

Development of Learning Media Using the Smart Apps Creator Application on Human Respiratory System Material of Science for Class V Elementary School

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Abstract

This research aims to produce learning media in accordance with development procedures using standard criteria of validity and practicality so that it becomes a learning media that is suitable for use in the learning process. The type and method of this research is development research or better known as Research and Development (R&D), using a 4-D development model. The development procedure in this research consists of 4 stages, namely; (1) Define, (2) Design, (3) Develop, (4) Disseminate. The product validation test was carried out by 3 validators, namely 2 media validators and 1 material validator. Product trials were carried out on 20 class V students of SD Negeri 08 Talao with the aim of finding out the practicality of the product being developed. The results of this research explain that the assessment from media validators was declared "Very Valid" with an average of validator I of 4.93 with a percentage level of 98.6% and media validators with an average of 4.87 with a percentage level of 97.4%. The material validator results were declared "Very Valid" with an average of 4.86 with a percentage of 97.2%. The results of the practicality trial analysis were declared "Very Practical" with an overall average of 4.78 or a percentage of 95.6%. So it can be concluded that the learning media in the Human Respiratory System material for class V Elementary School Science that was developed is very valid and very practical. So learning media is suitable for use in the learning process.

Keywords: Smart Apps, Creators, learning media, IPAS

INTRODUCTION

Education is a process of forming human character which is important for increasing intelligence, skills and competencies in accordance with self-identity and environmental conditions. Education can also be interpreted as an effort that can accelerate the development of human potential to be able to carry out the tasks given to him, because only humans can be educated and educated. The more advanced technology, the tighter the competition will be. Therefore, every school needs to carry out reforms and improvements to produce the best graduates. To achieve educational goals, it is necessary to update the learning process which is implemented by making learning fun by using technology, such as creating learning media to support a fun learning process. Learning media is an effective and efficient teaching media if seen from the way it is used. Learning media can be used in all lessons, one of which is Natural and Social Sciences (IPAS).

Based on the author's observations in the Natural and Social Sciences (IPAS) class V subjects at SD Negeri 08 Talao on January 14

2023, it was found that during the learning process the teacher only explained the material using a source book which had little explanation of the material, and the teacher still used media in the form of teaching aids such as statues, and are not supported by effective learning media. This of course makes students pay less attention to the teacher and student involvement in learning is low. Therefore, during the learning process there are several problems, namely students have difficulty understanding the material because it is caused by several things including; 1) the lack of use of learning media as a learning resource which causes students to have difficulty understanding science lessons, most of the learning in the classroom focuses more on the teacher as the main source, where the teacher only explains learning using books which are used as teaching materials, only presenting the material with concise. 2) The low motivation of students towards learning is caused by the dominant learning being listened to the teacher's explanation in class, taking notes or summarizing lessons, this makes students not understand the material regarding human respiratory organs, the function of the parts of

the human respiratory organ and how the respiratory organs work. man. Therefore, schools should carry out learning innovations, one of which is developing learning media. Several practical uses of using learning media can clarify the presentation of messages and information so that it can facilitate and improve the process of learning outcomes. This is evidenced by the low learning outcomes of students in science and science subjects in class V elementary school as in the table below:

Table 1. Average Daily Assessment (PH) scores for fifth grade students at SD Negeri 08 Talao

| Class | The number of students | KKM | Mark |
|---------|------------------------|-----|-------|
| V a | 25 | 75 | 72.40 |
| V b | 23 | 75 | 71.20 |
| Average | | | 72 |

Source: Class V Teacher at SD Negeri 08 Talao

3) Lack of students' attention to learning because the learning media is less interesting so that students feel bored and show a lack of enthusiasm for learning, and are less interested in learning material, so it is necessary for teachers to take advantage of the conditions that occur by using media that is still rarely used in learning. Natural and Social Sciences (IPAS) for human respiratory system material, namely in the form of learning media to create an effective and efficient learning process. Based on these problems, learning media are needed that can support the teaching and learning process of students both in class and outside the classroom, so that they can increase students' mastery of knowledge and can learn independently or in groups and enable students to solve learning problems, in this case the author developing a product that can provide students with an understanding of learning material, namely by developing learning media using the Smart Apps Creator application.

Smart Apps Creator software that can be used to create simple applications that do not need to use coding to create the application. Learning media using Smart Apps Crator can be used by anyone so it does not require special skills to create it. The learning media produced from Smart Apps Creator is in the form of an application. The resulting application can be installed on a smartphone or computer. Smart Apps Creator can be implemented on various platforms including Android, iOS, Microsoft web, and others. Based on the background explanation above, the author feels it is necessary to conduct research and write a thesis with the title "Development of Learning Media Using the Smart Apps Creator Application on Human Respiratory System Material for Class V Elementary School Students".

RESEARCH METHODS

Researchers use a research design in the form of a research and development approach. This research method adopts a 4D model which involves the stages of definition, design, development and deployment. The following are the stages of the 4D model. According to Punaji (2012) "development research is a process used to develop and validate educational products". According to Thigarajan, in Trianto (2012:93) "The 4-D development model consists of four stages, including:

Definition (Define)

This aim is to raise and determine the basic problems faced in science and science learning in elementary school class V semester one on the subject of the human respiratory system, so that the development of learning media is needed. The define stages are: curriculum analysis, student analysis, concept analysis, and formulation of learning objectives.

Design

The initial design referred to is the overall design of the learning media that must be carried out before the trial is carried out. The initial design in developing this learning media is in the form of:

- 1) Make a flowchart from learning media.

- 2) Create a storyboard for written text material and concepts in a simple way.
- 3) Create learning media on predetermined topics.

Development

1. Validity test

Validation activities are carried out to obtain an assessment of the product. After receiving assessments and suggestions, product revisions are then carried out for improvement. The product was validated by two media experts and one material expert.

2. Practicality Test

This trial was carried out to find the level of practicality and student assessment of the learning media created. This practicality test was carried out on 20 students at SD 08 Talao who were the subjects of development.

Spread (Disseminate)

The dissemination stage in this research process is to disseminate learning media using Smart Apps Creator which has been designed by introducing the media created to teachers and students for use in learning. The completed media is handed over to the deputy principal and class V science subject teacher.

DEVELOPMENT RESULTS AND DISCUSSION

1) **Development Results**

Learning media is applied in teaching science and science subjects on the human respiratory system in class V elementary school, adjusted to the learning objectives in order to attract students' interest. In this case, students will be actively involved in learning activities. In order to produce valid and practical learning media, researchers must carry out validity assessments by media experts and material experts, as well as practicality tests through the use of questionnaires with a Likert scale filled in by students.

1. Validity test

The formula used in the validity test is:

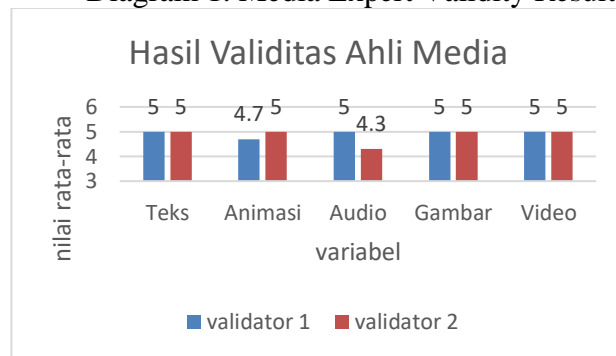
$$\bar{x} = \frac{\sum x}{n}$$

Next, test the learning media for class V human respiratory system material with media experts. The following are the results of media expert assessments 1 and 2.

Table 2. Media Expert Assessment Results

| Variable | Average value | |
|------------|---------------|--------------|
| | Validator I | Validator II |
| Text | 5.0 | 5.0 |
| Animation | 4.7 | 5.0 |
| Audio | 5.0 | 4.3 |
| Picture | 5.0 | 5.0 |
| Videos | 5.0 | 5.0 |
| Average | 4.93 | 4.87 |
| Percentage | 98.6% | 97.4% |

Diagram 1. Media Expert Validity Results



The results of the media validation assessment by the first media expert and the second media expert for the variables text, animation, audio elements, images and video have shown the criteria "Very Valid".

Next, test the learning material for class V human respiratory system material with material experts, namely subject teachers. The following are the results of the material expert assessment.

Table 3.
Material Validity Results

| Variable | Average value |
|--------------------------|---------------|
| Content and Purpose | 5 |
| Presentation of Material | 4.8 |
| Test | 5 |
| Efficiency | 5 |
| Average | 4.86 |
| Percentage | 97.2% |

It can be concluded that the media tested on material expert validators received an accumulated score of 97.2% and was categorized as "Very Valid". Therefore, learning media using Smart Apps Creator is suitable for use in the learning process.

1. Practicality Test

Next, process the data to determine the practicality of the resulting learning media. The following is the formula used to calculate practicality data:

$$\bar{x} = \frac{\sum x}{n}$$

Next, test the Smart Apps Creator learning media on students. The following are the results of the practicality assessment:

Table 4.
Practicality Test Results

| Variable | Average | Percentage |
|--------------------------|-------------|--------------|
| Use | 4.84 | 96.8% |
| Benefit | 4.68 | 93.6% |
| Appearance and Language | 4.79 | 95.8% |
| Presentation of Material | 4.82 | 96.4% |
| Average | 4.78 | 95.6% |

The results of the practicality test carried out by 20 class V students of SD Negeri 08 Talao with these results included in the "Very Practical" criteria.

Discussion

In general, learning media products have met the requirements for testing, with an average of 4.33 with a percentage of 86% by the first media

expert and 4.2 with a percentage of 84% by the second media expert in the first stage. After making media improvements, an average result was obtained of 4.93 with a percentage of 98.6% by the first media expert and 4.87 with a percentage of 97.4% by the second media expert in the second stage of validation. Those categorized as "Very Valid" after carrying out media validation, continued with validation of the material with the science and science subject teacher for class V elementary school and obtained a result of 4.86 with a percentage of 97.2% which was categorized as "Very Valid". Next, test the practicality by testing the learning media on 20 class V students of SD Negeri 08 Talao. Based on the results of testing learning media in science and science subjects for class VA SD with 20 students as respondents, an overall average result of 4.78% was obtained with a percentage of 95.6% which can be categorized as "Very Practical".

CONCLUSION

The process of developing science and technology learning media for Respiratory System material in class V humans at SD 08 Talao begins with the definition, planning, development and distribution stages. At the definition stage, there are several steps, namely curriculum analysis, student analysis, concept analysis and goal formulation. At the planning stage, a flowchart is made or what is usually called a preliminary design and a storyboard is made for simple written text material and concepts. After completing the creation of the media, the next step is to validate it with material experts, which is carried out in 2 stages, and after the media is categorized as valid, then validate the material with material experts, namely subject teachers. After that, the practicality testing stage is carried out to measure the extent to which interactive multimedia can be used comfortably and usefully. In the end, the results of this entire process produce an interactive multimedia product that meets your needs. A validation evaluation involving media experts and material experts showed that learning media

using the Smart Apps Creator application for Informatics subjects, especially computer systems material, was declared "Very Valid". The results of practicality testing by users of this learning media at SD Negeri 08 Talao show that this media is very useful in "Very Practical" teaching.

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