

# The Development of Environmental Education Based on Ecoliteracy Module to Improve Global Perspective Ability on Students of Social Studies Education

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## Abstract

*This study aims to overcome spatial inequality through learning that raises awareness of the importance of the environment in Social Studies Study Program students at STKIP Al Maksum Langkat. Ecoliteracy education illustrates awareness of the importance of the environment. Ecoliteracy level is an achievement where someone is very aware of the importance of the environment, the importance of maintaining and caring for the earth, ecosystems, nature as a place to live and develop life. This research uses research and development (R&D) type. The development research that will be carried out by the researcher is to design a product in the form of a module as a learning resource for social studies education students, then validate the module product. The population used in this study are students of the Social Studies study program, STKIP Al Maksum Langkat. From this population, two classes will be randomly selected to be used as research samples. The research is conducted from January to December 2021. The data analysis of textbook validation consisted of: (1) Finding the average per criterion, (2) Finding the average of each aspect, Research summary of no more than 500 words containing the research background, objectives and stages of research methods, targeted outputs, and descriptions of the proposed research TKT. (3) find the average total validity of all aspects. The practical analysis of the module consists of student responses and student activities, while the module effectiveness analysis only uses student learning mastery. Then the module analysis consists of: (1) Validity, (2) Difficulty Level, (3) Distinguishing Power and (4) Reliability. The outputs in this study consist of mandatory outputs and additional outputs, the mandatory outputs are internationally accepted while the additional outputs are textbooks with ISBN. For Technology Readiness Level between level 1 and level 2 only.*

## Keywords

module; ecoliteracy; social studies education



## I. Introduction

The real efforts to reduce environmental problems are fundamental things that must be owned by all groups. One form of concern that can minimize these problems is to promote environmental education. there is still a lot of waste (domestic, industrial, transportation) in rivers, beaches; illegal felling of trees without replanting; excessive extraction of non-renewable resources reminds us that environmental education (PLH) is still very much needed. In fact, it must be continuously conveyed to all levels, until the awareness of the importance of good quality from the environment has been owned by most of this nation.

Environmental education needs to be taught because it aims to provide opportunities for students to increase knowledge and raise awareness in an effort to improve the quality of life

that is friendly to nature and friendly to the environment. Improving the quality of students is obtained through the implementation of sustainable PLH, meaning that it is not only integrated through learning activities, but also needs practical studies that can be used as references in studying environmental education, so that its implementation is effective (Improving & Participants, 2020).

Learning resources and appropriate learning media can create a comfortable atmosphere pleasant. Regarding environmental problems, learning resources and learning media must be contextual and close to students' daily lives. For this reason, it is necessary to develop learning resources and media that accommodate these needs. Appropriate learning resources and media can be utilized in such a way as to stimulate creative power, critical thinking and cooperation. Especially in social studies learning in schools, considering that social studies is a science that examines various disciplines of social science and humanities as well as basic human activities that are packaged scientifically in order to provide insight and deep understanding to students, especially at the elementary and secondary levels (Zulham Siregar, 2021).

Environmental Education is a medium to provide awareness and knowledge to the public through the learning process. Environmental education can be carried out by various elements of society through formal, non-formal and informal activities. In formal education, Environmental Education is integrated in the realm of learning, especially in science and biology subjects, because Environmental Education studies are included in the scope of these subjects. Whereas in non-formal education, Environmental Education can be provided through structured and tiered activities according to the age of the student. Environmental education has a significant role in instilling beliefs and understanding of one's ecology. Through educational vehicles, a person can change their perspective, increase their ecological capacity so that they can drive environmentally friendly behavior and lifestyles (Character et al., 2014).

Environmental education needs to be taught because it aims to provide opportunities for students to increase knowledge and raise awareness in an effort to improve the quality of life that is friendly to nature and friendly to the environment. Improving the quality of students is obtained through the implementation of sustainable Environmental Education, meaning that it is not only integrated through learning activities, but also needs practical studies that can be used as references in studying environmental education, so that its implementation is effective.

The purpose of this study is to develop social studies learning resources and media in the form of modules as an alternative to increase students' ecoliteracy awareness. The module was chosen because it can help students to achieve a number of learning objectives (Nilasari et al., 2016). It aims to develop students' abilities in terms of knowledge, attitudes, and skills so that they are more sensitive and care about their environment. This research is useful for students because the developed module directs students to be active, happy and not bored because all senses are involved in the process, with student experience they can further develop their potential.

## **II. Research Methods**

In this study using research type development or Research and Development (R&D). The R&D research method is a research method used to produce products and the effectiveness of these products will be tested. Sugiyono, D. (2013). R&D research in education is a process used to develop and determine the validity of a product. So, the development research that will be carried out by the researcher is to design a product in the

form of a module as a learning resource for Environmental Education courses in the Social Sciences education study program, then validate the product of the module.

Product validation will be carried out by material experts, who in this study are Lecturers of Environmental Education courses along with other social studies education lecturers, and media experts. The learning resources and media were then tested on the students of the Social Sciences Education Study Program STKIP Al Maksum Langkat in learning Environmental Education courses. Through this stage, it can be seen the feasibility of the module product to be used as a learning resource for Students of Social Studies Education in STKIP Al Maksum Langkat.

The development method used is the 4D method which is modified into 3D (Define, Design, Development). Of course, with this method to answer, whether multiple intelligence-based textbooks can be said to be valid, practical, and effective in improving representational abilities.

### **III. Discussion**

Besides the background of the students, the results of the needs analysis that underlie the need for the development of a basic Environmental Education module that is oriented to HOTS that most students consider Environmental Education courses as a scourge. Keraf (Supriadi, 2017) suggests that ecoliteracy means a situation in which a person is enlightened about the importance of the environment. Ecoliteracy describes awareness about the importance of the environment. Thus, people who have reached the level of ecoliteracy are people who are very aware of the importance of the environment, the importance of maintaining and caring for the earth, ecosystems, nature as a place to live and develop life. On the basis and driven by this awareness, humans organize their patterns and lifestyles into patterns and lifestyles that are in harmony with the environment. Humans then use this awareness to guide their lives in all their dimensions until they become a culture that permeates all members of society to eventually create a sustainable society. Based on the results of the needs analysis, it is concluded that it is necessary to develop a HOTS-oriented Environmental Education module that can improve perspective abilities global student.

In the modules developed, the material is arranged in such a way that it can accommodate various student backgrounds (Nana, S & Ahmad, R. 2013). So that in the process there are no students who feel that the material developed is too difficult or too easy (Abdullah, R.2012). It is important to note that there are no learning barriers during the lecture process.

#### **3.1 Conduct Formative Evaluation**

At this stage, one-on-one assessment, small group assessment and field test assessment are carried out. One-on-one assessment is a module validation process carried out by a team of experts in accordance with the required expertise. The things that are the focus of the module validation process include (1) format, (2) language, (3) illustrations, and (4) content. Validation related to format, illustration and content was carried out by three lecturers in the field of Environmental education and a lecturer in the field of Geography Education, while validation related to language was carried out by a lecturer in the field of Indonesian language and literature.

#### **3.2 Validation / Expert Assessment**

After going through the definition and design stages, a module called Draft I was produced. Then the development stage was carried out starting with validation by experts. Validation is carried out on the developed module so as to produce a usable module. The

validation of the experts focused on the format, content, illustrations, and language covering all the modules developed (Rochanah. 2018). The results of expert validation in the form of corrections, criticisms, and suggestions are used as the basis for revising and improving the module. The revised module based on input from the validators is called Draft-I. The module that has been declared valid by the validator is called Draft-II.

The module above was assessed by 3 expert validators consisting of lecturers who are influential lecturers in environmental education courses along with other social studies education lecturers, and media experts. The following are expert validator data, namely:

**Table 1.** Validator Biodata

No	Validator Name	Status
1	Yogi Marulitua Ambarita, M.Pd	Lecturer
2	Misdar Amdah M.Pd	Lecturer
3	Elfi Lailan Syamita, M.Pd	Lecturer

### 3.3 Expert Validation of the Module

At this stage, validation is carried out on the module by looking at the format, content, language, and illustrations. The module assessed by the validator is in the form of a module that is prepared in accordance with environmental education materials based on ecoliteracy. The summary of the validation results of these experts can be seen as follows:

#### a. Module Validation Results

**Table 2.** Module Validation Results

NO	RATED ASPECT	Validator no-		
		1	2	3
1	FORMAT			
	1. Clarity of material distribution	4	4	4
	2. Has an appeal to students	3	4	3
	3. Numbering system is clear	3	3	3
	4. Match between text and illustrations	3	4	3
	5. Room arrangement/layout	3	3	4
	6. The type and size of the letters according to the rules	4	4	4
	7. Compatibility between physical modules and students	3	3	3
2	ILLUSTRATION			
	1. Illustration support to clarify the concept	2	2	3
	2. Provide visual stimulation	2	2	2
	3. Have a display that is clearly understood by students	3	3	3
	4. Easy to understand	3	4	4
	5. Using local context	3	2	3
3	Content			
	1. The suitability of the material with the syllabus	4	3	3
	2. The suitability of the material with the competence of	4	3	3

	achievement	3	3	2
	3. Grouped into logical parts	2	2	2
	4. The suitability of HOTS-oriented questions	3	2	2
	5. The material presented is accompanied by examples and HOTS-oriented exercises	2	3	3
	6. The material presented can add to the student's learning experience in solving HOTS-oriented questions	4	3	3
	7. Suitability of material order	3	2	2
	8. Eligibility as a learning tool			
	<b>AVERAGE</b>	<b>3,05</b>	<b>2,95</b>	<b>2,95</b>
<b>AVERAGE SCORE</b>		<b>2,98</b>		

**Information:**

1: means "bad" 2: means "fair" 3: means "good"  
 4: means "excellent"

$$\text{Average Score} = \frac{\text{total score obtained}}{\text{The number of aspects of observation}}$$

The number of aspects of observation

The description of the mean score is

0.00 0.99 means "bad" 1.00 1.99 means "fair" 2.00 2.99 means "good"  
 3.00 4.00 means "excellent"

**b. Module Revision Based on Validation Results**

From the validator's assessment, corrections, criticisms, and suggestions were obtained which were used as material for consideration in revising the module. To fix some errors can be seen in the following table:

**Table 3.** Module Revision Based on Validation Results

NO	Validator	Mistake	Revision Suggestion
	Yogi Marulitua Ambarita, M.Pd	<ul style="list-style-type: none"> <li>• There is a typing error</li> <li>• The language in the questions is still ambiguous.</li> <li>• The concept map in the module is not visible</li> </ul>	<ul style="list-style-type: none"> <li>• Improve typing</li> <li>• Improve the language of the questions</li> <li>• Added a concept map</li> </ul>
2	Misdar Amdah, M.Pd	<ul style="list-style-type: none"> <li>• There is a setting error</li> <li>• The picture on the module is not colored</li> <li>• The examples of questions in each developed material do not contain or are HOTS oriented</li> </ul>	<ul style="list-style-type: none"> <li>• Improve typing</li> <li>• The image is printed in color when tested to students</li> <li>• Add HOTS oriented question</li> </ul>

3	Elfi Lailan Syamita, M.Pd	<ul style="list-style-type: none"> <li>• Pay attention to the time used by students.</li> <li>• Fix typos that are still wrong on the module</li> </ul>	<ul style="list-style-type: none"> <li>• Pay attention to the time allocation that will be used by students</li> <li>• Fixed bad typing error on module</li> </ul>
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At the stage of conducting formative evaluation, a small group assessment is carried out along with the module validation process. This aims to see the extent of the readability of the module, as well as consideration for making improvements so that the modules developed are in accordance with the level of student development and also the needs of students in increasing their mathematical resilience. The module has several characteristics, one of which is user friendly, namely the module should also meet the rules of being friendly/familiar with the user. So the module should be present to make it easier for readers to get information as clearly as possible (Hilmi, Muhammad Zoher. 2017).

Learning evaluation experts validate the assessment instrument products on aspects of affective assessment, aspects of cognitive assessment, and aspects of psychomotor assessment (Siregar, 2020). The principle of consistency is useful for supporting the level of readability and understanding of foreign speakers of the material presented (Tanwin, 2020). Small group assessments are carried out on fifth semester students of the Social Sciences Education study program who have taken Environmental Education courses in the fifth semester to see the readability of the developed modules. Text legibility is the aspect that makes some texts easier to read than others. Readability is all elements in the text (including the interaction between texts) that affect the success of the reader in understanding the material he reads with optimal reading speed (Nana, S & Ahmad, R. (2013). Through learning the text of observational reports, students can learn the universe and the surrounding environment (Wahyuni, 2019). The existing literature has discussed three regulations that are generally used for the assessment of user satisfaction with terminals (Riyardi, 2019). In relation to preparing for future needs, it is necessary to interpret concepts that can make students' minds open to the surrounding environment (Agrista, 2021).

#### **IV. Conclusion**

Based on the results of the research analysis, it was concluded that environmental education based on ecoliteracy Module has met the eligibility criteria of the validator, good responses from lecturers and students and can grow the ability of global perspectives and students' environmental care characters so that they are suitable for use as teaching materials in environmental education courses for students. Besides that, the thing that underlies the need for research and development of environmental education modules is because of the importance of student awareness of the importance of caring for the environment and a global perspective.

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