

Development of Electronic Storybooks to Improve the Environmental Care Character of Elementary School Students in Pancasila and Citizenship Education Subjects

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Abstract

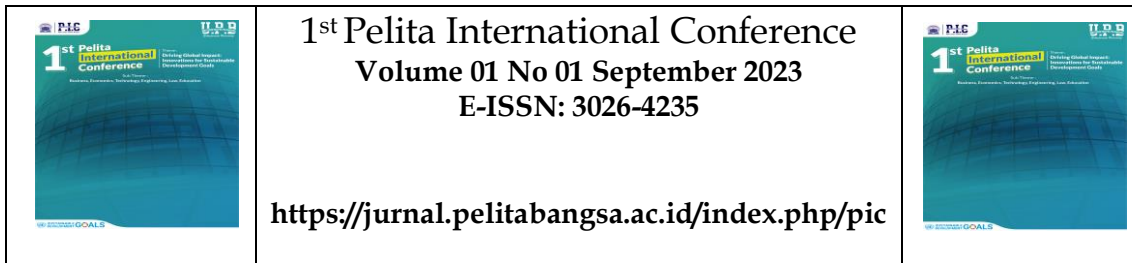
This study aims to develop teaching material products in the form of electronic story books to increase the character of caring for the environment in the Android-based Pancasila and Citizenship Education subjects. The type of research used is Research and Development (R&D). This study uses data collection techniques in the form of questionnaires and observations. The data collection instruments used were product rating scales, character self-assessment questionnaires about caring for the environment, character observation guidelines and teacher and student interviews. Research data were analyzed using the percentage formula. Based on the assessment of media experts, the electronic storybook product scored 80.1% in the good category, according to linguists, the electronic storybook product scored 84.95% in the good category, and the material expert's assessment was 86.35% in the good category. The use of electronic story books for students in elementary schools on individual scale tests obtained an average percentage of 87.25% with very good criteria, 88.70% small-scale trials with very good criteria then carried out large-scale product trials on average percentage of 86.20% while the results of data analysis of operational trial results show significant results of electronic story books in the formation of environmental care, planting environmental care, and maintaining environmental care. Electronic storybooks on class III Pancasila and citizenship education lessons at Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province, are appropriate for use as additional learning media in enhancing the environmental care character of students in elementary schools.

Keywords: books, care characters, electronic, environmental, story,

INTRODUCTION

Environmental problems are of concern to the world community because humans and the environment are basically interdependent with each other, the environment can be utilized by humans and environmental sustainability depends on humans themselves how humans treat their environment (Supadmi and Larashanti 2020), Humans should protect nature because their dependence on the environment is very high, but what is happening right now is environmental damage caused by humans, because they are not sensitive that what they do can cause damage to nature which results in disasters caused by human actions themselves such as landslides, floods (Oktiawati and Itsna 2020) causes changes such as loss of shelter, psychological damage affected by the disaster, especially children, and even loss of life (Cas. et.al 2014) due to a lack of sensitivity in managing their environment and the wrong behavior of citizens that can threaten their lives (Yusuf , R. et. al 2020) especially people in urban areas (Prasetyo Wibowo and Budimansyah 2016).

An understanding of natural preservation, concern for the environment for citizens needs to start early (Fatimah and Adawiyah 2017) in order to understand how to treat the environment. This method can be done through education (Nugroho and Maryanto 2018). Environmental education is a tool in forming positive mentality towards the environment and building human

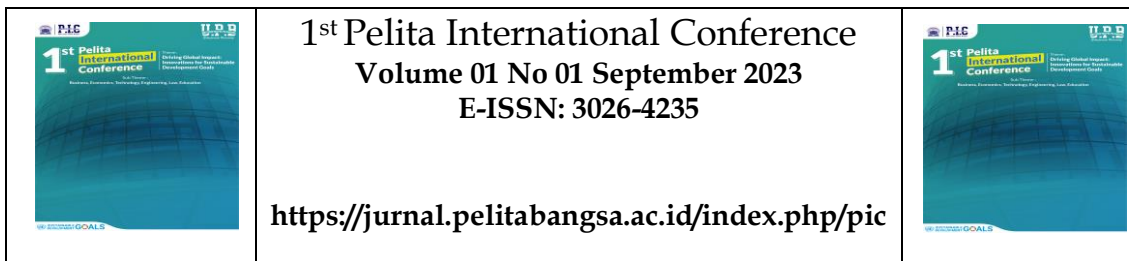


sensitivity to protect and protect the environment (Cheng, Judith Chen-Hsuan. 2008), efforts to form human resources who can maintain, manage and preserve the environment, known as ecological citizenship. Environmental citizenship is a new concept for shaping citizen behavior in preserving the environment that every citizen must have (Szerszynski 2006). In essence, ecological citizenship is an effort to shape citizen awareness to become human beings who are involved in protecting the environment Deane Curtin (Isin, E.F. and Turner, B.S. 2002), the importance of protecting the environment aims to form citizens who are aware of the environment (Mariyani 2017), this formation process must start from each individual so that they can be aware of protecting and managing their environment (Erhabor and Don 2016). Apart from that environmental citizenship education essentially includes an understanding of environmental issues, the rights and responsibilities of citizens to promote environmentally friendly activities, these promotional activities can be carried out through various media or applications to increase knowledge about citizenship and culture (Yusuf, R, et. al 2020).

Awareness of protecting the environment is still far from being understood by students, this is based on research conducted by researchers at Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province. Most of the students still throw plastic waste used for snacks carelessly, indicating a lack of knowledge about the environment and also a lack of supporting facilities (Mardiana et. al 2019). This shows that within the scope of learning materials in schools, especially Pancasila and Citizenship Education regarding the concept of environmental citizenship, it is still very minimal, because education is still being held which is merely a transfer of knowledge without involving the experience of students. The educational experience in question is a tool for social change (Dewey 1916), social change is one of the environmental or ecological issues. To achieve social change, it must go through a learning implementation process that involves the talents and interests of students so that they become enthusiastic in participating in all the subjects taught (Setiawan, D 2014) and are able to respond to environmental issues, especially in the subjects of Pancasila and Citizenship Education.

The role of the teacher in the learning process is not the only source and center of learning (Oya and Budiningsih 2014), the teacher must be skilled in developing learning media by understanding the concepts and applications of media in comprehensive learning, various strategies are designed and evaluated and to improve student learning from text (Kombartzky.et.al 2010), besides that an educator must be able to understand the abilities, potential, interests, hobbies, attitudes and personalities of his students (Sukmawati and Nurgiansah 2020), in accordance with Permendikbud number 65 of 2013 Chapter I About Process Standards Basic and Secondary Education, that the learning process in educational units is organized interactively, inspiring, fun, challenging, motivating students to participate actively, and providing sufficient space for initiative, creativity and independence in accordance with talents, interests, and physical and psychological development learners. In conclusion, the purpose of learning is not only on the cognitive aspect, but with the appearance of student behavior with good character, because good character is a moral behavior that will shape future humans. It is necessary that the inculcation of a caring character for the environment to students from an early age is one of preparing human resources who care for the environment in an effort to save the environment in the future, not only providing information about good environmental care characters, but being able to grow and instill care. , love, caring for the environment and creating a beautiful environment, such as disposing of trash in its place, caring for plants in the school and home environment by watering the plants regularly in the morning and evening, and cleaning the floor after playing at home, that the character of caring for the environment is an effort to form, instill, maintain, manage and preserve the environment of students properly.

This research is limited to the problem of environmental care characters that have not been seen in students at Cijengkol 02 State Elementary School, Bekasi Regency, West Java



Province, especially Class III, one of which is because the use of learning media is not optimal for students, even though character planting activities have been implemented frequently, it requires a learning innovation. Need professional development in the pedagogical application of skills to improve learning (Robetson, W 2015), the importance of technological support for teachers in order to facilitate learning, so this research was conducted to develop learning media in the form of electronic story books packaged in android.

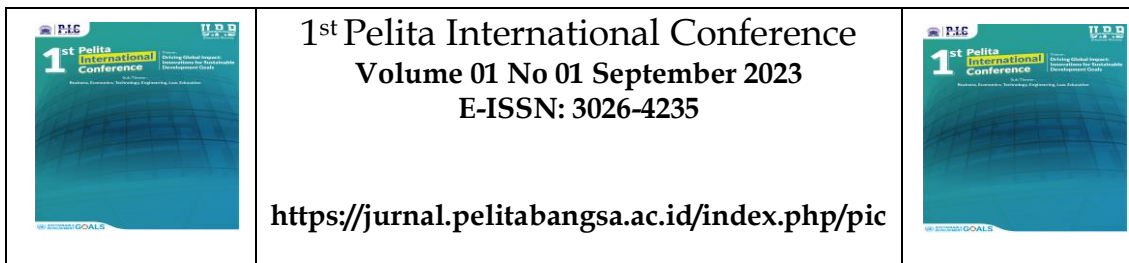
Storybooks include text and images (Khotimah, 2010) which aim at visual literacy (O'Neil, 2011). Woolley (2011) explains that there is a relationship between visual power models that readers understand from visuals and text. Storybooks are reading something that is accompanied by text and pictures that can stimulate stronger knowledge. From the arrangement of words, pictures can help and build students' perceptions for the purpose of the story, thus making learning more enjoyable. In research (Anderson and Balandin, 2011) states that story books can meet the literacy, cognitive, attentional, and psychosocial needs of students (Van Der Pol, 2012) states that students who read twenty-four picture books with literary dialogue can increase understanding what he read. Electronic story books include text and pictures consisting of words arranged to give meaning with additional pictures as message reinforcement.

Electronic storybook learning media contains stories designed by storytellers with a specific purpose (Gusal 2015) by looking for relationships that are told about what happens in nature or environmental issues that can instill and develop student character education (Azizah. et.al 2017), and contain advice, messages or moral messages (Habsari 2017), electronic story books are packaged in android application programs developed in the industrial era 4.0, software applications installed on mobile devices (devices running). Android applications are marked with the extension.apk. Application Package Files are distributed and installed on mobile devices (Irsan 2015).

The electronic story book contains story material on how to properly care for, protect and manage the home and school environment, which is presented taken from the basic competencies of the Pancasila and Citizenship Education subjects with the theme of loving plants and animals in class III, first semester of elementary school. Through the developed electronic storybook learning media, it is hoped that it will provide a new learning experience for students and can help educators in the learning process. So that good characters in electronic story books are expected to be able to grow and instill care, love, care for the environment and create a clean, beautiful and comfortable environment.

RESEARCH METHOD

The research method used by the author is Research and Development or research that produces certain products and tests the effectiveness of these products (Sugiyono 2012). The development carried out was in the form of making an electronic story book which was presented in android on Pancasila and Citizenship Education for the Elementary School level. The electronic story books developed can be used by educators as additional learning media for students. Product trials consist of three stages consisting of limited trials, field trials, and operational field trials. Previous learning device products were validated first by media experts, language and material experts then revised. The research test subjects consisted of 6 students for individual trials, 10 students for small-scale trials and 25 students for large-scale trials, while the operational field trials involved 35 students, all of whom came from class students. III from Cijengkol 02 Public Elementary School, Bekasi Regency, West Java Province. Data collection from this research was carried out using questionnaires and observations. The data collection instruments used were product rating scales, self-assessment questionnaires about the character of caring for the environment, character observation guidelines, and student response scales. Questions are



distributed to other people who are willing to provide perceptions in accordance with the user's request (Sugiyono 2012).

RESULTS AND DISCUSSIONS

Electronic story books presented through android with the theme of caring for the environment are developed based on needs in the field which are able to attract students and make it easier for students to understand the material being taught. Information gathering is carried out through interviews, observations and analyzing existing products. Furthermore, the researcher collects and prepares the subject matter to be processed, the subject matter is arranged based on the activity units held in elementary schools. Next, the material is prepared and planned, then an electronic story design is created that can be used with Android.

Based on the results of interviews conducted by researcher with one of the educators at Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province. In understanding the character values that are instilled in the implementation of learning, educators say that the value of character in students is important. Students at this elementary school have begun to show progress in their caring character by seeing that there is not a lot of rubbish lying around at the end of break time and the students who picket in the morning are happy. watering the school yard plants although alternately. This is corroborated by the results in the interview as for the following statements:

"Character values should be carried out through habits or examples in the form of modeling in forming good attitudes. In learning, emphasis should also be placed on aspects of attitude or character and aspects of skills, not just emphasizing cognitive or knowledge aspects. Children are now growing up amidst the growth of technology, they are able to use Android and the applications provided on Android have influenced children's behavior in no small way. Therefore, cultivating a culture of character is necessary so that students grow up with intelligent souls and character (Interview with Mr. RD, January 2022)

Researcher conducted theoretical studies regarding story books as a medium for improving character. The study was analyzed from books and journals that have something to do with the needs of researchers to develop learning media for electronic storybooks. Based on the results of the literature study that has been carried out, it is found that learning using story books is more interesting for students to understand learning material, besides that electronic story books contain material caring for the environment instilling the character values of loving the environment, caring for the environment and creating a clean, beautiful surrounding environment and comfortable.

Based on the preliminary results above, it can be concluded that teachers need learning media that can make it easier for students to understand the material, one of which is an electronic story book that is needed to include instilling character values to maintain the environment, love plants or care for the environment so that students can achieve learning goals. This electronic story book has been validated by 3 Media, Language and Materials experts.

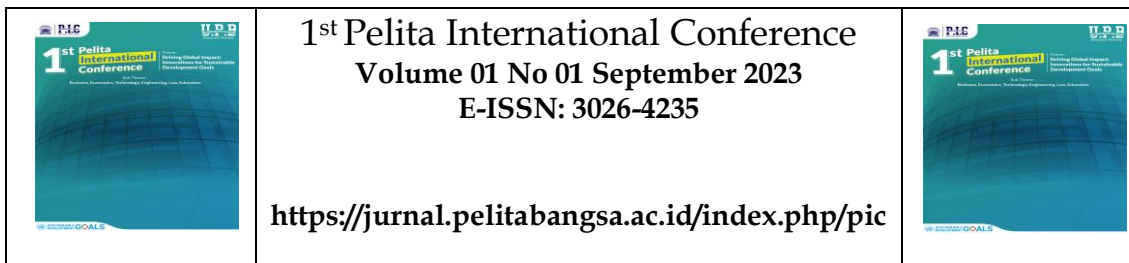
Validation data from experts obtained the following results:

Media Expert Validation

Product validation by media experts uses research instruments in the form of questionnaires. Based on the validation results by media experts, the total score of the 15 questions is 534. The overall percentage of the media expert testing questionnaire is 80.1% with Good criteria.

Language expert validation

Product validation by language experts uses a research instrument in the form of a questionnaire. Based on validation results by language experts. The total score of the 16 questions



is 573, the overall percentage of the language expert test questionnaire is 84.95% with Good criteria.

Material expert validation

Material expert product validation uses a questionnaire. Based on the results of validation by the material expert, the total value of 13 questions is 489. The overall percentage of the material expert test lift is 86.35% with good criteria. Can be seen in table 3

Table 3. average percentage

Expert	Score	Percentage	Category
Media	534	80,1	Good
Language	573	84,95	Good
Material	489	86,35	Good

Based on field trials, the following results were obtained:

Individual trials

Respondents taken from this individual scale field trial were 4 students in class III of Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province. The total score for the 25 instrument items from 6 respondents was 519. Thus the percentage for electronic storybook products was 86.5% with Very Good criteria.

Small scale trials

The respondents taken for this small scale were 10 students in class III of Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province. The total score for the 16 instrument items from 10 respondents was 869. Thus, the percentage of electronic storybook products was 86.9% with Very Good criteria.

Big scale trials

Respondents taken from this large-scale field trial were 25 class III students of Cijengkol 02 Public Elementary School, Bekasi Regency, West Java Province. The total value of the 8 instrument items from 25 respondents is 782. Thus the percentage for electronic story book products is 86.2 With Very Good criteria, can be seen in table 4.

Table 4. average percentage

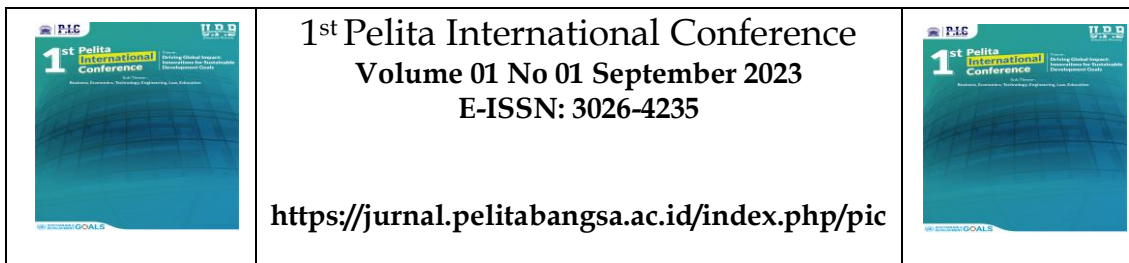
Scale	Score	Percentage	Category
Individual	519	86,5	Very Good
Small	869	86,9	Very Good
Big	782	86,2	Very Good

Data Analysis Of Operational Trial Results

This trial involved class III in elementary schools in Bekasi Regency, West Java Province, totaling 35 students. The results of the data analysis of the environmentally caring character collected in operational testing activities for the experimental class showed a significant increase in results. This can be seen from the difference in the increase in the average total score obtained which can be seen in table 5

Table 5. Differences in Total Environmental Care Character Scores

Data	Significance
Formation of Environmental Care	0,000
Environmental Care Habituation	0,000



Care for the Environment

0,000

Based on the table above, a significant value was obtained for environmentally caring character between before using electronic storybook learning media and after reading electronic books which have been developed to improve environmentally caring character in class III of elementary schools in Bekasi Regency, West Java province.

Final Product Review

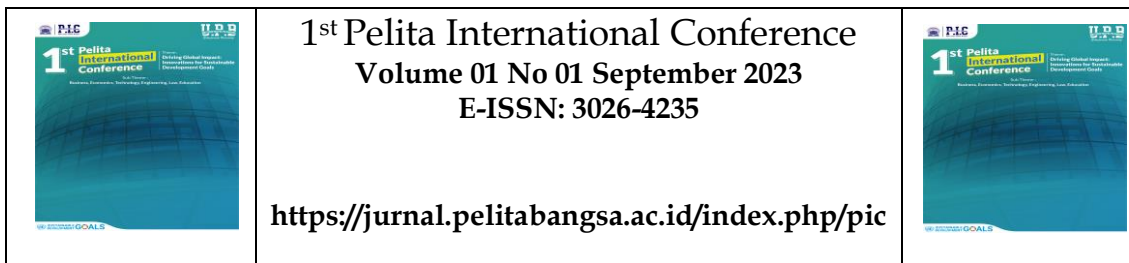
The final product in this research included initial drafts, limited trials, expanded trials and operational trials. The final product in this development research is an electronic story book packaged in android with the theme of loving plants and animals Pancasila and Citizenship Education for third grade elementary school students. The language of electronic story books has attractive colors, pictures, reading text so that students are interested in reading electronic story books. Electronic storybooks contain material summaries and quiz menus in each story, so they can measure students' understanding. Electronic storybooks have characters in each story for character modeling. Electronic story books also have a communication menu between students where students can display or post their activities in protecting the environment, so that other students are encouraged to take part in these activities. Based on the assessment of the media expert, the electronic story book product received a score of 534 in the good category, according to the language expert, the electronic story book product received a value of 573 in the good category, and the material expert's assessment was 489 in the good category. Based on the assessment of these experts, it can be concluded that electronic story books with the theme of loving plants and animals are appropriate for use in this study.

According to media experts, electronic storybooks have pictures and text that can be read, narratives as explanations that can make it easier for students to read them. According to language experts, electronic storybooks are communicative and the sequence and integration of the sentence flow of thought are good. Meanwhile, according to experts, the material for this electronic story book is in accordance with learning competencies and learning objectives, according to the characteristics of elementary school students. Electronic storybooks help educators in conveying material to students.

An electronic story book with the theme of caring for the environment, which contains the content of providing a stimulus for students to love plants and animals. It contains examples of characters caring for the environment. Students can follow the characters in the story to care more about their environment, as exemplified by the character in the story, how to care for plants, care for animals and care for the environment which plays a very important role in human life. An example of this modeling instructs the knowledge that students already have to do the same thing as the characters in electronic story books do. Examples of characters modeled in the story are in accordance with the conditions students experience every day at school and at home.

CONCLUSION

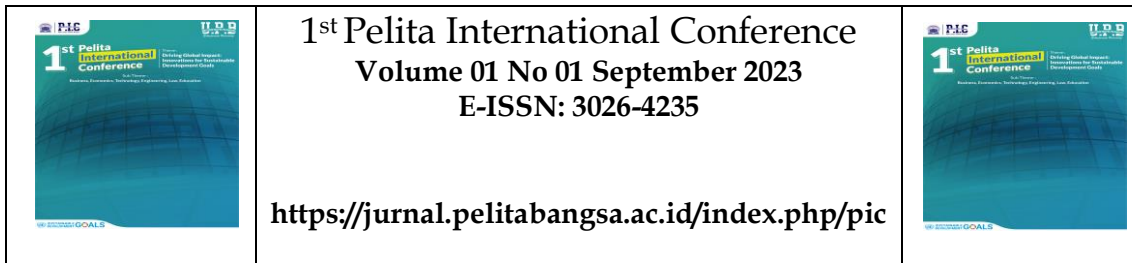
Based on the results of the research that has been done, it can be concluded that the product produced is an Electronic Story Book on Pancasila and Citizenship Education Class III, Cijengkol 02 State Elementary School, Bekasi Regency, West Java Province, the entire story book product consists of text, pictures so that it is interesting to use as a learning medium, Android-based electronic storybook learning media has previously carried out an evaluation stage by experts, namely media experts, language experts, and material experts who obtained "very good" eligibility. Then the trials were carried out on students on an individual scale, small-scale trials, large-scale trials obtained "very good" feasibility based on the trial results obtained, the



development of an electronic story book on Pancasila Education and Citizenship Class III, Cijengkol 02 Public Elementary School, District Bekasi, West Java Province, it can be concluded that the product is suitable for use as a learning medium that can assist in the learning process of Pancasila and Citizenship Education and can improve the environmental care character of Elementary School students in forming, instilling, maintaining, managing and preserving the environment of students properly.

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