

The Development Instructional Media Pop-Up Art Book with Internal Stand Mechanism Technique on Early Childhood Recognizing Concept

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Abstract: This research is research and development with the aim to develop instructional media Pop-Up Art Book with internal stand mechanism on early childhood recognizing concept in Smart Eduplay Institute, Terong Tawah, Labuapi District, West Lombok Regency, West Nusa Tenggara. with 15 respondents. The approach on the research is instructional development with class and product oriented. The research method refers to the development of the J. Moonen and Rowntree prototype model. Learning evaluation is carried out in stages, such as a review by experts consisting of learning design experts, material experts, and learning media experts, and followed by face-to-face and large group trials. Formative evaluation was carried out to obtain learning outcomes from pretest and posttest. Reviews shown that the quality of learning media is in the "very good" category, on average 3,30. Trial result in "very good" category, on average 3,41. Trial product effectiveness shown pretest average is 52,76 and posttest average is 82,07. The average range is 29,3. Therefore, developing instructional media Pop-up Art Book with internal stand mechanism on early childhood recognizing concept makes a positive contribution in achieving learning goals optimally.

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INTRODUCTION

The rapid development of technology and environmental conditions can directly or indirectly change systems related to the ease of accessing information in the world of education. How to access information can be realized through the use of learning resources and learning strategies for all learning components. Learning based on various sources means using and applying everything to help learning activities.

The common principle in developing various learning resources is to provide opportunities for children to choose sources and learning methods that suit their learning style so that learning goals can be achieved as expected. Likewise, developing learning media at the early childhood level is not a difficult thing.

However, this requires precision and precision in the media that will be used so that it can be optimally used by children in learning and recognizing objects around them. The principle of selecting learning media for early childhood is surely based on a sharp analysis of various factors such as goals, children's conditions, methods, and technological capabilities

and available materials. The development of learning media for early childhood also needs to be oriented towards the principles of child growth and development, namely playing while learning, based on the needs of early childhood, based on child development, the availability of a conducive environment, and using a thematic approach.

One of the media that can fulfill the principles of child growth and development based on early childhood orientation is the Pop-up Art Book learning media. Pop-Up Learning Media is media in the form of books or cards that have three-dimensional elements. The material in the pop-up is presented in the form of an attractive image, in which there are parts that when opened can move or change shape. Pop-up media can help children learn to describe the shape of an object so that it can enrich children's understanding through different media approaches.

The early childhood education level is a center for assistance, learning, care or education in the household or informal education. Early childhood education starts with education in the household since children are 0-2 years old. This is because children at that age need someone close to them to learn things around them through parental assistance. Then further education is at the non-formal education level in early childhood education. This level of education is part of the preparation for the next higher level of educational unit, namely the elementary school education level. Children at an early age are an investment in the future that has a brilliant contribution to the progress of a nation. Early childhood children who receive proper education and guidance from the start tend to be able to capture progress accurately and have more mature preparation steps in facing the challenges of current developments, especially in the current era of technological and digital development.

A child's age from 0 to 5 years is termed the Golden Age, which is an important time in assisting a child's growth and development. This assistance is intended to ensure appropriate treatment assisted by appropriate growth instruments so that the child's growth is appropriate to his age. Early age is a sensitive age, where all stimuli can enter or be internalized quickly. Early age is also a period of formation where the sensitive age will be well formed if it gets the right stimulation too. One of them is the age when children play, especially playing while learning to use media. If young children are given the right playing time and process, the formation of all development will be optimal.

Early childhood education aims to develop all the potential that children have. This goal is an indicator that all functions are well developed and functioning optimally. Likewise in the concept of recognizing and identifying every object in the surroundings. So there is a need for learning resources, especially learning media that are easy to use to recognize objects when playing and learning.

Some learning principles for early childhood include; first of all, concrete and can be seen directly, that is, all recognition instruments are carried out by showing real and concrete objects. Second, it is introductory, meaning that children are simply introduced to an object or something without any pressure or demands for anything. Third, don't compare children based on their physical appearance, characteristics, age level, and so on. Fourth, according to the "style" of children's learning, this means adapting children's abilities and needs without forcing them to be appropriate to their adult age. Likewise, it is adjusted to the needs and abilities of each child. Sixth, integrated, namely one lesson can summarize several developments in it, such as play elements which can be combined with learning through the media of songs, paintings, children's play equipment, movement, and so on.

Based on the pre-survey carried out, the fact was obtained that the Smart Eduplay Children's Education Institute has various forms of learning media for children (Toolkids) that can be utilized. These types of media start from media recognizing numbers, letters, animal names, stars and moons, as well as types of animals. However, all of this media is still in the form of pictures, puzzles, media that consists of pictures of numbers and letters, as well as toys in the form of various types of animals. Therefore, after analyzing and discussing in the form of an interview with the founder of the Smart Eduplay Children's Education Center, it was decided to try to develop a learning media that had not been utilized by Smart Eduplay, namely 3-dimensional media.

The 3-dimensional media in question is the Pop-up Art Book learning media which will later be used using the Internal Stand Mechanism Technique, namely a pop-up technique that uses a small support which functions when opened, the image will stand up. It is made by cutting paper that can be folded perpendicularly and given a panel so that it can be attached to the paper. The Pop-up Art Book learning media with the Internal Stand Mechanism technique was developed with the assumption that this media is easy to develop. Apart from that, young children can get different learning experiences with 3-dimensional media but can accurately recognize objects according to the original.

Therefore, researchers and the team are interested in writing this research with the title "Development of Pop-Up Art Book Learning Media Using Internal Stand Mechanism Techniques on the Concept of Early Childhood Introduction in Smart Eduplay Institutions" with the hope that the development of learning media carried out can provide alternative learning that interesting and different learning experiences for young children, especially at the Smart Eduplay Children's Education Institute.

METHODS

This research uses research and development methods that is modified as needed (Borg & Gall, 1983: 772), as the picture bellow:

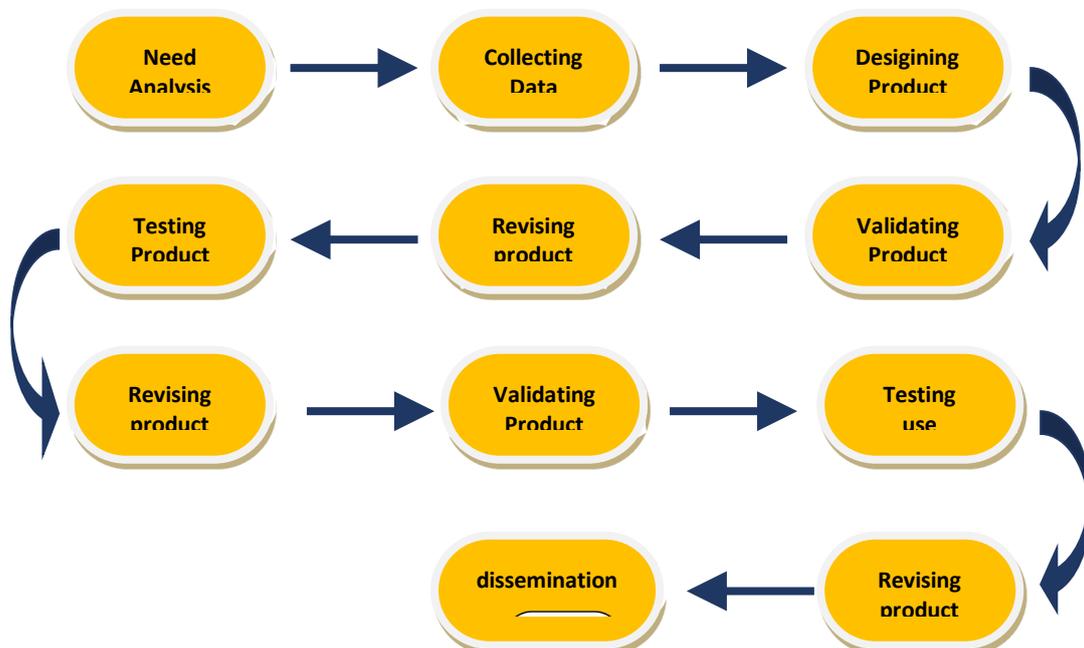


Figure 1. Developing Prucedure of Product from Borg and Gall

The media developed is Pop-Up Art Book Learning Media with Internal Stand Mechanism Techniques on the Concept of Early Childhood recognizing at the Smart Eduplay Institute. This research was carried out at the Smart Eduplay Kids Education Center, which is located at BTN Griya Taman Sari Blok. C. No. 04, Terong Tawah, Labuapi District, West Lombok Regency, West Nusa Tenggara Province, 83361.

The approach in this development research is a class and product oriented learning development approach and uses the J.Moonen and Rowntree development model, namely: 1) planning stage which includes needs analysis and formulation of learning objectives; 2) the development stage includes topic development, drafting and producing product prototypes that will be used for children's learning. and 3) the evaluation stage is the final stage in development which includes self-evaluation, expert review, face to face tryout and field test. The data collection techniques used in this research were observation, interviews and literature study.

RESULT AND DISCUSSION

Result

Product Feasibility Test

In this feasibility test, there are two stages of feasibility, namely theoretical feasibility testing and empirical feasibility testing. The theoretical feasibility test involves media experts, material experts and learning design experts who are competent in their fields. Meanwhile, the empirical feasibility test involves users, namely tutors and students.

Expert Review in Feasibility Test

The rating scale used in this research is a scale of 1-4 with the following ratings:

3,26 – 4,0 is very good

2,51 – 3,25 is good

1,76 – 2,50 is good enough

1,0 – 1,75 is not good enough

This trial phase was carried out involving Ms Jessica Festy Maharani, M.Pd as material expert, Mr Ary Purmadi, M.Pd as Media expert and Mr Muh. Hussein Baysha, M.Pd as an instructional design expert. The following are the recapitulation results obtained from stage 1 expert trials:

Table 1
Expert Review Recapitulation Results

<i>Aspects</i>	<i>Average score</i>
<i>Material</i>	3,35 (very good)
<i>Media</i>	3,28 (very good)
<i>Instructional design</i>	3,27 (very good)
<i>Overall average</i>	3,30 (very good)

Based on this assessment, it can be seen that based on expert reviews, the quality of this learning media is included in the very good category, with an average score of 3.30. Based on the recapitulation of this expert trial, it can be seen from the aspect that the material presented in this Learning Media is considered very good (3.35) because the material is prepared in accordance with the curriculum and learning objectives determined together with the tutor, and the material presented

focuses on what is taught. determined. Meanwhile, from the media aspect, learning media including thematic elements is also considered good (3.27) because the components presented in it are complete and the program as a whole is interesting to use as a learning media for tutors in delivering material to students. Meanwhile, from the aspect of instructional design, this Learning Media is said to be very good (3.28), so it is very good to use in the learning process.

One to One Trial

The one-to-one trial was attended by 5 Smart Eduplay Institute students. This trial is used to see the quality of the media without looking specifically at student learning outcomes. In this trial, several questions or comments were found from students regarding the color, shape and appearance of the media. There are students who want the colors to be made even brighter.

Face to Face Trial

After this learning media has been improved according to input and follow-up during one-to-one testing, the product is ready to be tested again at the next stage, namely the field test or large group stage.

Field Test Test

After carried out the two stages of testing above, namely Face to Face Try out, the final stage of this learning media trial was carried out, namely a large group trial or field test. The aim of conducting a field test is basically the same as the face-to-face tryout stage, namely wanting to find out the effectiveness of use by users of this product on a larger scale. The number of respondents who participated in this stage was 15 students. Students who take the field test are not involved in the face-to-face tryout stage, but are still at the same level of education. Question points that present the quality of this learning media from various aspects, which were put forward to field test users, obtained an average value of 3.41.

From the results of this trial, this learning media is categorized as "**very good**". The complete results of the recapitulation of the field test stage can be seen in the table below:

Table 2
Recapitulation of Formative Field Test Results

No.	Question Items	Average Score Result
1.	Clarity of the language used	3,42
2.	Font size suitability	3,33
3.	Font type suitability	3,27
4.	Layout attractiveness	3,25
5.	Clarity of language in test items	3,55
6.	Test item difficulty level	3,5
7.	Clarity of instructions	3,85
8.	Design appeal	3,7
9.	Clarity of color on the media	3,02
10.	Suitability of learning media to student needs	3,68
11.	Suitability of learning methods with learning objectives	3,47
12.	Suitability of media to learning objectives	3,22
13.	Suitability of time allocation with the material presented	3,33
14.	Suitability of examples to the material presented	3,42
15.	Suitability of the exercises to the material presented	3,24
Average		3,41

Product Effectiveness Test

Based on the results of evaluating the effectiveness of learning media carried out by students in formative tests, the following results were obtained:

Based on the product effectiveness test above, the average pre-test result from students was 52.76 and the average post-test result was 82.07. From the average results of the pre-test and post-test, an average range of 29.3 was obtained. Thus, it can be said that the learning media Pop-Up Art Book Learning Media with the Internal Stand Mechanism Technique on the Concept of Early Childhood Introduction makes a positive contribution in achieving learning goals optimally.

In comparing the results of the two tests, a statistical t test was used using the 2 tailed formula. The results of the t-test analysis show a significant difference at a significance level of 0.05. The significance value is 0.000 which means it is greater than 0.05. This difference can be seen in the average pre-test score which is 52.76 and the average post-test score is 82.07. This analysis proves that the Pop-Up Art Book Learning Media Using the Internal Stand Mechanism Technique on the Early Childhood Introduction Concept provides a better and more significant impact in achieving learning goals.

Discussion

The purpose of the research is to develop instructional media Pop-Up Art Book with internal stand mechanism on early childhood recognizing concept in Smart Eduplay Institute, Terong Tawah, Labuapi District, West Lombok Regency, West Nusa Tenggara. The results achieved in this research are to produce media products that are suitable and appropriate for use in early-childhood education learning.

It is suitable with research data resulted as follows: 1). **a)** That the Pop-Up Art Book Learning Media Uses the Internal Stand Mechanism Technique in This Early Childhood Introduction concept provides a better and more significant impact in achieving learning goals at the Smart Eduplay Institution. **b)** The results of the review show that the quality of the Pop-Up Art Book learning media with the Internal Stand Mechanism Technique on the Concept of Early Childhood Introduction is in the "Very Good" category, with an average of 3.30. **d)** The field-test results are in the "Very Good" category with an average of 3.41. The product effectiveness test showed that the average pre-test result was 52.76 and the average post-test result was 82.07, with an average range of 29.3. **d)** Thus, the development of Pop-Up Art Book Learning Media Using the Internal Stand Mechanism Technique on the Concept of Early Childhood Introduction makes a positive contribution in achieving optimal learning goals at the Smart Eduplay Institution.

Media of Pop-up Book is a demonstration tools or practical media with 3 dimentions that could be stimulate Early child imagination, even could be increased knowledge of object depiction and perseption. That is inline with definition from Ningtiyas, et al (2019) which stated that Pop-up Book is a book even a card that have been able to present 3 dimentional construction atau appeared-thing. The same meaning from Widhiastuti (2020), explained that Pop-up Books is included of 3D media that been able to delivery intrested effect, because each page was about to appear the object that was adjusted to material.

Learning by pop-up books have an impact on students interact with the material or stories contained in the pop-up book. Besides that, students can be more active as actors through observating or touching. So that students is not just reading stories but understanding material presented in pop-up books, espsecially for early chilhood student. It is confirmed by previous studies. innitially, the study by Dewanti (2018) with subject class-4th Public Elementary School-1st Pakunden, Ponorogo Regency. The study showed that Pop-up Book is a worthy instructional media for learning activity in sub theme "Lingkungan Tempat Tinggalku". Seondly, the study by Khoiriyah and Sari (2018) with subject class-3rd, Public Elementary School-3rd Junjung, showed that learning Natural science which was carried out by Pop-up Book, could be driven excelent result in learning beyond KKM. Overall, it means that students could complete their learning with a good score.

According to explanation above, so can be concluded that Pop-up Book is a book that has 3 dimentions with motion when it is opened, has attractive visual and display to increase student understanding.

CONCLUSION

Based on the results of the activities and analysis carried out on the Pop-Up Art Book Learning Media product with the Internal Stand Mechanism Technique in the Early Childhood Introduction Concept, it can be concluded as follows: **a)** That the Pop-Up Art Book Learning Media Uses the Internal Stand Mechanism Technique in This Early Childhood Introduction concept provides a better and more significant impact in achieving learning goals at the Smart Eduplay Institution. **b)** The results of the review show that the quality of the Pop-Up Art Book learning media with the Internal Stand Mechanism Technique on the Concept of Early Childhood Introduction is in the "Very Good" category, with an average of 3.30. **d)** The field-test results are in the "Very Good" category with an average of 3.41. The product effectiveness test showed that the average pre-test result was 52.76 and the average post-test result was 82.07, with an average range of 29.3. **d)** Thus, the development of Pop-Up Art Book Learning Media Using the Internal Stand Mechanism Technique on the Concept of Early Childhood Introduction makes a positive contribution in achieving optimal learning goals at the Smart Eduplay Institution.

RECOMMENDATIONS

Recommendations that can be given include: **a)** To teachers/tutors to be more innovative and creative by taking advantage of technological developments as well as advances in knowledge and increasingly developing competencies. **b)** Students should be given wider and more open opportunities to experience enjoyable learning using various techniques, methods, strategies and especially varied media. **c)** To other researchers, to be able to continue and develop research related to media development, both static media and interactive media for learning, especially for learning at an early age.

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