

# Worksheet of Entrepreneurship Students to Train Ecopreneurship Characters

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## ABSTRACT

Entrepreneurship is one of the courses in science education study programs that examine the development of products in the form of finished goods, services, learning resources and learning media for science and services that begin from analyzing market needs, testing the feasibility of products, producing and marketing products that have been produced. The purpose of this study is to describe the character of ecopreneurship in entrepreneurship courses, which is to put forward ideas on the use of the environment, the provision of environmentally friendly products and to make recycled products using worksheet that are characterized by ecopreneurship. This study uses a test method. The tests used in this study are pre-test and post-test. Analysis of the results of the pre-test and post-test using the N Gain score. The results of the pre-test and post-test showed an increase using the N-Gain Score criteria low by 5%, moderate 50% and high 45%.

**Keywords:** *Worksheet, Entrepreneurship, Ecopreneurship*

## 1. INTRODUCTION

Entrepreneurial activities are clearly applied in various fields and contribute to the economic growth of society to achieve a more prosperous life. In addition to being recognized as having a good influence on economic development, entrepreneurial activities are also considered to have a bad influence, which is a concern for various parties [1]. The bad influence is that entrepreneurship has a role in the damage to the natural environment around the organization, and if it is left unchecked, it will have a far-reaching effect. This situation indicates that economic activities carried out by entrepreneurs are considered to cause concern as a cause of changes in the natural environment such as changes in weather or erratic climate, effects on the availability of natural resources on earth, causes of pollution, causes habitat destruction, or is related to natural damage [2] ; [3]. If this continues, it will affect the lives of living things or other disasters that arise as a result of environmental damage [4]. One of the characteristics of science education is ecopreneurship. In Science Education, there is an Entrepreneurship course. This is in accordance with entrepreneurship education or entrepreneurship, which can be interpreted as education for prospective entrepreneurs to have courage, independence, and skills so as to minimize failure in

business. Entrepreneurship is not a marketing or sales education that educates someone to become a merchant.

In higher education, there is KKNi, organizing lectures needs to be given innovation, so that it can increase ecopreneurship. Ecopreneurship comes from the word, namely ecological (ecological) and entrepreneurship (entrepreneurship). Therefore, ecopreneurship can be defined as entrepreneurial activity that involves the entrepreneurial initiative and expertise of a person or group to achieve business success with environmental innovations [5]. Entrepreneur and Entrepreneurship have different meanings, if entrepreneur is anyone who acts to change current conditions and achieve future goals in the field of entrepreneurship. Meanwhile, entrepreneurship is a creative and innovative ability that is used as a basis, tips, and resources to find opportunities for success [6]. So, the essence of entrepreneurship is the ability to create something new and different through creative thinking and acting innovatively in creating opportunities.

There are 2 (two) characteristics of an entrepreneur, namely 1) entrepreneur as a creator, namely creating something completely new, and 2) entrepreneur as an innovator, namely initiating renewal of a product [7]. Green entrepreneurship, hereinafter referred to as ecopreneurship, is an activity entrepreneur who has

passion toward being green have an advantage when introducing their product or service on the market. It is important for eco-entrepreneurs to educate their customers about how their product or service benefits the earth or conserve resources [8]. Based on the above opinion, ecopreneurship is a form of education that produces creators and innovators related to environmental problems. So that to support the characteristics of science education study programs, it is necessary to research "What is the ecopreneurship character of science study program students?"

**2. METHOD**

This research is descriptive research. The analysis aims to achieve the formulation of ecopreneurship achievements after the Student Worksheet being developed is tested, then an evaluation test is given. Evaluation data obtained from the results of students working on questions (pretest and posttest) and analyzed with the aim of determining student learning completeness. Students are said to be complete if students get a value greater than the predetermined value criteria. N-Gain analysis  $\langle g \rangle$  was carried out to determine how much increased ecopreneurship [9]. The N-Gain score is the comparison between the score obtained by the student and the maximum score that the student may get. Furthermore, the student scores obtained by the equation above are converted to the following criteria [10]:

**Table 1.** Conversion of student scores in gain analysis

Score	Criteria
$0,0 < (g) \leq 0,3$	low
$0,3 < (g) \leq 0,7$	medium
$0,7 < (g) \leq 1,0$	high

Based on the above criteria, the developed Student Worksheet is said to be effective if the N gain score of the student is medium or high.

**3. RESULT AND DISCUSSION**

The increase in student ecopreneurship using the results of the pre-test and post-test scores, namely the comparison between the scores obtained by students with the maximum scores that students may get can be shown in Table 2 below.

**Table 2.** Improving student ecopreneurship

No	Pre-test	Post-test	N Gain Score
1	44.44	66.67	0.40
2	38.89	83.33	0.73
3	38.89	77.78	0.64
4	38.89	66.67	0.45
5	44.44	100.00	1.00
6	50.00	77.78	0.56
7	50.00	83.33	0.67
8	50.00	83.33	0.67
9	50.00	66.67	0.33
10	50.00	88.89	0.78
11	44.44	94.44	0.90
12	44.44	100.00	1.00
13	44.44	88.89	0.80
14	44.44	72.22	0.50
15	44.44	94.44	0.90
16	44.44	100.00	1.00
17	44.44	94.44	0.90
18	44.44	61.11	0.30
19	44.44	77.78	0.60
20	44.44	72.22	0.50

Based on the table above, it shows that the students' pre-test and post-test had increased. The percentage of student ecopreneurship improvement based on the N Gain score criteria can be shown in the following figure.

Percentage N-Gain Score

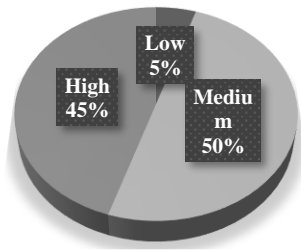


Figure 1 Percentage of N-Gain Score

Based on the picture above, it can be seen from the low criteria of 5%, medium 50% and high 45%. This shows that Student Worksheets that have been proven to be effective are used. The pre-test results are lower than the posttest because students have not been able to come up with ideas for using the environment, providing environmentally friendly products and making recycled products. The ideas are used to look for business opportunities in order to be successful in facing the era of globalization. This is the same as the statement that entrepreneurship is a creative and innovative ability that is used as a basis, tips, and resources to find opportunities for success [11]. These results support the findings of [12] and [13] which state that entrepreneurship training improves entrepreneurial skills. Entrepreneurship training has a positive impact on environmental-based entrepreneurship skills [14]. So that it needs to be improved with the existence of ecopreneurship student worksheets. This has been proven to increase student posttest results. Students are able to come up with ideas for using the environment, providing environmentally friendly products and making recycled products based on problems in the environment.

#### 4. CONCLUSION

This study shows an increase in the results of the pre-test and post-test using the N-Gain Score criteria of low 5%, medium 50% and 45% high. Entrepreneurship Student Worksheets can be used to effectively train ecopreneurship characters.

#### REFERENCES

[1] Koe, et. al., "A Model for Predicting Intention towards Sustainable Entrepreneurship," *Int. J. Information, Business and Management*, vol. 6 (2), pp. 256-269, 2014.

[2] B. Cohen and M. I. Winn, "Market Imperfections, Opportunity and Sustainable Entrepreneurship," *J. Business Venturing*, vol. 22 (1), p. 29, 2007.

[3] G. Gnacadja, A. Shoshitaishvili, M. Gresser, B. Varnum, D. Balaban, M. Durst, C. Vezina, and Y.

Li, "Monotonicity of interleukin-1 receptor-ligand binding with respect to antagonist in the presence of decoy receptor," *J. Theoret. Biol.*, vol. 244, pp. 478-488, 2007.

[4] OECD (Organization for Economic Cooperation and Development), "Sustainable manufacturing and ecoinnovation: towards a green economy", 2009.

[5] S. Schaltegger and M. Wargner, "Integrative management of sustainability performance, measurement and reporting," *Inderscience Online*, 2006.

[6] B. Alma, *Kewirausahaan*. Bandung: Alfabeta, 2010.

[7] T. Nurseto, "Pendidikan berbasis entrepreneur," *J. Pendidik. Akuntansi Indonesia*, vol. 3 (2), pp. 52-59, 2010.

[8] L. G. Cynthia, "Entrepreneurship ideas in action", *South-Western Cengage Learning*, 2012.

[9] D. E. Meltzer, "The relationship between mathematics preparation and conceptual learning gains in physics: A possible "hidden variable" in diagnostic pretest scores," *American J. Physics*, vol. 70 (12), 2002.

[10] R. R. Hake, "Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics course," *American J. Physics*, vol. 66, pp. 64, 1998.

[11] Baldacchino, *Entrepreneurial creativity and innovation, the first international conference on strategic innovation and future creation*. Malta: University of Malta, 2008.

[12] A. Bola and R. Macheke, "An analysis of entrepreneurial and business skills and training needs in SMEs in the plastic manufacturing industry in the Eastern Cape Province, South Africa," *Int. Rev. Soc. Sci. Humanities*, vol. 3(2), pp. 236-247, 2012.

[13] S. Melinda, "The effect of entrepreneurship education on entrepreneurial skills of state 1 berau vocational school students," *J. Business Administration*, vol. 5(4), pp. 877-890, 2017.

[14] Suparno, et al., "Do entrepreneurial education and training Impact on entrepreneurial skills-based ecopreneurship?," *Humanities Soc. Sci. Lett.*, vol. 7 (4), pp. 246-253, 2019.