



Android-Based E-Module Development to Improve Ecological Literature in Pancasila Education and Citizenship Elementary School Subjects in Bekasi District

Titin Sunaryati; Nadiroh; Mohamad Syarif Sumantri

Department of Basic Education, Universitas Negeri Jakarta, Indonesia

E-mail: TitinSunaryati_7527157859@mhs.unj.ac.id

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Abstract

This study aims to improve ecological literacy by developing teaching material products in the form of android-based electronic modules. The type of research used is Research and Development (R&D). The model used is a 4D development model, namely, 1) (define) definition, 2) (design) design, 3) (development) development, and 4) (dissemination) dissemination, using observation, interview, and questionnaire techniques. The research data were analyzed using the percentage formula. From the results of the assessment of material experts, the percentage is 93.2%, with very decent criteria, media experts are 96.8% with very proper criteria, and small-scale trials are 96.8% with possible standards. Large-scale product trials are an average percentage of 93.1% with very good criteria. The effectiveness of the e-module in improving ecological literacy was determined using the t-test. Effectiveness is seen in the average score of ecological literacy in the experimental class and the control class, there is a significant difference in the score of increasing ecological literacy before and after using the e-module. Electronic modules based on Android Pancasila and citizenship education subjects in grade VI Elementary School exceed the interval value of >80% which is very suitable to be used as additional teaching materials to support distance learning activities

Keywords: *E-Module; Ecological Literacy; Pancasila and Citizenship Education*

Introduction

Humans interact with nature as space, humans and the environment are basically two interdependent things (Supadmini, et al 2020). Therefore, the urgency of efforts to preserve the environment is the responsibility of the world community as inhabitants of the earth and users of natural resources. The environment is related to the impact made by humans in meeting their needs (Ward & Dubos 1973), ideally, the environment is always sustainable considering the dependence of humans on the environment, but in reality, there is currently an environmental crisis that causes the environment to

experience instability which has an impact on the survival of existing organisms, the ecological crisis is a vital problem faced by all humans (Eryaman, et al 2010)

The ecological crisis is mostly caused by humans who have low ecological literacy, humans who do not have an understanding of how the earth functions, do not have awareness of lifestyle, consumption and behavior towards the sustainability of environmental systems that can support humans (Couyle 2005, Jordan, et al 2008). Pengetahuan tentang ekologi sangat penting. Ekologi menerangkan bagaimana interaksi antara organisme dan lingkungan fisik, memberikan pemahaman tentang proses alam dalam system lokal dan global (Wilson 1984, Tarran 2006), Ecological literacy provides knowledge of how plants, animals and humans are interdependent, provides knowledge of how living things evolve, how biotic and abiotic interact with each other. Humans who have high ecological literacy are considered important for a sustainable future (Orr 1992, Couyle 2005, Jordan, et al 2008, Capra & Stone 2010) On the other hand, humans who have low literacy generally do not know what they are doing to nature that will cause damage. .

Ecological literacy is an understanding of the role of humans in nature and human involvement in it and the impact of humans on nature (Jordan et al 2010, McBride et al 2013), humans can understand how and why human and natural systems are connected through various relationships (Morrone, et al 2001, Jordan et al 2010, McBride et al 2013). Humans who have ecological literacy are humans who have realized that the environment is very important to be maintained and cared for because apart from being a place to live, the environment is also a source of food and the development of life (Wahid 2016). Ecological literacy provides understanding to humans how to treat the environment as a place to live and obtain food sources so that survival can be maintained, therefore ecological literacy must be owned by all humans so that environmental sustainability as an ecological system is always maintained.

The concept of ecological literacy should be instilled since elementary school-aged children, this is because at that age children are experiencing cognitive, affective, and psychomotor growth (Wijaya 2018), ecological literacy from environmental education must be taught and applied in all curricula to suit the elements of environmental education. education level (Williams 2017). Especially in the subject of civic education, because Pancasila and Citizenship education are subjects that seek to create smart and good citizens so that environmental protection is included in the study, and can enable them to become critical citizens, make the right decisions in environmental situations, and committed to engaging in environmental issues (Wals et al 2014, Stevenson et al 2010). Pancasila and Citizenship Education make citizens aware and knowledgeable about the risks of environmental exploration but remain active and supportive in achieving community welfare.

According to (Jordan et al 2010) students must have ecological literacy in three elements, namely: 1) understanding ecological connectivity and concepts between abiotic and biotic elements called ecological relationships, 2) appreciation of the relationship between human actions and the environment called networks, and 3) promotion of the ability to reason about science and ecological issues called ecological reasoning. These three elements are needed for students to know ecology. Meanwhile, according to (Syukron 2018) the component of ecological literacy consists of six components, namely implications, ecological knowledge, socio-political knowledge, knowledge of environmental problems, cognitive abilities, and environmentally responsible behavior. However, for elementary school students, ecological literacy can be done by paying attention to students' cognitive, affective and psychomotor development (Wijaya et al 2020). Components and indicators of ecological literacy for elementary school students carried out in schools are presented in table 1.

Table 1. The components and indicators of ecological literacy in schools

No.	Ecological Component	Literacy Indicator
1	Implication	<ul style="list-style-type: none"> ➤ Have respect for the environment, respect the environment, and have an attitude of responsibility toward environmental problems ➤ Actively participate and have the self-confidence to participate and improve and protect the environment
2	Ecological Knowledge	<ul style="list-style-type: none"> ➤ Ability to apply ecological concepts, especially the concepts of individuals, ecosystems, populations and natural cycles
3	Socio-Political Knowledge	<ul style="list-style-type: none"> ➤ Understand that social, political and ecological economic activities have dependencies ➤ Understand that human cultural activities affect the environment
4	Knowledge of environmental issues	<ul style="list-style-type: none"> ➤ Understand various environmental problems that are influenced by economic, social, political, and other issues ➤ Understand water, air, and soil quality and land use for wildlife habitats and the human populations
5	Cognitive ability	<ul style="list-style-type: none"> ➤ Able to identify and analyze environmental problems using various sources
6	Environmentally responsible behavior	<ul style="list-style-type: none"> ➤ Actively participate in solving and protecting the environment ➤ Developing an environmentally friendly lifestyle

Resources: (Syukron 2018)

Ecological literacy can be expressed as unity between knowledge about the environment, a positive attitude towards the environment, and skills in protecting the environment.

Education has an important role in shaping the character of students so that they always have sensitivity and concern for the surrounding environment, and can respond to various ecological crises by forming attitudes and concerns as a form of human responsibility for the future and sustainable life (Sapriiia 2011), fostering an attitude of caring for the environment. has not been fully realized to the maximum as evidenced by the results of observations that have been carried out in several elementary schools in Bekasi Regency, West Java Province, there are still many dirty school environments, student

participation in environmental cleaning activities in schools is still lacking because they rely on cleaners employed at the school, so that the lack of awareness of students in shaping environmental behavior, apathy towards the preservation of the surrounding environment, shows that students' ecological literacy is still low.

The results of interviews conducted stated that habituation activities in the context of character formation had been carried out, but the results could not be felt based on these conditions, learning innovation was needed. Teachers need to develop their professionalism to improve teaching and learning (Robetson 2015) technological support for teachers is also important by providing facilities to support learning, that in learning the teacher is a giver of information and motivation to students. Teachers who are sources of information must present learning as attractively as possible with the help of learning media (Sudjana & Rifai 2011), so that they can grow learning motivation (Sudjana & Rivai 2011), this is one that can determine the success or failure of learning activities (Prasetyo 2014).

The selection of the right media is very necessary for the implementation of learning, because the media is very influential on the success or failure of a teaching and learning process and one of the learning media that is widely used in learning is the module (Pajri. N 2017). The module is a learning tool or tool that contains materials, methods, limitations, and is designed systematically and attractively to achieve the expected competencies according to its complexity. (Depdiknas 2008), the module is one of the teaching materials and can support the effectiveness of the learning process (Muhaimin 2019). Teachers can deliver teaching modules to their students without having to meet face to face in the same room (Napitupulu 2020). Modules are teaching materials that have been prepared and designed specifically and systematically based on the curriculum packaged into the smallest learning unit that can be used independently to achieve learning objectives.

The use of technology that continues to develop allows the manufacture of modules to be presented in electronic form or called e-modules, subject matter packaged in e-modules can support the optimal distance learning process. Electronic modules are arranged with multimedia applications that can combine various file formats, in the form of text, images, graphics, animation, audio, video into digital files. Utilization of information technology using a computer or android device as a learning medium that carries messages and can be used by teachers to convey learning (Rusman, et al 2011), electronic modules are packaged in android applications programs developed in the industrial era 4.0, software applications installed on mobile device (running device). Android applications are marked with the extension.apk. Application Package Files are distributed and installed on mobile devices (Irsan 2015) the importance of technology support for teachers in order to facilitate learning, this research was conducted to develop learning media in the form of electronic modules packaged in android. The electronic module is a form of presenting independent teaching materials that are systematically arranged, presented in electronic format, equipped with the presentation of usage tutorials, animations, audio, video to enrich the student learning experience.

In this study, it is limited to the problem of the low level of ecological literacy in students, through the e-module developed in this study, it is expected to be able to provide new learning experiences for students and can help teachers in the learning process. This research was carried out at Mukti Jaya 02 State Elementary School, Taman Sari 02 State Elementary School, and Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province, especially Class VI in Pancasila and Citizenship Education subjects, this research was conducted to develop learning media in the form of electronic modules. to improve ecological literacy in Pancasila and Citizenship Education subjects packaged in android.

Methods

The research method used by the author, namely Research and Development or research that produces certain products and tests the effectiveness of these products (Sugiyono 2012). installed on android. and can be used by students anywhere and anytime.

The development model in this study uses a 4D development model, namely, 1) (define) definition, 2) (design) design, 3) (development) development and 4) (dissemination) deployment (Thiagarajan 1974) in (Mulyatiningsih 2011), following the development procedure 4D models:

1. Define, this stage is called the requirements analysis stage which aims to determine and define the requirements needed in the development of android-based e-modules. In this stage, observations are made of students and the material that will be used as an electronic module into learning media, this definition stage is divided into three, namely: curriculum analysis, student characteristics analysis, and material analysis.
2. Design/design at this stage includes 1) Pre-production by making display designs or layouts, making page views, designing materials as the contents of e-modules, and preparing practice questions. 2) Production, 3) Post-production

The development/development of this stage is divided into two activities, namely: validating the feasibility of the product assessed by experts, namely material experts and media experts and product testing activities which consist of three stages, namely: a) limited trial, b) field trial, and c) operational field trials, the test subjects in this study were grade VI students of the Mukti Jaya State Elementary School 02, in the small-scale trial by 15 students and the large-scale trial by 60 grade VI students from the Taman Sari State Elementary School 02. , and Cijengkol State Elementary School 02 while for the operational trial there were 45 students consisting of 10 students from Taman Sari State Elementary School 02 and Cijengkol State Elementary School 02 as a control class and 25 students of class VI from Mukti Jaya 02 State Elementary School, as a control class. Experiment

Data collection from this study was carried out by observation, interviews and questionnaires. Here's how to analyze the data:

- a. Observations are made to analyze the learning process and analyze the feasibility of learning resources that have been carried out on Pancasila and Citizenship Education subjects in class VI
- b. Interviews were conducted on teachers to obtain information and find problems that must be investigated so as to produce analysis data, in order to find learning media models
- c. Questionnaires are used to determine the feasibility level of e-module learning media in terms of artistic and aesthetic aspects, design, ease of navigation, cognitive content, and scope of learning.

The data that has been collected will be processed and analyzed to determine the assessment and opinion of the resulting e-module product. Product quality assessment data were obtained from filling out questionnaires conducted by 2 material experts, 2 media experts, and small-scale trials by 15 students, large-scale trials by 60 students, while operational tests by 45 students. To find out the final score rating for the item in question, the total score must be divided by the number of respondents who answered the item (Suharsimi 2013)

$$\text{Percentage} = \frac{\text{Jumlahskoretatal}}{\text{Skormaksimal}} \times 100\%$$

Information

Total score = total score obtained from all respondents

Maximum Score = The highest score from the questionnaire multiplied by the number of respondents

The percentage of eligibility obtained is then converted into sentences to assess the feasibility of the e-module. The eligibility category is based on the criteria shown in table 2.

Table 2. criteria for e-module eligibility

No.	Score (Percentage)	Eligibility Category
1	<56%	Not worth it
2	56-65%	Decent enough
3	66-80%	Worthy
4	>80%	Very worth it

Resources: (Mulyatiningsih 2011)

To find out whether the quality of the developed e-module product is feasible or not, the researcher uses a minimum assessment criterion that is included in the "Eligible" category. If the evaluation of the e-module has a minimum score of "Eligible", then the e-module developed "Decent" is used as a learning medium to improve ecological literacy.

Result and Discussion

Preparation of an Android-based e-module learning media development program to improve ecological literacy for Pancasila Education and Citizenship Elementary School Class VI subjects, the theme of caring for the environment, sub-theme 2 of my earth and the seasons as the initial stage is the defining stage, namely analyzing development needs, product development requirements and research and development models. Needs analysis in the development of android-based e-modules includes: curriculum analysis, student characteristics analysis, and material analysis. Curriculum analysis is needed to determine the competencies to be developed. Basic Competencies in the curriculum become a reference for determining learning indicators, the curriculum used is based on the regulations of the Directorate General of Primary and Secondary Education of the Ministry of Education and Culture number 07/D.D5/KK/2018. developed by researchers. The following competencies will be achieved by students:

Table 3. Basic Competencies of Pancasila Education and Citizenship Class 6 Elementary School

No	Basic competencies	Indicators
1	1.2. Appreciate the meaning of obligations, rights and responsibilities as citizens in practicing religion.	1.2.1. Understanding the obligations of citizens towards environmental sustainability
2	2.2. Carry out obligations, rights and responsibilities as citizens as a form of love for the homeland.	2.2.1 Carry out the obligations of citizens towards environmental sustainability
3	3.2. Analyzing the implementation of obligations, rights, and responsibilities as citizens and their impact in daily life	3.2.1. Identify the obligations of citizens towards environmental sustainability.
4	4.2. Presenting the results of the analysis of the implementation of obligations, rights, and responsibilities as citizens of the community and their impact in daily life	4.2.1 Carry out the obligations of citizens towards environmental sustainability

From the results of interviews with teachers to analyze the characteristics of students, it was obtained information that students' ecological literacy was still low, the indications were that the test scores related to the ecosystem were 68% of students still below the criteria and students' behavior in

treating the school environment was still lacking seen from the clean Friday activities of several students joke more than taking part in cleaning activities. In addition, the learning media used during the learning of Pancasila and Citizenship Education which is carried out is still not maximally carried out by the teacher during learning related to the teacher ecosystem using the lecture method more. It is necessary to develop learning media that can contain materials, images, audio, and video that can be used independently, for the condition of the students of Mukti Jaya 02 State Elementary School, Taman Sari 02 State Elementary School, and Cijengkol 02 State Elementary School, where the majority of students have smartphones. With the use of smartphones among students, the development of android-based e-module learning media is expected to encourage students to make more use of technology.

The feasibility of an Android-based e-module to improve ecological literacy as a learning medium for Pancasila and Citizenship Education can be seen from material experts, media experts, and small and large-scale tests obtained as follows:

Material Expert Validation Data Analysis

Material expert validation was carried out to assess and provide input on the material presented in android-based e-modules to improve ecological literacy. The material expert assessment was carried out by 2 material experts from the Elementary School Teacher Education lecturer concentrating on Pancasila and Citizenship Education. The material validation questionnaire in the e-module has 3 aspects, namely; aspects of conformity, aspects of the quality of content and objectives, as well as aspects of instructional quality which were developed into 16 indicators. Material validation data analysis was carried out by calculating the total scores of material experts I, and II, adding up the scores per indicator, and then calculating the percentage to determine the validation criteria based on percentages. The results of the assessment can be seen as follows:

Table 4. assessment of android-based e-modules to improve ecological literacy on aspects of suitability, quality of content and purpose, quality of instruction by material experts

Aspect	Rating indicators	Material expert		Average Score	Total score	Max. Score	Percentage	Percentage Score	
		I	II						
Suitability	KD Clarity	4	3	3.5	7	4	87.5%	93.7%	
	Suitability of learning objectives	4	4	4	8	4	100%		
	Material Relevance	3	4	7.5	15	8	93.7%		
Content quality and purpose	Material collapse	3	4	3.5	7	4	87.5%	92.7%	
	Material coverage	4	4	4	8	4	100%		
	Ecological Literacy	4	3	7.5	15	8	93.7%		
	Presentation of environmental care		3	4	6.5	14	8		87.5%
			4	3					
	Language usage accuracy	3	4	3.5	7	4	87.5%		
Suitability of practice questions	4	4	4	8	4	100%			
Instructional quality	Quality	3	4	6	24	12	91.6%	93.1%	
	Improvement of	4	4						

environmental literacy	4	3				
Motivating quality	$\frac{4}{4}$	$\frac{4}{4}$	4	8	8	100%
Test quality and assessment	3	4	3.5	7	4	87.5%
Overall Percentage						93.2%

Percentage assessment by 2 material experts got results on the aspect of suitability 93.7%, aspects of the quality of content and objectives 92.7%, and aspects of instructional quality 93.1%. Overall, the Android-based e-module assessment to improve ecological literacy in the subjects of Pancasila Education and Elementary School Citizenship class VI by 2 material experts resulted in a percentage of 93.2%, on an interval scale if the score > 80% was included in the "very feasible" category (Mulyatiningsih 2011).

Media Expert Validation

Conducted to assess and provide input regarding the overall e-module used in the android application. The media expert assessment was carried out by 2 media experts from informatics engineering lecturers who assessed 3 aspects of the assessment, namely; aspects of ease of use, art, and aesthetics as well as the overall quality of function. The results can be seen as follows:

Table 5. assessment of android-based e-modules to improve ecological literacy on the aspects of ease of use, art, and quality by media experts

Aspect	Rating indicators	Material expert		Average Score	Total score	Max. Score	Percentage	Percentage Score
		I	II					
Ease of use	Application usage	4	4	4	4	4	100%	100%
	Instructions clarity	4	4	4	4	4	100%	
	Menu convenience	$\frac{4}{4}$	$\frac{4}{4}$	4	8	8	100%	
	Navigation compatibility key	4	4	4	4	4	100%	
artistic	Menu layout	4	3	3.5	7	4	87.5%	90.6%
	Color match	3	4	3.5	7	4	87.5%	
	Size fit	4	4	4	8	4	100%	
	Image selection	3	4	3.5	7	4	87.5%	
Overall functional quality	e-module is developed according to the user's ability	$\frac{4}{4}$	$\frac{4}{4}$	6	12	12	100%	100%
	e-modules provide the learning that users want	$\frac{4}{4}$	$\frac{4}{4}$	4	8	8	100%	
Overall Percentage							96.8%	

The percentage of assessments that have been carried out by 2 material experts, has resulted in a percentage of 100% ease of use, 90.6% artistic aspect, and 100% overall function quality aspect. The

assessments given by 2 media experts obtained an overall rating of 96.8% so that the android-based e-module to improve ecological literacy in the subjects of Pancasila Education and Elementary School Citizenship for grade VI can be said to be "very feasible",

In the small-scale trial of the assessment carried out there were 4 aspects, namely; ease of use of 5 questions, quality and purpose of 8 questions, artistic and aesthetic 5 questions, and instructional quality of 2 questions, by giving a questionnaire to 15 students consisting of 5 students of Mukti Jaya 02 State Elementary School, 5 State Elementary School students Taman Sari 02 and 5 students of Cijengkol State Elementary School 02, , and the result is the convenience aspect, the total score is 284, the average score is 18.9, the percentage is 94.6%, the quality and goal aspects are 452, the average score is 30.1, the percentage is 94. 1%, artistic and aesthetic aspects with a total score of 281 with an average score of 18.7 with a percentage of 93.6%, and aspects of instructional quality with a score of 108 with an average score of 7.2 with a percentage of 90%. The total obtained from the small-scale test as a whole is 93.1%. This shows that android-based e-modules to improve ecological literacy in Pancasila and Citizenship Education are "very feasible" to use.

A large-scale trial of e-modules was carried out on 60 students who are prospective users of e-modules, this is to find out the response of prospective users to android-based e-modules to improve ecological literacy in Pancasila and Citizenship Education subjects, respondents were 60 students consisting of 23 students. Mukti Jaya 02 State Elementary School, 21 students of Taman Sari 02 State Elementary School, and 18 students of Cijengkol 02 State Elementary School. All of these students are in class VI. The results of the e-module assessment are obtained as follows: ease of aspect a total score of 1081 with an average score of 18.1, a percentage of 90.1%, aspects of quality and purpose, a total score of 1727, an average score of 28.7, a percentage of 89.9%, artistic and aesthetic aspects a total score of 1089 with an average score of 18.15, a percentage of 90.1%, and the aspect of instructional quality with a score of 434 with an average score of 7.2 a percentage of 90%. The total obtained from the large-scale test as a whole is 90.25%. This shows that android-based e-modules to improve ecological literacy in Pancasila and Citizenship Education are "very feasible" to use.

The results of obtaining small-scale tests and large-scale tests were carried out by distributing questionnaires through Google surveys which were distributed by different teachers of each elementary school,

Operational Test Result Data Analysis

This trial involved two classes in three schools. Two classes in one school as experimental classes and two classes in two schools as dick classes. The school used as an experiment was the Mukti Jaya 02 State Elementary School, with a total of 25 students. Meanwhile, the schools used as control classes were Taman Sari 02 State Elementary School, and Cijengkol 02 State Elementary School with 10 students each. In the operational trial stage, the data in the form of economic literacy, teacher and student responses were collected. The results of data analysis for ecological literacy in operational trial activities showed a significant increase in results. This can be seen from the difference in the increase in the average score obtained which is presented in table 6

Table 6. Differences in the average total score of Ecological Literacy

Data	Pre	Criteria	Post	Criteria
Ecology literacy	57.65	B	61.70	A

Based on the results of the t-test conducted in the experimental class, significant values were obtained which are presented in the table

Table 7. Significance of Experimental Class t-test

Data	Significancy
Ecology literacy	0,000

Based on the table above, a significant value for ecological literacy is 0.000, meaning that there is a significant difference in increasing ecological literacy between before using android-based e-module media to increase ecological literacy in Pancasila and Citizenship Education subjects and after using it. So, android-based e-module products are effective in improving students' ecological literacy

The development of the e-module has gone through a validation test analysis process from material experts and media experts. It is stated that the e-module is very suitable to be used for research. The following is the final product of the development of an Android-based e-module to improve ecological literacy in the subjects of Pancasila Education and Elementary School Citizenship for grade VI.

E-Module Application Logo

An application is required to have a logo as a symbol that can be used to identify the application. The Android-based e-module logo to instill a caring character for the environment can be seen in Figure 1.



Figure 1. Android-based e-module logo to instill a caring character for the environment

Welcome Page/ Home Page

The home menu is the start page when the e-module application is opened, the home page displays a page header that changes slides. The e-module home page can be seen in Figure 2.

E-Module Start Page

On this page a design with an image display is made for elementary-level students, this menu contains menus that students can choose from. The main menu consists of: (1) the e-module logo, and (2) the user profile menu, this menu is mandatory to be filled in which contains student biodata, name, address, and phone number. Aims for the data teacher to see which students are actively opening the e-module application, (3) the notification/notification menu aims to notify students if there is new material or announcements from the teacher, and (4) the material menu has been adapted to the KD subjects Pancasila and Citizenship Education, the theme of caring for the environment, sub-theme 2 of the earth and its seasons (5) the KI and KD menus which contain KI and KD for Pancasila and Citizenship education (6) the parental forum menu is a communication menu between parents and teachers to consult about student development while at home, (7) the children's song menu is children's songs with the theme of love for the environment and national songs can be played by students when they feel bored (8) the quiz menu contains practice questions that can be done by students anytime



Figure 3. The start page of an Android-based e-module to instill a caring character for the environment

Competency Page

The competence page is a sub-menu and menus appear that can be selected. On the competence page, there are menus, namely: (1) experience at home (2) experience at school (3) at play areas, and (4) at tourist sites. It can be seen in Figure 4.



Figure 4. Android-based e-module competency page to instill environmental care character

The final product of the development of an Android-based e-module with environmental care materials implemented in Pancasila and Citizenship Education subjects.

Conclusion

Based on the results of the research that has been done, it can be concluded that some elementary schools still need learning media. So that students can use e-modules independently because e-modules are well presented, attractive, illustrated to motivate students (Nurkhalisa, S., & Ummayah, F. F. D. 2017). Based on the results of the analysis, students need teaching materials, because the learning that has been carried out so far has caused boredom, due to the lack of use of technology as a means of supporting learning, a learning innovation is still needed. The importance of developing learning media for students as a means of learning. The Android-based e-module consists of text, images, sound and video so that it is interesting and interactive to use as a learning media. The e-module has previously been evaluated by experts, namely material experts and media experts who obtained "very feasible" eligibility then tested. The trial was carried out on students with a small-scale trial, large-scale trials obtained a "very feasible" feasibility based on the test results obtained, the development of e-modules in Pancasila and Citizenship Education subjects to improve ecological literacy in Mukti Jaya State Elementary School 02, Taman Sari 02 State Elementary School, and Cijengkol 02 State Elementary School, Bekasi Regency, West Java, it can be concluded that the product is "very feasible" to be used as a learning media that can support.

Based on the operational test that e-modules can improve ecological literacy, one of the efforts to prepare a generation that has awareness of the environment, so this has implications for the growth of critical awareness and the formation of student attitudes. The results of observations and interviews showed an increase in understanding of environmental issues and showed caring behavior towards environmental cleanliness, following clean Friday activities in an orderly manner, watering plants.

The results of this study will not solve problems such as changing seasons, diminishing natural resources, the loss of various types of living things. However, to support the continuity of a better life on the surface of the earth, it can be started in the school environment.

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