

Development of Learning Media Based on Animal Classification Interactive Animal Park at Kademangan 01 State Elementary School

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ABSTRACT

The purpose of this research is to develop interactive learning media based on animal parks to classify animals based on their food types. The research method used is Research and Development using the Borg and Gall model. The data collection technique used is to provide assessment instruments to media experts, material expert, and questionnaires to fourth grade student. The results obtained through the media expert research instrument obtained a score of 78% which included decent criteria, while the material expert obtained a score of 82% with very feasible criteria, and the student assessment in the small group obtained a score 86% which included very feasible criteria and the large group obtained a score of 83% which included very feasible criteria.

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INTRODUCTION

The advancement of education in a country is a mirror of the science and technology of an advanced country, so in implementation, its development must always be improved and the improvement of the quality of education results must continue to be implemented. Progressive education must also be based on the development of technology used to support learning. So teachers are required to be creative in developing learning media using technology. Teacher creativity is a demand that must be accepted by teachers to improve their competence in the midst of the development of science and technology, Rasam and Sari (2018, 5, 1:97).

According to Kustandi and Darmawan (2021:6). Learning media is a means used to improve the teaching and learning process. Learning media plays a role as an intermediary tool in delivering learning materials, if learning does not pay attention to learning media, it can allow learning not to be efficient and effective. Web-based learning media or what is often called the web. Web-based learning is rampant, known as e-learning. Web-based learning media is a media that is developed into a learning system that is tailored to the learning needs of students. Therefore, a teacher needs to pay attention to the learning media used when delivering material. Meanwhile, according to Gunadi, Andi Ahmad., et al. (2020:4) Media that is very close to the daily life of the younger generation, especially students, is certainly expected to encourage the independence of students in learning from home. The ease of access to information through internet media, of course, if used properly, can have a positive impact by increasing students' insight and knowledge. The negative

side is in the form of damage to the morale of the nation's generation due to a variety of spectacles that are not limited in use.

Web-based learning media is a media that connects learning materials delivered through internet media so as to make the learning process more interactive, Abdullah (2022:107) This illustrates that learning has used and utilized technological advances.

Thus, it can be interpreted that the learning process can use web-based learning media. Web-based learning media is one of the learning media developed in the form of the internet. In the process, the materials that will be delivered by teachers can be accessed through the internet.

Natural Sciences or which is abbreviated as Science, consists of three basic fields, namely: physics, chemistry, biology. According to Fitriyati, et al. (2017, 1, 1:27) explained that science is a science that studies natural phenomena in the form of facts, concepts, and laws that are tested for truth through a research. Safira, Arum Donna, et al. (2021, 2, 2:238). Science is one of the lesson contents in elementary school that plays a role in providing lessons to research the truth and organize concepts for students. In the learning process, science in elementary schools focuses on the implementation of student experience through scientific processes and attitudes.

It can be concluded that science is a subject that focuses on natural knowledge. Science is divided into three basic sciences, namely chemistry, physics, and biology. Science learning in elementary school focuses on developing students' ability to understand science concepts and develop a positive attitude towards science in daily life.

According to Ikhwan (2009:37). The classification of animals based on the type of food is divided into three types, namely herbivores, carnivores, and omnivores. Animal food largely determines the type of animal classification. 1) Herbivores, is a classification of animals that eat all kinds of plants. 2) carnivore, is the classification of animals that are grouped based on their diet in the form of meat. 3) Omnivores, are animals that are classified because they eat everything such as plants and meat. According to Hilmi, et al. (2023:166). 1) Herbivores, are a type of animal that eats those derived from plants. Usually, animals that are classified as herbivores are mammals, birds, and insects. 2) carnivores, as carnivorous animals. Carnivores also consist of mammals, birds, and reptiles. 3) omnivores, animals that eat food from plants and meat. Examples of animals that include omnivores are chickens, ducks/ducks, bears, pigs.

Based on the Regulation of the Minister of Forestry of the Republic of Indonesia No:P.31/Menhut-II/2012. An animal park is a place for animal conservation of at least 2 (two) hectares. An animal park is a place used for the collection of certain animals, maintained according to their habitat, and procured for the public as a means of recreation and education for the community. In this study, the animal park is used as a learning medium for students to understand animal classification material based on their food. Animal park learning media is packaged in an interactive form. Interactive according to Tarigan and Siagian (2015:190). This means two-way communication with computer-based components. Thus, it can be concluded that an interactive animal park is a container for various kinds of animals in a two-dimensional form in which there is interaction between users and the media, one of which is packaged with a website-based that is used to obtain information about animal classification based on food.

Interactive animal park learning media is made with web-based media. The process of creating a website-based interactive zoo requires basic knowledge of website-based programming coding, such as html programming languages and php. The steps to create a website-based interactive animal park are as follows: 1) download and install the Xampp application as an independent server or localhost that runs various programs. 2) download the notepad++ or sublime text application. 3) create a flowchart or flowchart. 4) create a database. 5) looking for website references. 6) creating source code.

Based on previous studies that have been conducted by Veronica, et al. in 2018. The researcher on the Development of Scrapbook Media in Science Learning in the Scientific Journal of Education and Learning Volume 2 Number 3 with the results of the study stated that the development of scrapbook media in science learning was proven valid based on the results of media validation by experts and practitioners, and could be accepted by students based on questionnaire responses. Fitriani Eka Saputri, et al. in 2018. The research entitled Development of Science Learning Media Using Android-Based Augmented Reality (AR) in Grade III Students of SDN 015 Tarakan. In the Widyagocic Journal: Journal of Elementary School Education and Learning Volume 6 Number 1 which concluded that science learning media using Android-Based Augmented Reality (AR) for grade III students of SDN 015 Tarakan was declared suitable for use as a learning medium at school. Arum Donna Safira, et al. in 2021. In the research Development of Web-Based Interactive Learning Media Articulate Storyline on Science Learning in Class V of Elementary School. In the Prima Magistra Journal: Scientific Journal of Education Volume 2 Number 2 with the results of the research that the learning media developed was declared suitable for use in learning with very feasible criteria. The difference between previous research is that this study developed web-based interactive learning media in the form of an interactive animal park. Meanwhile, the three previous studies developed learning media in different forms, albeit in interactive

form. Then, this study only focuses on one of the science materials, namely the classification of animals based on their food.

RESEARCH METHODS

This research uses the Research and Development (RnD) research method. In the process, this research uses stages or work steps that are used to produce products with a procedural model. This research uses a development model initiated by Borg and Gall with the aim of developing products and testing product effectiveness. According to Borg and Gall (Gumanti, et al., 2016:295). Who initiated the development procedure, there are several steps in development research. The steps of the development procedure have been modified by the researcher into a benchmark or benchmark in carrying out research so that the development product can run in accordance with the design of the product to be produced. In this study, only eight steps were used because this study was only conducted on a small scale. As suggested by Borg and Gall (Emzir, 2017:271). In small-scale research, it is allowed to limit development procedures. The steps are as follows:

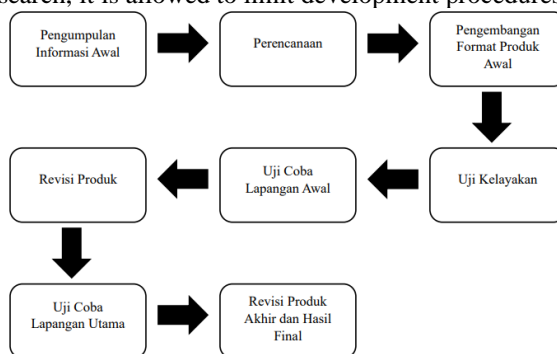


Figure 1. Steps of the development procedure

Initial information collection, in this step observed the learning process in the form of classroom observation at SDN Kademangan 01 in grade IV. Planning, at this stage plans the products that will be produced based on the results of initial information collection. The development of the initial product format, at this stage prepares various needs to make the first stage of the product. Feasibility test, at this stage, the product that has been made is then validated by material experts and media experts through a questionnaire that is distributed. In the initial field trial, after the product is declared valid, the product will be tested in a small group of 10 students, as well as filling out the questionnaire that has been given, in order to find out the shortcomings of the product. Product revision is the stage of correcting shortcomings in products that have been tested in small groups. The main field trial, after making revisions, the product was again tested in a large group of 36 students, and students will fill out the questionnaire that has been given to find out the response from the students. The final and final product revision is the stage of improvement on the product and product completion.

The instrument used is in the form of observation techniques whose purpose is to see the learning process taking place, so that it can find out the problems that occur and know the needs of students in teaching. Furthermore, using the questionnaire technique given to material experts to validate products from the side of material presented in the product, media experts to validate products in terms of media use, and grade IV students of SDN Kademangan 01 to get responses to learning media. The student questionnaire was divided into two groups, a small group of ten students and a large group of 36 students. The questionnaire uses a likert scale with the checklist or tick method, the following are the assessment score guidelines in this study:

Table 1. Assessment score guidelines

Category	Score
Excellent (SB)	5
Good (B)	4
Quite Good (CB)	3
Less	2
Very Less	1

(Suggestion 2019)

The assessment score guidelines above are used to calculate the percentage of product validation and student responses. After categorizing the questionnaire answers into scores on the Likert scale, they are then converted into percentages. The formula for calculating the percentage of product validation and student responses per aspect is as follows:

$$p = \frac{\sum x}{\sum i} \times 100$$

The calculation formula for the percentage of all aspects is different from the calculation of the percentage per aspect, here is the formula for the percentage of all aspects and the criteria for validation and student response:

$$\bar{p} = \frac{\sum P \text{ total}}{n}$$

Formula to calculate the percentage of all aspects present in the questionnaire. The results obtained are grouped according to the validation criteria.

Table 2. Assessment score guidelines

Criterion	Percentage Range
Very Viable (SL)	81%-100%
Eligible (L)	61%-80%
Quite Decent (CL)	41%-60%
Not Eligible (TL)	21%-40%
Very Unfeasible (STL)	0%-20%

Based on the table, the media will be said to be feasible, the percentage obtained $\geq 61\%$.

RESULTS AND DISCUSSION

Based on the results of this study, it can be obtained from the results of the validation test of media experts, there are three aspects, namely the aspect of use, the functional aspect, and the aspect of visual communication. With the results of the assessment of the use aspect, it obtained a score of 26 and got good criteria. Meanwhile, the functional aspect received a score of 30 and received good criteria. Also, the visual communication aspect received a score of 21 and received very good criteria. The overall score is 73 if it is percentaged to 78% and gets the eligibility criteria.

Table 3. Results of media expert assessment

It	Assessed aspects	Score	Criterion
1	Use	26	Good
2	Functional	30	Good
3	Visual communication	21	Excellent
	Overall total	77	Good
	Percentage	78%	Proper

The results of the material expert validation test include three aspects, namely the aspect of material coverage, the language aspect, and the implementation aspect. With the results of the assessment of the material coverage aspect, it obtained a score of 51 and obtained very good criteria. Meanwhile, the assessment of the language aspect received a score of 11 and received good criteria. As well as the assessment of the implementation aspect got a score of 24 with good criteria. The overall score is 86 if it is percentaged to 82% and gets very decent criteria.

Table 4. Results of the assessment of material experts

It	Assessed aspects	Score	Criterion
1	Scope of material	51	Excellent
2	Language	11	Good
3	Feasibility	24	Good
	Overall total	86	Excellent
	Percentage	82%	Highly Worthy

After validation by several experts and declared suitable for trial, the next step is to conduct an initial field trial to find out the response of students and test the product that has been produced. In this initial field trial stage, the trial was carried out in a small group of 10 students with three aspects, namely the material aspect, the language aspect, and the media aspect. With the results of the assessment of the material aspect got

a score of 88 with very good criteria, then the language aspect got a score of 83 with very good criteria and the media aspect got a score of 88 with very decent criteria. The total score was 259 and was 86% and received very good criteria.

Table 5. Student responses to the initial field trial

It	Assessed aspects	Score	Criterion
1	Material	88	Excellent
2	Language	83	Excellent
3	Media	88	Excellent
Overall total		259	Excellent
Percentage		86%	Highly Worthy

The main field trial is the second stage of testing on a larger scale than the initial field trial. The main field trial was carried out by the researcher by taking 36 subjects of grade 4 students. In this main field trial, the results of the assessment of the material aspect received a score of 82 with very good criteria, then the language aspect received a score of 81 with very good criteria and the media aspect received a score of 85 with very good criteria. The total score was 248 and was percentaged to 83% and got very good criteria.

Table 6. Student responses to the main field trial

It	Assessed aspects	Score	Criterion
1	Material	82	Excellent
2	Language	81	Excellent
3	Media	85	Excellent
Overall total		248	Excellent
Percentage		83%	Highly Worthy

CONCLUSION

Based on the results of research and assessment of validation tests conducted by media experts and material experts on the development of learning media based on interactive animal parks for elementary schools, the following results were obtained:

1. The researcher produced a product that has been developed based on an interactive animal classification park website. The development of this product goes through several stages, including initial information collection, planning, development of the initial product format, feasibility test, initial field trial, product revision, main field trial, final product revision.
2. The assessment of the validation test by several experts resulted in a score of 78% for media experts to obtain the eligibility criteria. Meanwhile, material experts produce a score of 82% of the criteria is very feasible.
3. Based on the effectiveness of its users, the researcher carried out a trial on a small group of ten students who scored 86% of the very feasible criteria and a trial on a large group consisting of thirty-six students who got a score of 83% with the very feasible criteria.

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