



The Level of Environmental Literacy toward Vocational High School Students in West Java Province

Johar Maknun, M. Syaom Barliana, Diah Cahyani & Riskha Mardiana

Universitas Pendidikan Indonesia, Indonesia

ARTICLE INFO

Article history:

Received 07 Juni 2016

Received in revised form 10 July 2016

Accepted 24 July 2016

Available online 31 August 2016

Keywords:

Environmental literacy

Constructivism activity

Vocational student

Corresponding author:

joharmaknun@upi.edu

ABSTRACT

Environmental literacy as individual knowledge and understanding of aspects of the build environment, the principles that occur in the environment, and is able to act in maintaining environmental quality which is applied in everyday life. Changes in the environment each year will occur both in local and global contexts, so the goal of increased environmental literacy is to prepare people who understand and can cope with environmental issues, so it can be prepared reformer environmental agents that have a positive attitude and action on the environment. The purpose of this research is to gain an environmental profile literacy levels of students Vocational High School (SMK) in West Java. To achieve these objectives, the research method used is descriptive research method. The results showed that the knowledge and understanding of vocational students about the environment, including the unfavorable category. This suggests that environmental literacy vocational students are low. Environmental literacy is essential in tackling the environmental problems. This shows that the necessary efforts to improve environmental literacy vocational students. One of the efforts is the learning environment must be integrated on activities intrakulikuler with election materials in line with the skills of vocational students. In the process of learning needs to be done by implementing the learning that adopts konstruksivisme.

1. Introduction

Environmental literacy as individual knowledge and understanding of aspects of the build environment, the principles that occur in the environment, and is able to act in maintaining environmental quality in Indonesia which is applied in everyday life. Changes in the environment each year will occur both in local and global contexts, so the goal of increased environmental literacy is to prepare people who understand and can cope with environmental issues, so it can be prepared reformer environmental agents that have a positive attitude and action on the environment.

Stages of research in general are preliminary, with activity: policy study on environmental education, a preliminary survey to the school, and study literature about the concept of environmental literacy. Further activities are the design and evaluation instruments, with the following activities: standard setting literacy environment, the selection of topics and indicators of literacy environments, operational topics and indicators of literacy environments, the description about the test instrument literacy environments, and writing about the literacy environment, the review of the instrument by the expert, the trial and analysis instrument. The last step is the measurement of environmental literacy Vocational High School students.

The international community has now agreed on the importance of keeping the earth from pollution and damage, for example through sustainable development. Sustainable development has become a commitment and a shared responsibility of the world community to save the earth from the damage and destruction caused not pay attention to environmental sustainability (Desfandi, 2015).

Minnesota Office of Environmental Assistance explain environmental literacy as individual knowledge and understanding of aspects of the build environment, the principles that occur in the environment, and is able to act in maintaining environmental quality which is applied in everyday life. Therefore, in order to develop environmental literacy of citizens, environmental education should develop an understanding of the ecological system, a causal relationship between attitudes and behavior of humans on the environment, as well as foster environmentally responsible behavior (Haske and Wulan, 2015)

Environmental literacy is crucial owned by students. NAAEE (2011) described the importance of environmental literacy, which humans have a role and a very important influence on the earth because of the number of people each year continues to increase therefore the need for food, water, fuel and space increase. Changes in the environment each year will occur both in local and global contexts, so the goal of increased environmental literacy is to prepare people who understand and can cope with environmental issues, so it can be prepared reformer environmental agents that have a positive attitude and action on the environment.

Environmental degradation issues which impact on quality of life of the inhabitants of Earth. Global natural environment facing increasing pressure. Explosion of a growing population is the main cause that resulted in increased demand for human needs for food, energy, and the expansion of residential land. Requests realized by its reduced forests, clean water resource crisis, loss of biodiversity, energy reserves crisis, air pollution, water pollution and soil pollution.

The main objective of environmental education is to make students literation environment. Environmental literacy is defined as the knowledge of the mechanism of action of the natural environment, and the role of humans in it to preserve a sustainable environment. Visionary learning environment in vocational literacy can be implemented in an integrated manner with vocational subjects (vocational) or on separate subjects. Because as educators we can give lifelong impact on students, by incorporating environmental education strategies into learning, because the environment is directly related to the quality of student life.

Environmental education be a solution, because the environmental education, the students will gain knowledge about the environment, then raises awareness of himself and others and ended up doing a positive action on the environment. Environmental education has a purpose as a complement to an individual with the knowledge, attitudes and skills to improve attention to the environment and as a solution to environmental problems. So with debriefing through environmental education to students is expected to form a complete personal student with characters who care and environmentally sound.

The few studies that have been conducted, no one has developed the instrument of environmental literacy and environmental literacy measurement for SMK. Based on the presentation, becomes important instrument to construct environmental literacy for vocational students and simultaneously perform measurements on the environmental literacy.

Environmental education is an education program to promote children or learners to have understanding, awareness, attitudes, and behavior of a rational and responsible about the reciprocal influence between the population and the environment in various aspects of human life (Pratomo, 2009). Environmental education is not a standalone subject. However, integrated into a field of study in the school.

2. Method

To achieve these objectives, the research method used is descriptive research method. Instruments used in this research is the Environmental Literacy Test. Subjects were students in one of SMK in West Java. The number of respondents who follow environmental literacy tests as many as 60 students.

To determine the profile of environmental literacy, the test results are then described using a scoring guide for Vocational High School are shown in Table 1. Further calculated the average score obtained by the students for each indicator of environmental literacy.

Table 1. Guidelines for conversion rate

No	Categories	Number
1	Very Good	90,0 – 100,0
2	Good	75,0 – 89,9
3	Enough	60,0 – 74,9
4	Less	45,0 – 59,9
5	Very Less	< 45

3. Results and Discussion

Environmental literacy achievement is limited to the knowledge of the environment. Description of environmental literacy achievement of vocational students are listed in the table below.

Table 2. Description of environmental literacy achievement vocational students

No	Aspects	Categories (%)				
		Very Good	Good	Enough	Less	Very Less
1	Energy	0	22	0	38	40
2	Pollution and Contamination	0	7	10	17	67
3	Population	35	0	45	0	20
4	Forest	23	0	52	0	25
5	Atmosphere	0	10	15	0	75
6	Water	7	25	20	22	27
7	Waste	0	2	40	22	37
8	Sustainable Development	2	12	48	0	38
Total		8	10	29	12	41

Based on the data shown in Table 2, the achievement of every aspect of environmental knowledge described in the following section.

1) Energy

Measured the energy aspect is the knowledge and understanding of students about renewable energy sources and nonrenewable. Most of the students' knowledge and understanding of energy including less category and only a small percentage of students' good level of understanding.

2) Pollution and Contamination

Aspects of pollution and contamination measured is the knowledge and understanding of vocational students about the sources and causes of pollution and the effects of pollution. Pollution is pollution of air, water and soil. Most students do not have knowledge and a good understanding of pollution.

3) Population

Knowledge and understanding of students about aspects of the population in terms of population problems associated with the environment. Knowledge and understanding of the majority of vocational students about the population is already quite good.

4) Forest

Aspects of forests measured is a function of forests and forest improvement efforts. Knowledge and understanding of the majority of students on the forest, including both categories. This means that they already have a good knowledge about the forest.

5) Atmosphere

Knowledge and understanding of aspects of atmospheric / climate measured is about climate and global warming. Most vocational students' level of knowledge and understanding of the climate is still lacking.

6) Water

Aspects of the measured water is the source of clean water, clean water management and watershed management (DAS). Knowledge and understanding of vocational students about water can be pretty good.

7) Waste

Knowledge and understanding of the waste that is measured is associated with the source and waste management, primarily associated with trash. Knowledge and understanding of vocational students about waste is still not good.

8) Sustainable Development

Knowledge and understanding of sustainable development is measured students' insight about sustainable development. Knowledge and understanding of the Development of sustainable good category.

Based on these data the majority of vocational student's knowledge and understanding of the environment, including the unfavorable category. Only a minority of students have a good knowledge category.

Profile of knowledge and understanding of the environment as part of a literacy environment indicated by the average value for each aspect.

Table 3. Profile of knowledge and understanding of the environment

No	Aspects	Average
1	Energy	45
2	Pollution and Contamination	44
3	Population	73
4	Forest	64
5	Atmosphere	38
6	Water	58
7	Waste	49
8	Sustainable Development	50
Average		53

The achievement of environmental literacy fields of knowledge and understanding of the environment by 53 including the low category. The achievement is the lowest in the aspect of atmospheric / climate by 38 including lower category and the highest achievements in the aspect of the population that is equal to 73 which includes the high category.

The data in Table 3 indicate that in general the environmental literacy of vocational students categorized as low. This prompted the need for remediation efforts to the learning environment in schools gradually and continuously. Efforts to improve the quality of learning in schools need to be supported by information on the extent of environmental literacy achievements of vocational students in terms of its aspects and must also be adapted to the purpose of the Indonesian national education itself.

Sani (2014) revealed that the current education should lead to the process of the activities that can shape students to be able to face the era of globalization, environmental issues, advances in information technology, the convergence of science and technology, knowledge based economy, the rise of creative and cultural industries, the shift force the world economy, and the influence and impact of science based technologies. In connection with this, the mastery of reading literacy, mathematics, science and the environment are things that should begin to be counted. That is, learning activities are not only oriented towards the acquisition of knowledge alone, more than that, learning activities should be oriented towards the learning process and the implementation of knowledge.

Learning approach to environmental education in general consist of: (1) The environmental education is integrated on activities intrakurikuler; (2) The environmental education program intergration at school; and (3) environmental education as an extracurricular activity. Researchers propose a learning environment that is integrated in the activities intrakulikuler with election materials in line with the skills of vocational students.

After establishing the environment of learning approaches, learning implementation needs further attention. One of the learning is the subject of an interesting discussion for teachers in line with the implementation of the curriculum in 2013 is the scientific study. Adopts constructivism learning is deemed able to answer the demands of the national education goals to be achieved at this time. The application of this learning to be a challenge teacher through the development of students' activity during learning activities take place.

4. Conclusion

Knowledge and understanding of vocational students about the environment, including the unfavorable category. This suggests that environmental literacy vocational students is low.

Environmental literacy is essential in tackling the environmental problems. This shows that the necessary efforts to improve environmental literacy vocational students. One of the efforts is the learning environment must be integrated on activities intrakulikuler with election materials in line with the skills of vocational students. In the process of learning needs to be done by implementing the learning that adopts konstruktivisme. One of the recommended learning is scientific learning.

References

Desfandi, M. 2015. Mewujudkan Masyarakat Berkarakter Peduli Lingkungan Melalui Program Adiwiyata. *SOSIO DIDAKTIKA: Social Science Education Journal* 2(1): 31-37.

Haske, A.S. & Wulan, A.R. 2015. *Pengembangan E-learning berbasis MOODLE dalam Pembelajaran Ekosistem untuk Meningkatkan Literasi Lingkungan Siswa pada Program Pengayaan*. Seminar Nasional XII Pendidikan Biologi FKIP UNS 2015.

NAAEE. 2011. *Developing a Framework for Assessing Environmental Literacy*. Tersedia: <http://www.naaee.net/> [diakses 10 Maret 2016]

Pratomo, S. 2009. Model Pembelajaran Tematik dalam Pendidikan Lingkungan Hidup (PLH) di Sekolah Dasar. *Jurnal Pendidikan Dasar* (11): 8-15.

Sani, R.A. 2014. *Pembelajaran Saintifik untuk Implementasi Kurikulum 2013*. Jakarta: Bumi Aksara.