the attitude, soul, ability, and independence as entrepreneurs and future business creators.

Studies on the impact of entrepreneurship education have been conducted by several researchers such as Bola and Macheke (2012); Aliyu *et al.* (2014); Humsona and Yuliani (2018); Anih (2015); McEwen (2013); Isaak (2017). Bola and Macheke (2012) found that entrepreneurial and business skills can be acquired through learning on the job or training. Whereas, Aliyu *et al.* (2014) focused on the role of entrepreneurship education on entrepreneurial skills, Humsona and Yuliani (2018) focused more on how entrepreneurship education develops soft student skills. Melinda (2017) found how learning about ways to become a positive entrepreneur enhanced student entrepreneurship skills.

Prior studies by Isaak (2017); McEwen (2013); Anih (2015); Aliyu *et al.* (2014) and Humsona and Yuliani (2018) have helped to focus entrepreneurship education on student entrepreneurship skills. However, few studies have investigated the relationship between the entrepreneurship education model and ecopreneurship-based training, particularly in Indonesia. Therefore, this study examined the effect of entrepreneurship education and ecopreneurship-based training on entrepreneurial skills.

2. METHOD

This study applied a quantitative research method using analysis regression model to examine the relationship between several variables. The population of the study was a vocational school's second grade students in Jakarta, and the sample was about 200 students chosen using purposive random sampling. Variables in this study included ecopreneurship-based skills which was measured using instruments developed by Soedjiran *et al.* (1984); Archana and Nehajoan (2014); Galkina and Hultman (2016) In addition, this research used instruments developed by Liñán (2004); Chang and Rieple (2013); George and Fridah (2016) to measure entrepreneurship education and entrepreneurship training.

The data was collected using questionnaires following a Likert scale 1-5 where 1 was "disagree strongly" and 5 was "strongly agree". The analysis of relationship patterns among the variables determined the direct or indirect

effect of exogenous and endogenous variables by using regression analysis models. Exogenous variables in this research were entrepreneurship skills based on ecopreneur (Y), while endogenous variables were entrepreneurship education (X₁) and entrepreneurship training (X₂).

The normality test had the provision of if the significance value was higher than 0.05, then the data was usually distributed, while if less than 0.05, the data was not normally distributed (Malhotra, 2009). The validity test showed each item's arithmetic > 0.30, and the reliability test results showed each item's Cronbach's Alpha value ≥ 0.5 (Hair et al., 2006); Eisingerich and Rubera (2010). The dependent variable had a significant impact on the independent variable if the p-value < 0.05 (Hair et al., 2006). The relationship between variables is explained in Figure 1.

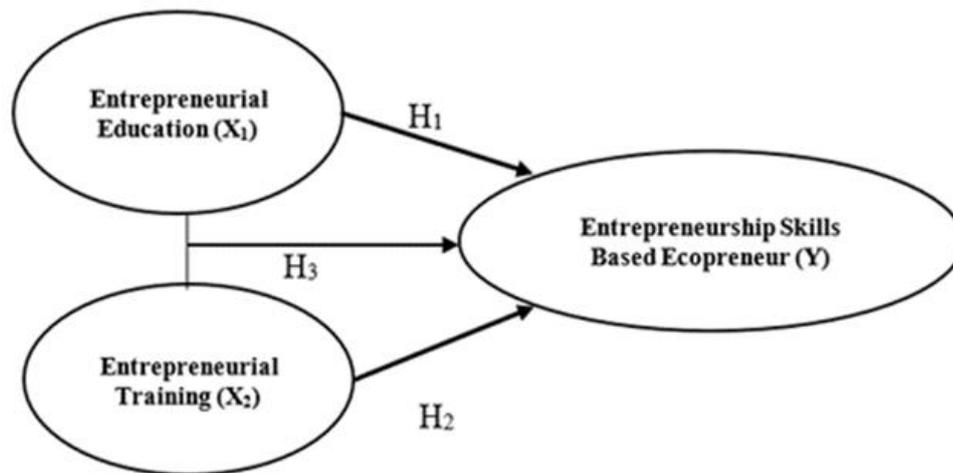


Figure-1. Conceptual design of research.

3. RESULTS AND DISCUSSION

Based on the normality test, it was known that the significance of entrepreneurship leadership and teacher creativity toward teacher innovation was 0.138 > 0.05 so the data was assessed as being normally distributed. From the previous test, it is known that each instrument item was valid and reliable. The first structure model consisted of the entrepreneurial leadership variable (X₁) as the exogenous variable, and entrepreneurship training (X₂) as the endogenous variable. The results of the regression analysis using SPSS 19.0 is presented in Table 1 below.

Table-1. Regression test results.

Statistic	ESC = entrepreneurship skills based ecopreneur
C	20.848
EI	0.718
ET	0.265
t (X ₁)	0.000* (9.803)**
t (X ₂)	0.001* (3.354)**
F	0.000* 116.898***
R ²	0.696

*** > 3.09, ** > 1.986, * < 0.05, C= Constant, EI=Entrepreneurship education, ET= Entrepreneurship training.

Table 1 shows that the output of the regression equation is $Y = 20.848 + 0.718X_1 + 0.265X_2$. These results indicated that if entrepreneurship education and entrepreneurship training were zero, then entrepreneurial skills had a positive value of 20.848. The coefficient value of entrepreneurship education (X₁) of 0.718 was positive, meaning that if entrepreneurship education increased by 1 percent, entrepreneurship skills would increase by 0.718 with a note that the variable value of entrepreneurship education remained. The next magnitude of the coefficient

value, namely the entrepreneurship training variable (X_2) of 0.265 had a positive sign, meaning that if entrepreneurship training increased by 1 percent, entrepreneurship skills would increase by 0.265 with a variable value of X_2 fixed. In conclusion, if entrepreneurship education and training increased, entrepreneurship skills would also increase.

The output value based on the results of the t-test above obtained a t arithmetic for the entrepreneurship education variables (X_1) of 9.803 and t arithmetic for the entrepreneurship training variables (X_2) of 3.354.

Judging from the significance value (sig.), the entrepreneurship education variable had a significance of 0.000 greater than 0.05 ($0.000 < 0.05$) meaning that there was an influence between the variables of entrepreneurship education on eco-based entrepreneurial skills. The t count for entrepreneurship education was higher than the t table, where $9.803 > 1.986$ (t count > t table), so it was concluded that there was a partial influence between entrepreneurship education and entrepreneurial skills.

The results of the study answer three proposed hypotheses.

The results showed that entrepreneurship education affects entrepreneurial skills. This study was in line with the findings of Liñán (2004); Melinda (2017); Wibowo *et al.* (2018); Chang and Rieple (2013) and George and Fridah (2016) where the higher the level of entrepreneurship education offered, the higher the eco-based entrepreneurial skills. Thus, students' entrepreneurial skills would increase if the entrepreneurship education learned by students was more effective and of better quality. Indeed, these findings supported a prior study by McEwen (2013) which stated that entrepreneurship education plays an essential role in exploiting the innovative potential of the ecopreneur and in improving performance in a small company environment. This supports our study, because the focus was on ecopreneurs using entrepreneurship education to improve creative performance. Performance in this study had maximum results measured through qualified skills. Therefore, our research focused more on entrepreneurial skills.

The second hypothesis (H_2), was that entrepreneurship training had an effect on eco-based entrepreneurial skills. The results showed that the value of entrepreneurship training had a significance of 0.001 greater than 0.05 ($0.001 < 0.05$), meaning that there was an influence of entrepreneurship training on eco-based entrepreneurial skills. Meanwhile, the entrepreneurship training t-test result was more significant than the t-table, where $3.354 > 1.986$, so it was concluded that there was an effect of entrepreneurship training on entrepreneurial skills.

The results supported the findings of Bola and Macheke (2012); Dhliwayo (2008) and Melinda (2017) who stated that entrepreneurship training increases entrepreneurial skills. Dhliwayo (2008) argued that SME performance would continue to improve if entrepreneurship training continues to be carried out on members. Compared to previous research by Dhliwayo (2008) this research focused on ecopreneurship-based entrepreneurship training that affects students' eco-based entrepreneurial skills. This study did not use independent variables, such as work ability and work motivation. This study also used direct skills as the dependent variable.

The results of the determination coefficient analysis were R^2 values of 0.696 or 69.6 percent. That was the contribution of the influence of the two variables, namely entrepreneurship education and entrepreneurship training on eco-based entrepreneurial skills by 69.6 percent while the remaining 30.4 percent indicated that the entrepreneurial skills variable was influenced by other variables not included in this research model.

The third hypothesis (H_3), was that entrepreneurship education, and entrepreneurship training influenced students' eco-based entrepreneurial skills. The hypothesis testing results show $Y = 20.848 + 0.718X_1 + 0.265X_2$. Simultaneous test results (F-Test) was 116.889 or greater than the F-table, which was 3.09 with a significance value of 0.000 or less than 0.05 so H_0 was rejected. Thus, entrepreneurship education and entrepreneurship training had an influence on eco-based entrepreneurial skills. The results of this study were in line with the findings of Bola and Macheke (2012); Dhliwayo (2008); Melinda (2017) and George and Fridah (2016) who stated that entrepreneurship education and training have a positive effect on eco-based entrepreneurial skills.

4. CONCLUSION

This study examined the effect of entrepreneurship education and training on vocational secondary school students' eco-based entrepreneurial skills. The findings showed that there was a correlation between entrepreneurship education and entrepreneurial skills. Entrepreneurship training positively affects eco-based entrepreneurial skills. Lastly, entrepreneurship education and entrepreneurship training have an influence on eco-based entrepreneurial skills.

Based on the results of this study, schools should improve the quality of learning through more innovative entrepreneurial materials oriented towards ecopreneurship, to expand students' understanding so that they are entrepreneurial-minded. Schools should hire experienced training mentors in the field of environment-based entrepreneurship so that the training is of higher quality. Research on ecopreneurship can be empowered not only in private schools but also in public schools where training can be implemented to improve the skills of their students so that after graduation, they will not become unemployed if they do not continue their tertiary education. Current global challenges of supporting the economy and reducing unemployment can be solved by empowering people to become entrepreneurs and therefore entrepreneurship education and training should be offered from an early age.

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