PAPER NAME

The Development of Ilustrated Book Based On the Environment as A Learning Source to Improve the Lear

AUTHOR

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WORD COUNT

4247 Words

CHARACTER COUNT

23019 Characters

PAGE COUNT

6 Pages

FILE SIZE

248.3KB

SUBMISSION DATE

Feb 5, 2023 10:07 PM GMT+7

REPORT DATE

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The Development of Ilustrated Book Based On the Environment as A Learning Source to Improve the Learning Outcomes of Fourth-Grade Student in Elementary School

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Abstract: *This research and development aim to develop an ilustrated book based on the environment as a source of learning that is feasible for students. The study population was fourth-grade students at Public Elementary School 1 Sukamaju, East Teluk Betung, Bandar Lampung. The research method uses Borg & Gall design. Data collection techniques using questionnaires and observation sheets. Data analysis used the Whitney U-test. The results showed that an ilustrated book based on the environment as a learning resource is feasible and effectively used to improve student learning outcomes. The feasibility of an ilustrated book based on the environment as a learning resource is based on the assessment of 3 experts and practitioner tests with very good categories, then the attractiveness test of 10 students gets a very high category. The ilustrated book based on the environment as a learning resource is also effectively used in improving student learning outcomes on the pretest and posttest scores with the results of the calculation of the Whitney U-test with u count score ≤ u table, that is 5.5 ≤ 20 so H0 is rejected or H1 is accepted. Based on the research results, it shows that the ilustrated book based on the environment product as a feasible and effective learning resource is used to improve learning outcomes of fourth-grade students in Elementary School.*
Keywords: Ilustrated Book, Environment, learning outcomes

I. Introduction

Education is one measure of the progress of a nation. Education also has a very important role in ensuring the survival of a country, because education is a means to improve and develop the quality of human resources. Educators in education nowadays have a very important role in learning, including in the learning of curriculum 2013, educators must be able to create an attractive atmosphere in learning activities. According to Law No. 20 of 2003 on the National Education System, learning is the process of interaction between students, educators, and learning resources in a learning environment. A good learning process will help influence students in achieving educational goals, that is to lead students to changes in behavior both intellectually, morally, and socially. The expected learning process is that students are actively and creatively involved in expressing opinions and ideas as a result of integrated thematic learning that is contextually applied to the learning process, resulting in the synergy between educators and students which is seen in the activities of students in concrete and holistic thinking so that learning outcomes are achieved implicitly or explicitly in thematic learning. Based on the results of observations, interviews, questionnaires, and documentation with fourth-grade educators in Public Elementary School in East Teluk Betung, information was obtained that the learning process in the classroom is only in the form of explanations of concepts and theories derived from textbooks as the only source of the material.

In addition, the learning process seems monotonous, it has not shown the activeness of the learning process. This indirectly has an impact on the achievement of learning objectives, so that the Basic Competencies obtained by students have not reached the Minimum Completeness Criteria. Learning is more about applying teacher-centered approaches, which means that educators become an information center for students. Learning has not constructed the knowledge of students and supports actualizing academic potential to show evidence that students give rise to higher thinking. Educators have not carried out learning activities that are prepared using various teaching materials and learning resources in accordance with the characteristics of the material for students. Teaching materials have an important role in the learning process in the classroom. Teaching materials are used as a reference for students in learning so that they can become knowledge and for educators, teaching materials act as a reference in increasing the effectiveness of learning in the classroom.

According to Prastowo (2013: 298), Teaching materials are defined as all materials that are information, tools, or texts that are designed systematically so that they display a complete set of competencies that will be mastered by students and can be used in the learning process in the classroom. According to Jean Piaget in Djaali (2012: 70) that elementary school students at the age of 7-11 years are included in the concrete operational stage, where students are only able to solve real problems. One of the types of teaching materials is an ilustrated book because an ilustrated book is an alternative teaching material that is suitable for elementary school students because it can motivate students to learn. The ilustrated book will help students in the process of understanding and enriching the experience of the story. According to Michell in (Fauziyah, 2009: 252), an ilustrated book is a book in which there are pictures and words, in which the pictures and words do not stand alone, but depend on each other to become a unified story.

Nasution (1977: 125) states that the environment as a source of learning can be done in two ways, that are by bringing resources from the community into the classroom and by bringing students to the environment. Of course, each of these methods can be done with certain approaches, methods, techniques, and materials that are in accordance with the objectives of the teaching. An ilustrated book can contain messages via text or facts. An ilustrated book is associated with the environment in which students live because by using a concrete or real picture of the environment around where they live, students are able to analyze problems well just as students can see, feel, and try directly in the learning process. The environment provides many and varied learning resources, depending on the abilities of educators and students to choose and use them. The environment is very important for human survival and all the activities carried out in it.

According to Wuryandari (2015: 244) the environment is everything that is around humans, which affects the development of human life, either directly or indirectly. Thus making an ilustrated book based on the environment as a learning resource, it is hoped that students will later be able to understand learning material through learning experiences in their surrounding environment. Therefore, an ilustrated book using concrete or real picture in the surrounding environment in the contents of the text can encourage student learning outcomes, because there is attractiveness when reading and not monotonous. Therefore, the development of an ilustrated book based on the environment as a learning resource is expected to be in accordance with the environment around students in order to improve student learning outcomes as well as a means of increasing learning knowledge in elementary schools. This learning is realized so that learning resources that have been less applied so far are expected to be more efficient and effective in their absorption for students. The existence of an ilustrated book based on the environment will form a scheme so that students get the integrity of knowledge from the learning experience.

II. Methods

This research is a Research and Development research, which is based on the Borg and Gall model. According to Borg and Gall, R&D is a development model in which research is used to design new products and procedures that are field-tested, evaluated, and refined to meet certain criteria. Conceptually, the research and development approach includes 10 general steps, as described by Borg & Gall, in Figs. The subject of this research is divided into two, which are the subject of product testing and the subject of using trials. The subject of expert validation product trials. The subjects of the usage test were fourth-grade educators at Public Elementary School 1 Sukamaju in East Teluk Betung. This research was conducted in 1 experimental class and 1 control class. The object of research in this development research is an ilustrated book based on the environment as a learning resource to improve student learning outcomes. Data analysis used validity, reliability, difference power test, level of difficulty, and effectiveness using the Whitney U-test.

III. Results and Discussion

Based on the results of the development of an ilustrated book based on the environment as a learning resource to improve the learning outcomes of fourth-grade students at Public Elementary School in Sukamaju, East Teluk Betung, Bandar Lampung, it is carried out by applying pictorial Verita books starting from observation, testing and improving an ilustrated book and implementation of an ilustrated book based on the environment on a small scale. The results of the research from this stage of development research are as follows:

1. Research and Information Gathering

Research and data collection which includes: collecting reference sources/literature review, classroom observations/observations, and identification of problems encountered in learning and summarizing the problems. Initial information is also needed to support the development of the questionnaire that will be developed. At this stage, the researchers conducted observations, collected learning outcome documents, and distributed questionnaires of needs to elementary schools in East Teluk Betung targeting fourth-grade teachers. After that, the researcher conducted a literature review to find references that support the existing information.

2. Planning

Conduct planning which includes identification and definition of initial conditions, setting goals, and determining the sequence of product preparation. These activities include the following.

    a.   Set goals and results to be achieved in goals.
    b.   Determine Basic Competencies related to the environment.
    c.   Mapping of Basic Competencies from Core Competencies based on themes in accordance with learning, that is the theme of My Living Area, sub-theme of Fourth-grade of My Living Environment.
    d.   Making assessment instrument indicators based on the basic competencies to be achieved.

3. Develop preliminary from of

        Develop a product from research in the form of an ilustrated book. The result of this product design is a textbook prototype. Included in this step is the preparation of supporting components, preparing guidelines and manuals, and evaluating the appropriateness of supporting tools. Furthermore, the researchers conducted product validation with experts and practitioners to see the theoretical feasibility of an ilustrated book based on the environment.

4. Premilinary Field Testing

        Initial product trials are based on the results of storybook validation by experts in the material, language, and media/design aspects as well as practitioner tests from the teacher to see the theoretical feasibility of the product. The results of the validation for each aspect are as follows.

Table 1. Results of Validation by Experts

No	Validator	Score
1	Material Expert	97,6
2	Linguists	86,5
3	Media Expert	91,7
Average		90,35

Source: Research Results

        Based on Table 1. It shows that the results of the recapitulation of material experts, linguists, and media experts get an average score of 90.35 in the very good category. Furthermore, the recapitulation results of practitioners' trials can be seen in table 2.

Table 2 Practitioner Test Scores

No	Subject	Assessment Aspects	Score	Total score	Maximum Score	Score
1.	Nuraini Z S.Pd	Theory	72	171	206	83,0
		Design	46			
		Language	53			
2.	Resmita S.Pd	Theory	76	177	206	85,9
		Design	45			
		Language	56			
3.	Roziah S.Pd	Theory	72	168	206	81,5
		Design	42			
		Language	54			
4.	Nursiah S.Pd	Theory	74	173	206	84,0
		Design	44			
		Language	55			
5.	Neni Martini,S.Pd	Theory	76	174	206	84,5
		Design	46			
		Language	52			
6.	Lis Diana S.Pd	Theory	74	172	206	83,5
		Design	46			
		Language	52			
Total				1035	1236	502,4
Average Score		83,7				
Category		Very Good				

Source: Questionnaire results obtained

        Based on table 2. It shows that the results of the practitioner trial, obtained a total score of 1035 from a maximum score of 1236, with an average score of 83.7 in the very good category. Expert practitioner validation on the product was carried out by 6 fourth-grade educators in the Public Elementary School in East Teluk Betung. Based on the expert practitioner's validation, it can be concluded that the product being developed has a very decent quality.

In this study, the practitioner validation test was carried out once. Some suggestions are also given by educators as revisions for product improvement. The results of product revisions by fourth-grade educators (practitioners) at Public Elementary School 1 and Public Elementary School 2 in Sukamaju, East Teluk Betung are as follows.

1) Adjust the image with the text in the story
2) Choosing a story related to the origin of the events in Lampung.
3) Make a product cover with an image with the theme of Lampung.
4) Explain instructional step instructions to educators.
5) Consider activities in the story-book with time allocations.
6) The image is more colorful.
7) Improve writing in the product.

The results of the suggestions from several practitioners then became a reference in revising the picture book product. After being revised the product can then be implemented because it meets the proper criteria.

5. Main Product Revision

After the initial product design is carried out to find out whether there are still discrepancies or errors in the product design to be repaired and as improvements to the product to be developed. At this stage, the researcher then improves or revises the illustrated book based on the environment product that has been validated based on suggestions for improvement from design validation and practitioners.

6. Main Field Testing

After the assessment design is validated and corrected, the researcher gives the questions that have been made according to the learning material grid, and then the validity and reliability of the questions are measured. After that, the researchers tried out small or limited groups with 10 students, those are 3 high-ability students, 4 medium-capable students, and 3 low-ability students using an ilustrated book based on the environment in fourth-grade at Public Elementary School 1 Sukamaju in East Teluk Betung for 2019/2020 academic year. Testing is done by submitting an ilustrated book based on the environment products and cognitive questions before and after the 1-6 learning process and doing the attractiveness test of 10 students after carrying out the effectiveness test. The product effectiveness test was carried out to see if there was a significant difference in student learning outcomes seen from the lattice of students' questions using 20 items that had been tested for validity and reliability. Then to see the results of the effectiveness of learning outcomes in the form of questions distributed to students using the Mann Whitney U-Test data analysis, which is to analyze the effectiveness of the learning outcomes of students with treated and untreated classes. The following table shows the results of the Mann-Whitney U-Test after being calculated and presented as follows.

Table 3.The results of the Mann Whitney U-Test after being calculated

Aspect	U- count	U-Table
Average	5,5	20

Based on the table, it is analyzed that u-count = 3.42 while with a significance level of 5% and from n1 = 10, n2 = 9, U table = n1; n2 = 10; 9 is 20. Because the value of u-count ≤ u table (5,5 ≤ 20) then H0 is rejected and Ha is accepted. So the conclusion is there is a difference in the increase in student learning outcomes in the control class that does not use an ilustrated book based on the environment and the experimental class that uses an ilustrated book based on the environment development. The full results of the Mann Whitney U-Test calculation can be seen in the attachment.

Then carried out an attractiveness trial aimed at knowing the response of students to the feasibility of the product being developed. The test was carried out on 10 students who were initially the target of the questionnaire. This is intended to assess the attractiveness, convenience, and usefulness of an ilustrated book from the point of view of students as users of an ilustrated book in the learning class. The questionnaire shows the ilustrated book as a learning resource grouped in the very high category of a story-book feasibility assessment which can be seen in table 4.

Table 4. Results of Student Response Analysis

No	Learners	Criteria	Score	Rating Category
1	Andini	Attractiveness	85,7	Very High
		Easiness		
		Usefulness		
2	Bayu	Attractiveness	78,5	Very High
		Easiness		

No	Learners	Criteria	Score	Rating Category
		Usefulness		
3	Bintang	Attractiveness	92,8	Very High
		Easiness		
		Usefulness		
4	Fahri	Attractiveness	89,2	Very High
		Easiness		
		Usefulness		
5	Fanny	Attractiveness	85,7	Very High
		Easiness		
		Usefulness		
6	Habsi	Attractiveness	85,7	Very High
		Easiness		
		Usefulness		
7	Karmila	Attractiveness	89,2	Very High
		Easiness		
		Usefulness		
8	Melia	Attractiveness	89,2	Very High
		Easiness		
		Usefulness		
9	Merry	Attractiveness	92,8	Very High
		Easiness		
		Usefulness		
10	Susilowati	Attractiveness	89,2	Very High
		Easiness		
		Usefulness		
Average Score			87,8	Very High

Based on Table 4. It shows that the results of the attractiveness, convenience, and usefulness test for 10 students adjusted to the aspects assessed obtained an average score of 87.8 with a very high category.

7. Operational Product Revisions

Based on the results of the observations, After that, the development of the ilustrated book based on the environment product was then made. The purpose of this product revision is to improve the ilustrated book based on the environment product that has been developed and adapted to real conditions in the field based on limited product trials.

The development of an ilustrated book based on the environment as a theoretically feasible learning resource is based on the theories and manufacturing steps used, then the 3 expert validation test is carried out, the 6 practitioners or educator test along with suggestions by the educator and the 10 students' attractiveness test. The development of this ilustrated book based on the environment was made for students to get a better understand of the ilustrated book, the researchers used the area around the school at Public Elementary School 1 in East Teluk Betung. According to Slameto (2003: 57), A good environment needs to be created so that it can have a positive influence on the child or students so that they can learn as well as possible. Students can choose various objects in the environment to be used as a learning resource. There are various forms and types of this environment, for example, rice fields, forests, factories, agricultural land, mountains, lakes, historical relics, museums, and so on. Learning resources in the environment can be also in the form of simple objects that can be brought into the classroom, for example, rocks, plants, animals, household utensils, handicrafts, and many other examples. Therefore, the environment taken is the environment around the school at Public Elementary School 1 in East Teluk Betuk.

Then the development of an ilustrated book product produced is adjusted to the steps for making curriculum 2013 teaching materials so that it is said to be theoretically feasible. Therefore, the development of an ilustrated bookbased on the environment as a learning resource consists of pages, titles, preface, table of contents, mapping of Core Competencies, Basic Competencies, indicators and learning objectives, instructions for using storybooks, presentation of material and guides for learning activities, and References. In an ilustrated book based on the environment products using the Problem Based Learning model so that students can solve

problems from the material studied in the learning process. The development of this ilustrated book based on the environment is expected to improve student learning outcomes in carrying out a learning process that is adapted to the learning steps with the Problem Based Learning model, there are some steps of Problem Based Learning, that are the orientation of students to problems, organizing students, guiding individual investigations. and groups, develop and present the work, analyze and evaluate the problem-solving process. The next step is that the product development of an ilustrated book based on the environment is said to be empirically feasible, so the initial product is tested first, that is: the researcher conducts the validation test with three validators, they are material experts, design experts, and linguists. Then carried out the usability test by 6 educators and the legibility test of 10 students with neat attractiveness, easiness, and usefulness as research subjects with the aim of validating whether the product developed is in accordance with the development requirements so that it is suitable to use.

An ilustrated book based on the environment as Learning Resources which are developed to be effective in Improving the Learning Outcomes of fourth-grade students in Elementary School. The effectiveness of a teaching material can be seen from the increase or not the learning outcomes of students after using the teaching materials provided. Knowing whether or not the use of an ilustrated book based on the environment is effective by looking at the questions given to students before and after learning in the experimental class that uses an ilustrated book based on the environment to improve learning outcomes and control classes that are not given an ilustrated book based on the environment. Learning by using an ilustrated book based on the environment products can be said to be effective if the learning outcomes of students in the experimental class using an ilustrated book based on the environment products are higher than those in the control class who do not use this ilustrated book based on the environment. So that there are differences in the learning outcomes of students in the experimental class and the control class. In accordance with the cognitive questions given by students, there are significant differences at the end of the lesson. In this study, 20 multiple choice objective tests were used in the form of pretest and posttest. The giving of this question was carried out in the experimental class and the control class in the fourth-grade of Public Elementary School in Teluk Betuk, Bandar Lampung.

IV. Conclusion

Based on the results of the research and development that has been carried out, the researcher concludes that: (1) An ilustrated book based on the environment as Learning Resources developed are theoretically feasible to measure the communication skills of fourth-grade elementary school students. It is theoretically feasible to prove this from the steps or procedures for the ilustrated book that are in accordance with the curriculum 2013 that will be used, then expert validation is tested from the assessment of 3 experts, they are material experts, media experts, and linguists, who state that ilustrated book based on the environment as a Learning Resource developed in the category of "very feasible". Then the educator's usability test was carried out stating that the ilustrated book based on the environment as a Learning Resource developed in the very feasible category and it is empirically feasible to test the validity of the reliability, differentiation power, and level of difficulty. Based on the results of the analysis, the ilustrated book based on the environment as a Learning Resource was used for the limited trial phase in the fourth-grade of elementary schools. (3) An ilustrated book based on the environment Products as Learning Resources which are developed to be effective in measuring student learning outcomes. This is proved by the results of students' communication skills in the control class and experimental class scores with u-count = 3.42 while with a significance level of 5% and from n1 = 10, n2 = 9, U table = n1; n2 = 10; 9 is 20. Because the value of u-count ≤ u table ($5,5 \le 20$) then H0 is rejected and Ha is accepted. So the conclusion is there is a difference in the increase in student learning outcomes in the control class that does not use an ilustrated book development and the experimental class that uses an ilustrated book development. The results of the calculation of the Mann Whitney U-Test.

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