Illustrated Electronic Module to Improve Elementary School Students' Creative Thinking Skills

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A B S T R A K

Hasil belajar yang rendah disebabkan karena siswa perlu memiliki kemampuan berpikir kreatif. Hasil temuan menyatakan bahwa siswa membutuhkan bantuan untuk mengungkapkan ide atau gagasan dalam kegiatan pembelajaran sehingga kegiatan pembelajaran tidak berjalan maksimal. Penelitian ini bertujuan mengembangkan modul bergambar elektronik untuk meningkatkan kemampuan berpikir kreatif siswa kelas IV Sekolah Dasar. Jenis penelitian ini dikembangkan dengan model ADDIE. Subyek penelitian adalah dua orang dosen ahli materi, dua orang dosen ahli media, dan satu orang praktisi. Subyek uji coba berjumlah 26 siswa—pengumpulan data menggunakan metode angket. Instrumen yang digunakan adalah instrumen skala penilaian. Teknik analisis data adalah analisis statistik deskriptif kualitatif, deskriptif kuantitatif, dan statistik inferensial. Hasil penelitian adalah penilaian ahli media 4,8 (sangat baik), ahli materi 4,9 (sangat baik), dan hasil praktisi 5 (sangat baik). Hasil nilai signifikansi 2 arah (2-tailed) adalah 0,000 < 0,05 sehingga terdapat perbedaan hasil kemampuan berpikir kreatif siswa kelas IV SD setelah pembelajaran menggunakan modul elektronik bergambar (e-modules) . Disimpulkan bahwa E-Modul bergambar efektif meningkatkan hasil keterampilan berpikir kreatif.

A B S T R A C T

Low learning outcomes are caused because students need to have the ability to think creatively. The findings state that students need help to express ideas or ideas in learning activities so that learning activities do not run optimally. This study aims to develop an electronic pictorial module to improve the creative thinking skills of fourth-grade elementary school students. This type of research is developed with the ADDIE model. The research subjects were two material expert lecturers, two media expert lecturers, and one practitioner. The test subjects totaled 26 students—data collection using the questionnaire method. The instrument used is the rating scale instrument. Data analysis techniques are qualitative descriptive statistical analysis, quantitative descriptive, and inferential statistics. The results of the research are media experts' assessment of 4.8 (very good), material experts' 4.9 (very good), and practitioner results of 5 (very good). The results of the 2-way (2-tailed) significance value were 0.000 <0.05 so that there were differences in the results of the creative thinking abilities of fourth-grade elementary school students after learning to use pictorial electronic modules (e-modules). It was concluded that the pictorial E-Module effectively increases the results of creative thinking skills.

1. INTRODUCTION

Education can change a person's attitude and behavior so that they are more mature through teaching, and education has an important role in the nation's progress. Someone educated will obtain information to improve superior and better human resources to affect the nation's progress (Lim et al., 2021; Uzorka & Makeri, 2020). Education can be said as an optimally planned effort so that output can compete actively and rely on its ability to find work (Alqraini & Alasim, 2021; Ostapenko et al., 2020; Xiong et al., 2020). Generally, education is needed by every human being because it can be a tool for improving self-quality. There are many learning activities at the educational level; one is an elementary school (Erawati et al., 2021; Sukendar et al., 2019). Learning can be said as an interaction in a learning

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environment. Currently, learning is carried out thematically with various subjects following the provisions of the 2013 curriculum (Maharani, 2015; Wulandari, 2020). The success of this learning activity is inseparable from how to manage the learning activities carried out by the teacher, but one also must know how to learn well. However, the obstacles currently faced are low learning outcomes caused by students' inability to think creatively. The findings state that students find it difficult to express ideas or ideas in learning activities, so learning activities only run optimally (Arianti et al., 2019; Dara Asshofi & Damayani, 2019). Other findings also state that many students still need superior characteristics that can be used in everyday life (Hakim, 2020; Padmadewi, 2015; Zain & Gunawan, 2019). It certainly impacts the character of students who need to improve. This problem is also found in SD Negeri 5 Patemon. The observation results stated that lecturing is the method most often used by teachers, which causes monotonous and uninteresting learning. This learning model also causes students not to have creative ideas that are renewable, which causes students to be unmotivated to learn. This problem impacts students' low character scores, especially in Indonesian subjects. In addition, students also feel they need more sense because they only listen to the teacher. It needs to have more sense because students only listen to the teacher. Students are also easily discouraged because students need to figure out whether the proposed opinion is good or right. Students also feel that they need to be able to think from all directions and cannot think quickly and precisely because they are used to only receiving information and need a critical attitude. Besides that, based on the results of observations, it was also found that many students still needed to respect the opinions of others when learning Indonesian took place.

Indonesian language learning is compulsory learning obtained by elementary school students, especially in Indonesia (Halimatuzzuhrotulani, 2020; Krismasari et al., 2019). Students who study Indonesian will have language skills, so before students learn Indonesian students must have listening, reading, speaking, and writing skills (Dharma, 2019; Widyari et al., 2018). Indonesian is the national language of Indonesia, so it must be preserved. The competency standards for this subject are the essence of language learning, learning to communicate, and studying literature to appreciate human values (Faizah, 2015; Ningrat & Sumantri, 2019). Indonesian language learning directs students to improve their ability to communicate both in writing and orally, creates respect for human creativity, and forms good character (Asna & Mimi, 2016; Nani & Evinna, 2019). A person's character will affect his thoughts, behavior, and character (Muhtar & Dallyono, 2020; Nuryanti, 2019). One of the characteristics that everyone must possess is the ability to think creatively. The ability to think creatively is a quality of one's mind, such as rational thinking or ideas from a new perspective to produce imagination and the ability to imagine something creatively (Hendikawati et al., 2016; Rachmadyanti, 2017). This creative learning is very important to apply, especially in elementary schools. Besides that, the teacher must also have the ability to think creatively, such as having innovations in learning activities so that they are not monotonous and new learning variations. The component that is latest innovation is the use of media. The media presents a source of information so that students can easily learn (Fujiyanto et al., 2016; Ridha et al., 2020).

The solution to improve students' creative thinking skills is using an electronic pictorial module. The electronic module will help teachers in learning because they can convey material well, one of which is in Indonesian language subjects. The structured e-module comprises seven components: titles, basic or basic competencies instructions, supporting information, exercises, assignments, and assessments (Asrial et al., 2019; Rara Seruni et al., 2019). This electronic module is an electronic version of the module in general or a printed module. E-modules can be accessed or used with electronic devices such as smartphones or computers (Komikesari et al., 2020; Lumbantobing et al., 2019). The advantage of this electronic module compared to print is that the module can be other multimedia such as videos or animations as well as other features that can be played back by students and can be used anytime and accessed at any time (Asrial et al., 2020; Sadimin Sadimin et al., 2017). E-modules are innovative because they contain and use teaching materials that are complete, interactive, and have good cognitive functions for students. The use of this electronic module is in line with the times and the 2013 curriculum, which emphasizes student activity and the use of technology in learning (Rahmatsyah & Dwiningsih, 2021; Winatha & Abubakar, 2018). This e-Module will also help teachers guide students, and students' treasury of their learning resources will increase. Previous research findings stated the shortcomings of conventional teaching materials: they cannot be accessed anywhere and are not practical (Darmaji et al., 2020; R. Seruni et al., 2020). Other research findings state that the E-module has excellent practicality for students (Mazidah et al., 2020; Purnamasari et al., 2020). Other findings also state that this model is interactive to help students improve their cognitive abilities and impact learning outcomes (Pratiwi et al., 2021; Triwahyuningtyas et al., 2020). So this E-module is very feasible to be applied in learning. There has yet to be a study on the Illustrated Electronic Module to Improve Creative Thinking Ability in Fourth Grade Indonesian Language Subjects. The advantage of this E-module is that it was developed specifically

for Indonesian subjects, which will cause students to be more directly and independently involved and active in learning. This e-module is also said to be an alternative for teaching teachers, which can be used as innovative teaching materials that give students new and not boring learning experiences so that the ability to think creatively increases. This study aims to develop an Illustrated Electronic Module to Improve Creative Thinking Skills in Fourth Grade Indonesian. It is hoped that the E-module can improve students' creative thinking skills.

2. METHOD

This research type uses the ADDIE model, which includes analysis, design, development, implementation, and evaluation (Wicaksana et al., 2019). The research subjects were two material expert lecturers, two media expert lecturers, and one practitioner. The test subjects were fourth-grade elementary school students totaling 26 students. Product trials at the implementation stage were carried out using a pre-experimental design, one shoot case study. Data collection in this electronic module (e-module) development research used the questionnaire method by providing sheets of paper or lists containing written statements or questions that must be answered by the research subject concerned. The instrument used is the rating scale instrument. The grid is presented in Table 1 and Table 2.

Table 1. The Validity for Media Experts

No	Aspect	Indicator	Item Number
1	Organization	The ease of achieving learning goals	1
		Clarity of learning material	2
2	Attractiveness	The appearance of the contents of the Indonesian Content Electronic Module (E-Modul) is attractive	3,4
		Clarity of instructions for doing the exercises	5
		The neatness of the Indonesian Content Electronic Module (E-Module).	6
3	Letters and pictures	Color accuracy of letters and images	7,8
		Clarity of use of letters	9
4	User Friendly	Easy-to-use instructions	10,11
		Easy-to-use information	12,13
5	Adaptive	The Indonesian Language Electronic Module (E-Modul) adapts to technological developments.	14,15

(Lumbantobing et al., 2019).

Table 2. Material Expert Validation Sheet

No	Aspect	Indicator	Item Number
1	Self Instruction	Clarity of learning objectives.	1,2
		Packaging of learning materials.	3,4,5
		Learning materials are supported with examples and illustrations.	6,7,8
		The exercise questions presented are relevant to the material, the activities' context, and the students' environment.	9,10,11,12,13
		Use of simple and communicative language.	14,15,16
		Availability of a summary of learning materials.	17
		Availability of feedback on student assessment.	18,19
2	Self Contained	Contains all learning material for one competency standard or basic competency as a whole.	20,21
3	Adaptive	The Electronic Module (E-Modul) adapts to technological developments.	22,23
4	User Friendly	Easy to use instructions.	24,25
		Easy to use information.	26,27

(Lumbantobing et al., 2019).

This study used data analysis techniques: qualitative descriptive statistical analysis, quantitative descriptive statistics, and inferential statistics. The qualitative descriptive analysis method in this study was used to organize the data obtained from input, responses, criticism, and suggestions from the results of expert reviews on electronic module teaching materials (e-modules), which were developed with media assessment sheets in the form of questionnaires. The quantitative descriptive analysis method is used to obtain an average score from experts regarding electronic module teaching materials (e-modules). Inferential statistics are used to analyze the effectiveness of the media on learning interest by using the one-sample t-test formula.

3. RESULT AND DISCUSSION

Result

An illustrated electronic module (e-module) has been carried out with the development model used, namely the ADDIE development model. First, analysis. The result of the analysis is that lecturing is the method most often used by teachers, which causes monotonous and uninteresting learning. This learning model also causes students not to have creative ideas that are renewable, which causes students to be unmotivated to learn. This problem impacts students' low character scores, especially in Indonesian subjects. In addition, students also feel they need more sense because they only listen to the teacher. It needs to have more sense because students only listen to the teacher. Students are also easily discouraged because students need to figure out whether the proposed opinion is good or right. Students also feel that they need to be able to think from all directions and cannot think quickly and precisely because they are used to only receiving information and need a critical attitude. Besides that, based on the results of observations, it was also found that many students still needed to respect the opinions of others when learning Indonesian took place. The results of the curriculum analysis are presented in Table 3.

Table 3. Basic Competencies and Competency Achievement Indicators

Basic competencies	Competency achievement indicators
1. Accept and carry out the teachings of the religion they adhere to. 2. Demonstrate honest, disciplined, responsible, polite, caring, and confident behavior in interacting with family, friends, teachers, and neighbors. 3. Understanding factual knowledge by observing (hearing, seeing, reading) and asking questions based on curiosity about himself, God's creatures and their activities, and the objects he encounters at home and school. 4. Present factual knowledge in a clear, systematic, and logical language, in aesthetic works, in movements that reflect healthy children, and in actions that reflect the behavior of children of faith and morality.	4.1 Analyze the message of poetry presented orally and in writing with the aim of pleasure. 4.2 Pronouncing personal creations of poetry with correct pronunciation, intonation, and expression as a form of self-expression.

Second, design. The design stage of the electronic module (E-Modul) with Indonesian language content to improve creative thinking skills is carried out by referring to the analysis phase that was carried out previously. At this stage, it starts with transferring the information obtained at the analysis stage into a document that will become the basis and purpose of the electronic module (E-Modul) with pictorial content in Indonesian poetry material. The aim is to provide an overview and flowchart of the electronic module (E-Module) that will be developed. The full picture of the Electronic Module (E-Modul) is attached. The developed electronic module contains the stages of flow, namely the cover, the title of the learning video, the name of the module maker, basic competencies and indicators of achievement of learning module competencies, and the flow of learning module material used. The design results are presented in Figure 1.

Third, development. The development stage involves designing and creating Indonesian language learning modules. Pictures of Indonesian language learning modules that have been designed, consisting of covers, module usage guides, table of contents, Core Competencies and Basic Competencies, materials, summaries, and lists of references. The cover for the electronic module for the Indonesian content of the poetry material contains the identity of the video designing agency. The e-module is equipped with a foreword, a guide for using the module, and a table of contents. This Indonesian E-Module is equipped

with basic competencies and indicators of achievement of competencies to make it easier for users in the learning process. The material begins with giving a video. With this video, students know the material to be studied. This e-module contains a summary greeting. At the end of this E-Module, there is a bibliography. The results of the development of the E-module are presented in Figure 2.

Figure 1. Results of E-module Media Design
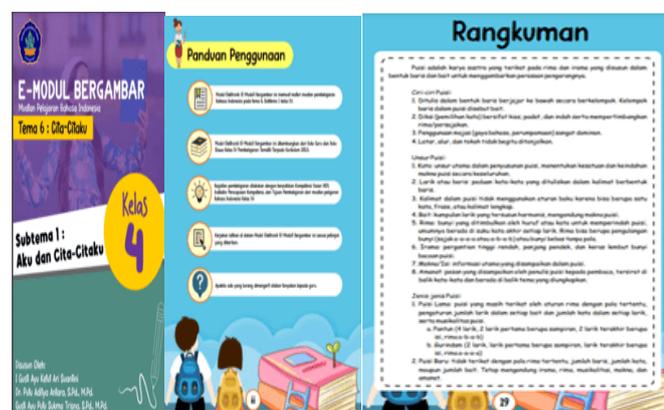
Figure 2. Results of E-module Media Development

Experts then validate the e-module. The average score obtained from the results of the media expert test is 4.8 (very good). The average score obtained from the results of the material expert test is 4.9 (very good). The average score from the results of the practitioner trials is 5 (very good). Fourth is implementation. At this stage, the implementation of learning media was attended by 26 students. To find out the effectiveness of the media, a treatment is carried out by providing illustrated electronic modules (E-Modules), after which in the learning process takes place direct observations or observations are made to students to find out the skills students have. The results of the normality test are the Sig. Results of creative thinking ability 0.13 > 0.05. Then the results of students' creative thinking abilities in the Indonesian language learning subject are normally distributed. The 2-tailed significance value is 0.000 <0.05, so as a basis for decision-making in the independent one-sample t-test, it can be concluded that H0 is rejected and H1 is accepted. Thus it can be concluded that there are differences in the results of the fourth-grade students' creative thinking abilities after learning to use pictorial electronic modules (e-modules), so pictorial electronic modules (E-Modules) are effective for increasing the results of students' creative thinking abilities in Indonesian class students' learning subjects four elementary schools.

Discussion

The results of the data analysis stated that there were differences in the results of the fourth-grade students' creative thinking abilities after learning to use pictorial electronic modules (e-modules). It is because, first, the E-module can improve creative thinking skills. Character education can be interpreted as education that can develop positive character values so that students can apply these values in their lives and reduce the level of crime that occurs in the field (Putrayasa, 2017; Rokhman et al., 2014; Timmermans et al., 2019). The character of this child must be developed according to their talents and interests because it will be easier for children to understand character values through learning what they

like so that it will become their talent (Fahmy et al., 2015; Hulawa, 2019). Previous research also states that using creative movement and play can improve children's character to be more active (Antara, 2018; Astiwi et al., 2020). This e-module has its characteristics because it is equipped with videos and interesting pictures in the form of landscape images. The advantage of this E-module is that it combines interesting pictures with videos to give the impression of a fun learning atmosphere. In addition, learning activities also contain poetry material that will give students an understanding of poetry. This e-module can facilitate teachers in learning (Fisnani et al., 2020; Hamzah & Mentari, 2017). This interactive attitude E-module involves visual and sound displays that make students interested and challenged in learning because it is unique (Astalini et al., 2019; Pratono et al., 2018). This appropriate packaging can certainly increase children's creativity so that it impacts the value of students' creative thinking skills increasing.

Second, the E-module can increase students' understanding. Learning using this module helps teachers convey Indonesian material. This e-module has a complete structure that will support learning. The advantage of this electronic module compared to print is that the module can be other multimedia such as videos or animations as well as other features that can be played back by students and can be used anytime and accessed at any time (Asrial et al., 2020; Sadimin Sadimin et al., 2017). The features contained in the e-module can be played back by students so that students who have a slow understanding of the process will be more helpful by using media that can be played at any time (Fisnani et al., 2020; Kimianti & Prasetyo, 2019). E-modules are innovative because they contain interactive teaching materials that affect students' cognitive abilities (Aufa et al., 2021; Subarkah et al., 2021). This e-module is also associated with children's cognitive development so that they can interpret real events in the environment. It is what makes this medium very attractive and suitable for use. The use of e-modules is in line with the 2013 curriculum, which emphasizes student activity (Silalahi, 2020; Sitorus et al., 2019). Students who are active in learning activities will certainly have a better understanding. Moreover, elementary school children have high curiosity, so that this use will attract students' interest in learning (Asrial et al., 2020, 2021). This practice can also help students understand the material being explained. Previous research findings stated that using e-modules significantly increased students' cognitive abilities (Darmaji et al., 2020; Triwahyuningtyas et al., 2020). Other findings also state that using e-modules can provide students with a more enjoyable learning experience (Fisnani et al., 2020; Syahrial et al., 2021). Other findings also state that e-modules significantly help independent learning and improve learning outcomes (Buchori & Rahmawati, 2017; Mauliana et al., 2022). Thus the E-module is indeed very appropriate for use in learning. This research implies that modules provide an understanding of poetry material and can improve students' creative thinking abilities in learning. The contribution of this research is that using E-modules can create enjoyable learning to streamline the learning process.
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4. CONCLUSION

E-modules get very good qualifications from experts and teachers. Data analysis showed differences in the results of the fourth-grade students' creative thinking abilities after learning to use pictorial electronic modules (e-modules). It was concluded that pictorial electronic modules (E-Modules) effectively increase students' creative thinking abilities in the Indonesian language learning subject for fourth-grade elementary school students.

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