

Development of Flip Book Learning Media Based on Ecopedagogic Approach in Social Science Learning Early Primary School Class

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Abstract. Research objectives for developing flip book learning media based on an eco-pedagogical approach in early elementary school social studies learning. This development and research used the ADDIE model with research procedures namely analysis, design, development, implementation and evaluation. The research subject is UPT SDN 104201 Kolam. The instruments in this research will be used to measure validity and practicality using questionnaires and effectiveness using tests. Data collection techniques for feasibility testing involve material and media experts, practicality involves educational practices, and effectiveness testing uses pretest and posttest. Data analysis techniques combine descriptive quantitative and qualitative. The results of the research were that material experts gave a score of 96.3% in the "Very Appropriate" category and media experts gave a score of 98.6% in the "Very Appropriate" category. Research conclusions: Development of flip book learning media based on an eco-pedagogical approach to social studies learning improves learning outcomes for students in the early grades of elementary school.

Keywords: Development, Media, Flip Book, Ecopedagogical Approach, Social Sciences

1 Introduction

Basic education is a crucial foundation for building the character and competence of the younger generation. One subject that plays a strategic role in developing social, cultural, and environmental knowledge is Social Studies. In the early elementary grades, Social Studies instruction aims to introduce students to social life and human interaction with their environment. However, in practice, Social Studies instruction often faces various challenges that hinder the achievement of learning objectives.

Facts show that the dominant learning methods used in Social Sciences learning are still dominated by lectures and memorization, which makes students less active in the learning process. Based on a survey conducted by the Ministry of Education and Culture in 2019, around 72% of elementary school students feel bored with the way Social Sciences material is delivered because it is less interactive and interesting. In addition, student learning outcomes in Social Sciences subjects are often below the Minimum Completion Criteria standard, indicating that students have difficulty understanding the material [1].

Environmental issues are increasingly gaining attention. Education is one effective way to instill environmental awareness from an early age in a global context. Tilbury, in the journal *Environmental Education Research*, argues that an ecopedagogical approach, which integrates sustainability values into education, is highly relevant for instilling environmental awareness in children. However, in Indonesia, social studies learning materials integrated with environmental values are still very limited, especially at the elementary school level [2].

The use of technology-based learning media has been shown to increase student learning motivation. Rahmawati et al. found that digital flipbook media can increase student understanding by up to 85%, especially when accompanied by attractive visual designs and interactive features. Flipbooks provide the advantage of presenting material dynamically, which suits the characteristics of early elementary school students who are more interested in images and animations than static text [3].

Research also shows that the majority of teachers in Indonesia have not utilized digital learning media optimally. Based on a survey conducted by the Center for Educational Research and Development in 2020, only 30% of teachers at the elementary school level use digital media in their learning, while the other 70% still rely on conventional methods. This indicates an urgent need to develop technology-based learning media that are relevant to the needs of students and teachers. In addition, challenges in learning Social Studies in early grades are also related to the abstract characteristics of the material, such as human interaction with the environment, which is difficult for students to understand without the support of concrete and contextual learning media. A contextual approach in learning media can help students relate the material to everyday life, so that their understanding of abstract concepts increases significantly [4].

Ecopedagogy-based flipbook media offers a potential solution to address these problems. Flipbooks can present Social Sciences material by integrating sustainability values in a visual and interactive form. Ecopedagogy-based learning media increases students' environmental awareness by up to 70%, because this approach emphasizes the relationship between human activities and their impact on nature [5]. The development of ecopedagogy-based flipbooks is also in line with the needs of 21st-century learning that requires students to have critical, creative, collaborative, and communicative thinking skills. Flipbooks can be designed to include interactive elements, such as quizzes, educational games, and simulations, which not only increase student engagement but also build 21st-century skills.

The development of ecopedagogy-based flipbook learning media in Social Studies learning in early elementary school grades is a highly relevant initiative in the current educational context. Innovative learning media such as flipbooks can increase student engagement and facilitate better understanding of teaching materials, especially in the context of environmentally oriented education. The importance of environmentally oriented education has been recognized in various studies. Ecopedagogy as an educational approach that integrates environmental

awareness in the teaching and learning process can help students to understand and love their environment. Introduction to the environment for early childhood must be done through direct experience, not just a mere transfer of knowledge [6]. This is in line with the goal of developing interactive and interesting learning media, such as flipbooks, which can encourage students to be more active in learning about their environment.

Flip books as a learning medium have the potential to increase students' motivation and interest in learning. The use of engaging learning media can help address the problem of students' lack of interest in learning, especially amidst the increasing challenges of online learning during the pandemic [7]. By utilizing flip books, teachers can present Social Studies material in a more engaging and interactive way, so that students are more engaged in the learning process. Research on the development of flip book media based on the Ecopedagogic Approach for Social Studies learning in early elementary school is still very limited. Most studies focus on the use of digital media in general without integrating ecopedagogical values. Therefore, this study aims to develop ecopedagogical-based flip book learning media that is not only engaging and interactive but also instills values of sustainability and environmental awareness in students.

The development of learning media based on the ecopedagogic approach is also in line with the goals of national education in Indonesia. Education in Indonesia aims to shape character and skills relevant to the needs of society, including environmental awareness [8]. By integrating the Ecopedagogic Approach in Social Studies learning, it is hoped that students will not only gain knowledge, but also skills to contribute to protecting and preserving the environment. With the right approach, this media will not only help students understand Social Studies material better, but also shape students' character as individuals who care about the environment. Character education can be instilled through good interactions between students, the environment, and teaching materials [9]. Finally, the development of flip book learning media based on the Ecopedagogic Approach can be a solution to improve the quality of education at the elementary level.

By integrating the Ecopedagogic Approach into flip book media, this research is expected to provide a significant contribution to the learning of Social Studies in elementary schools. In addition to increasing student learning motivation, this media is also expected to be able to shape a young generation that has environmental awareness, so that students can become agents of change in maintaining the sustainability of the earth in the future. Based on the explanation above, the title of this research is Development of Flip Book Learning Media Based on Ecopedagogic Approach in Social Studies Learning in Early Elementary School Grades.

2 Methods

The research method is research (Research & Development). The research and development method is a research method used to produce certain products and to test the effectiveness and feasibility of products that have been developed through several stages that can be accounted for [10]. Research and development is a study carried out systematically to develop, design, evaluate programs, processes to learning outcomes that meet consistent and effective criteria. This development and research used in this study is the ADDIE model. The ADDIE model developed by Dick and Carry which contains research procedures, namely Analysis, Design, Development, Implementation, and Evaluation [11].



Fig.1. The ADDIE Model's Stages

The research location is UPT SDN 104201 Kolam, Jl. Pendidikan, Bandar Klippa, Kec. Percut Sei Tuan, Deli Serdang Regency, North Sumatra 20371. The research period is odd semester 2025/2026, June 2 to August 31, 2026. The subjects of this research are students and teachers of UPT SDN 104201 Kolam. The object of this research is the Flip Book learning media based on the Ecopedagogic Approach in learning Social Sciences in early grades of Elementary School. This development research will also be assisted by several validators who have expertise in their respective fields to test the validity of the Flip Book learning media based on the Ecopedagogic Approach in learning Social Sciences in early grades of Elementary School. The sample of this research is the third grade students of SDN 104201 Kolam, totaling 22 students consisting of 11 male students and 11 female students.

The instruments in this study will be used to measure the validity, practicality and effectiveness of the developed flip book media. The instruments used are a validation questionnaire sheet from material experts and media design experts regarding the feasibility of the media, a questionnaire sheet for educational practitioners' responses regarding the practicality of the media and a test for the effectiveness of the Flip Book learning media based on the Ecopedagogic Approach in learning Social Sciences in early grades of Elementary School by conducting a pretest and posttest.

Quantitative and qualitative data analysis techniques. The product feasibility test uses expert validation to determine whether the Flip Book learning media based on the Ecopedagogic Approach in early grade Elementary School Social Studies learning that has been developed can be categorized as feasible to be tested and used in the classroom. The testing of the developed learning media was validated by experts, namely material experts and media design experts. Validation sheets were given to each expert, namely material experts and media design experts, where the assessment aspects to be validated and observed were different. The assessment using a Likert scale was carried out by giving a score, namely a score of 1 for a bad assessment, a score of 2 for a less good assessment, a score of 3 for a fairly good assessment, a score of 4 for a good assessment, and a score of 5 for a very good assessment. The questionnaire for responses from educational practitioners was carried out by teachers of UPT SDN 104201 Kolam. The assessment was carried out by giving a score, namely a score of 1 for a bad assessment, a score of 2 for a less good assessment, a score of 3 for a fairly good assessment, a score of 4 for a good assessment, and a score of 5 for a very good assessment. The research instrument used in the effectiveness test was a learning outcome test. This test determines students' ability to understand the learning material presented. The maximum learning outcome score is 100 and the minimum score is 65, in accordance with the established Minimum Completion Criteria.

3 Results and Discussion

The results of the media feasibility test were obtained from filling out a questionnaire by a media expert validator and a material expert validator, with the aim of determining the feasibility of the media. The Flip Book media based on the Ecopedagogic Approach developed in the study has gone through a validation and assessment stage directly by the media expert validator and the material expert validator so that the results of the media feasibility are known. The material feasibility test was only carried out once, the material expert's conclusion stated that the Flip Book learning media based on the Ecopedagogic Approach was in accordance with the teaching module and contained learning objectives so that the media could be implemented in the learning process, the material expert validator only provided suggestions for researchers to collaborate and work together with class teachers before implementing the media in the learning process in their classes.

The score obtained from the validation of the material expert is 53 out of 11 statements, if the score obtained is divided by the maximum score of 55 then the result obtained is 0.963 and multiplied by 100% with the aim of obtaining a value in the form of a percentage, so that the results obtained in the material validation test are 96.3% if categorized as "Very Valid" and suitable for use for trials without revision because the value obtained is located at 81% -100%. Furthermore, the media feasibility test was carried out twice because in the first validation there was a suggestion from the validator to change the instructions or instructions for using the media located on page one.

The validation activity of the learning media expert obtained a score of 65 out of 15 statements, with the score obtained divided by the maximum score of 75 and multiplied by 100%, the value obtained was 86.6%. After making revisions and improvements according to the validator's suggestions, a second validation was carried out which obtained a score of 74 out of 15 statements if divided by the maximum score of 75 and multiplied by 100%, the value obtained was 98.6% if categorized as "Very Valid" and suitable for use for trials without revision because the value lies at 81% -100%. Based on the validation assessment obtained from the material expert validator and the media expert validator, it can be concluded that the Development of Flip Book Learning Media Based on the Ecopedagogic Approach in Early Grade Elementary School Social Science Learning is feasible and valid.

The research findings show that the flip book learning media based on the ecopedagogic approach is valid and feasible. The quality of the flip book learning media based on the ecopedagogic approach is included in the category of being suitable for use in the learning process by obtaining a score of 85% from material expert validation results with a very good category. And the results of media expert validation obtained a score of 86% with a very good category [12]. Flip books as a learning medium have the potential to increase student motivation and interest in learning. Widiyanti, et al., emphasized that the use of interesting learning media can help overcome the problem of students' lack of interest in learning, especially amidst the increasing challenges of online learning during the pandemic [7].

The results of the practicality test were obtained from filling out the questionnaire by educational practicality, namely the fourth grade teacher of SDN 104201 Kolam. The practicality score obtained was 58 out of 12 statements, if the score obtained was divided by the maximum score of 60, the result obtained was 0.966 and would be multiplied by 100% in order to obtain a value in the form of a percentage, so that the value obtained from the practicality

results was 96.6% if it was categorized as "Very Practical" to be applied in the field without revision. Based on the results obtained from educational practicality, it can be concluded that the flip book learning media based on the ecopedagogic approach practical for use in the learning process because it obtained a value of 96.6% where the value is in the range of 81% - 100% with a very practical category.

flip book learning media based on ecopedagogic approach proves that the learning media is practical to use by obtaining an average value of 4.55 with a percentage of 91% (Very Practical) [13]. Learning media functions as an intermediary for information, eliminating obstacles in the learning process, increasing student motivation and optimizing the learning process [14]. This flip book learning media based on ecopedagogic approach is also easy to use in the learning process and can make students directly involved in learning.

The effectiveness test of learning media was conducted to determine how effective the learning media that had been developed was in the learning process. The effectiveness of the media was obtained by providing questions that were appropriate to the material in the flip book learning media based on the ecopedagogic approach. The questions were in the form of multiple choices totaling 20 questions and these questions had gone through a validation stage before being used. In its implementation, the question sheets were given to students before using the flip book learning media based on the ecopedagogic approach. (pretest) and after using flip book learning media based on an ecopedagogic approach (posttest) in the learning process. The purpose of providing pretest and posttest questions was to see how much students' abilities in understanding the learning material by answering questions improved after implementing flip book learning media based on an ecopedagogic approach. in the learning process.

Based on the data obtained, there was an increase between the pre-test and post-test scores, where before using the learning media, the scores obtained by students were still far below the Minimum Completion Criteria, which was around 20-40 if the average score obtained was only 29.3. But after using the flip book learning media based on the ecopedagogic approach, the scores obtained by students increased and all students got scores above the Minimum Completion Criteria between 70-90 if the average was 74.1. From the data obtained, it can be concluded that the flip book learning media based on the ecopedagogic approach in Social Sciences learning can improve student learning outcomes so that the media can be declared effective.

Results of the effectiveness of flip books based on the ecopedagogic approach emphasizes that flipbook teaching materials have a positive effect on student learning outcomes and support student understanding of Social Studies subjects, this is proven by the increase in Social Studies learning outcomes compared to students who have achieved the Minimum Completion Criteria [15]. Flipbook teaching materials are said to be effective by showing good success in thematic learning so that students understand the material better [16].

4 Conclusion

Flip book learning media based on the ecopedagogic approach developed was assessed by material experts and media experts. In the final assessment, the material experts gave a score of 96.3%, which is included in the "Very Feasible" category. Meanwhile, the media experts gave a score of 98.6%, which is also included in the "Very Feasible" category. Thus, the media can be considered feasible for use in the learning process. The practicality of the flip book learning media based on the ecopedagogic approach was assessed based on a questionnaire given to education practitioners obtained from 96.6%, this is included in the "Very Practical" category and is easy to implement in the learning process. The flip book learning media based on the ecopedagogic approach can also involve students in the learning process and the media is easy to use. The effectiveness of the flip book learning media based on the ecopedagogic approach was obtained from the results of the pretest and posttest given to students. From the pretest without flip book learning media based on ecopedagogic approach, the students' average score was 29.3, but after using flip book learning media, the students' average score increased to 74.1. This proves that the learning media is "effective" and can improve students' learning outcomes and increase students' interest in learning.

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