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WORDWALL INTERACTIVE LEARNING MODEL FOR MATHEMATICS SUBJECT IN ELEMENTARY SCHOOL

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Abstract

This research aimed to determine students' needs in the learning process in Mathematics subjects. Data collection used a needs analysis questionnaire for class VI SD N 095/VIII Karang Dadi students. The results of the analysis of student needs showed that the interest aspect was 86% in using learning media Wordwall with the high category and the results of needs aspect were 86% in the high category. So that, the interactive learning media Wordwall can help students understand the material presented by the teacher.

Keywords: interactive learning model, Wordwall, needs analysis

INTRODUCTION

Technological developments are currently included in various fields of education, and different sciences and technologies are developing very rapidly, such as various types of applications and sites that are flooding human life. The rapid development of technology is certainly a challenge for teachers to be able to play a role and facilitate students in building knowledge in the global era. Minister of Education and Culture Regulation No. 22 of 2016 explains that the use of technology, information, and communication is used to increase effectiveness in learning (Rosinta et al., 2023). Teachers are expected to be able to plan interesting lessons so that learning is optimal, not only influenced by effective communication but also by the learning media used by teachers to deliver learning material (Muttaqin et al., 2021; Batubara, 2023; Sholihah et al., 2023; Muna et al., 2023).

Learning media is a medium or intermediary that can be used to convey learning material attract and achieve learning goals. The use of media in learning can function as an intermediary tool in delivering learning material so that students can receive the learning more easily (Kusnasari & Rakhmawati, 2022; Ananda & Rakhmawati, 2022). The use of appropriate interactive media in learning shows effective results for training students' understanding of the material being studied (Novianto & Nadawina, 2022; Handayani & Rahayu, 2020). Interactive learning media is a multimedia-based tool that can help a teacher convey messages or information in learning to make the learning process easier. Interactive media usually refers to digital products and services on computer-based systems or laptops that respond to user actions by presenting media such as text, moving images, animation, video, audio, video games, and so on.

Based on observations made in class VI at SDN 095/VIII Karang Dadi, it was found that students quickly felt bored in the learning process in mathematics. Teachers also still do not facilitate students with interactive learning media that attracts students' interest in learning. A good learning media can certainly increase students' interest in learning and support the learning process so that learning objectives can be achieved. Apart from that, the existence of learning media also helps to facilitate students'

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different learning styles, thereby stimulating their interest in learning (Nurmalisa et al., 2023; Yulianci et al., 2021; Gani et al., 2018). Mathematics is one of the subjects that must be studied at every level of education, from elementary school (SD) to college. So, this shows that mathematics has an important role in the world of education and technological development. However, there are still many students who consider mathematics to be a difficult subject.

However, to achieve maximum results, efforts must be made to overcome this problem, namely by using wordwall interactive learning media. It is hoped that this media will be able to increase students' interest in learning in class VI. One of the interactive word wall media is learning media which is used not only to be displayed and viewed, but this media can be designed to increase interest in learning and can involve students in its use (Pamungkas et al., 2021). Wordwall is a web-based digital application that can help teachers design learning and provide interesting and interactive learning resources for students. Wordwall not only increases understanding in students but also forms a scientific attitude in students (Lestari & Rohmani, 2024). Using this interactive media teachers are free to interact with students so that learning is interactive which makes learning focused on the material being studied (Pamungkas et al., 2021).

So, it can be concluded that this Wordwall interactive learning media can help teachers in delivering material and can facilitate students in the learning process. Learning that uses interactive media has a higher level of effectiveness than using PowerPoint. With media like this, learning tends to be less monotonous and more varied. The underlying reason for choosing interactive learning media is that this media can make learning clearer and more interesting, interactive, and efficient (Rosinta et al., 2023). Based on the problems that have been described, this research aimed to analyze the needs in the field related to learning, starting from the analysis of problems that occur and their potential, analysis of student needs, to study literature to find solutions to solve existing problems.

METHOD

This research included a type of development, especially at the first stage in the development steps of Borg and Gall (1983, namely Research and Information Collecting). This research was carried out in class VI of SD N 095/VIII Karang Dadi in the Mathematics subject, fraction counting operations, with a sample of 22 students taken in this research. The data collection technique was carried out using a questionnaire.

The instrument used was a questionnaire filled out by class VI students, consisting of 6 questions related to students' interest in Wordwall interactive media and 6 questions related to students' needs. The data analysis technique used was descriptive qualitative by analyzing and summarizing the data that has been collected to provide an overview of the situations and conditions that occur in the field (Fitriani & Wangid, 2021).

RESULTS AND DISCUSSION

Results

Some of the applications that have been mentioned in the background can outline the problem, namely that learning media is needed that suit students' needs to increase students' interest in learning. At this time, students can be called a generation that has been surrounded by and is a user of technology since birth. Therefore, teachers need to make adjustments in choosing learning media, one of which is by choosing interactive learning media that utilizes technology. There are lots of media that utilize technology, such as animated videos, PowerPoint, and many others (Fitriani & Wangid, 2021).

Based on preliminary studies, the media that is still rarely used by teachers is the interactive learning media Wordwall. When compared to other media, Wordwall has the advantage because it can be used to assist teachers in delivering various learning materials templates interesting things, such as pictures, games, and quizzes. In Minister of Education and Culture Regulation Number 36 of 2018, it has also been stated that strengthening learning in the 2013 curriculum can be done, one way, through the use of learning multimedia. Apart from that, the interactivity in multimedia allows users to become active participants, so that they not only

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watch but can also control it according to their needs (Fitriani & Wangid, 2021).

Based on this, a student needs analysis is then carried out which is intended to determine student needs which will later be used as a basis for determining solutions related to the problems faced. This needs analysis uses a questionnaire that covers aspects of students' interests and needs in using learning media. The questionnaire was addressed to students, the results are shown in Table 1 and Table 2.

Table 1 Results of Student Interest Analysis

No	Interest						Amount	%	Category
	1	2	3	4	5	6			
1	5	4	5	5	5	5	29	97	Very high
2	4	4	5	4	5	5	27	90	Very high
3	4	5	4	4	4	4	25	83	High
4	5	5	5	4	4	4	27	90	Very high
5	4	5	4	4	4	4	25	83	High
6	4	4	5	5	4	4	26	87	High
7	4	5	4	4	4	5	26	87	High
8	4	3	4	3	5	5	24	80	High
9	5	4	4	4	5	5	27	90	Very high
10	4	5	4	5	4	5	27	90	Very high
11	5	4	4	4	4	4	25	83	High
12	4	5	3	4	4	4	24	80	High
13	4	5	4	4	4	3	24	80	High
14	4	4	4	4	5	5	26	87	High
15	4	5	4	4	4	3	24	80	High
16	4	5	4	5	4	4	26	87	High
17	4	4	5	3	5	5	26	87	High
18	5	4	4	4	5	5	27	90	Very high
19	4	4	5	4	4	5	26	87	High
20	4	5	4	4	4	4	25	83	High
21	4	3	4	5	5	5	26	87	High
22	4	5	3	4	4	4	24	80	High
Average								**86**	**High**

Table 2 Results of Student Needs Analysis

No	The Needs						Amount	%	Category
	7	8	9	10	11	12			
1	5	4	3	5	4	5	26	87	High
2	4	4	5	4	4	5	26	87	High
3	4	5	5	3	4	5	26	87	High
4	4	4	4	5	5	4	26	87	High
5	4	5	5	4	4	5	27	90	Very high
6	4	4	4	4	5	4	25	83	High
7	5	4	5	4	5	5	28	93	Very high
8	4	4	4	3	5	3	23	77	Currently
9	3	5	3	4	5	5	25	83	High
10	4	3	5	4	5	5	26	87	High
11	5	4	5	4	5	5	28	93	Very high
12	5	3	5	4	5	5	27	90	Very high
13	4	3	4	3	4	4	22	73	Currently
14	3	4	3	4	4	5	23	77	Currently
15	4	5	4	3	4	4	24	80	High
16	5	5	4	4	5	4	27	90	Very high
17	5	4	4	5	5	5	28	93	Very high
18	4	4	4	3	4	5	24	80	High
19	4	4	5	5	4	4	26	87	High
20	4	4	3	4	5	5	25	83	High
21	5	5	3	5	5	5	28	93	Very high
22	5	3	5	4	4	5	26	87	High
Average								**86**	**High**

Based on the results of the analysis of student needs, results were obtained in the aspect of interest in using media learning Wordwall namely 86% and the student needs aspect obtained a result of 86% in the high category. With this interactive learning media, it will be easier for students to understand the concepts in the material in a fun way. Currently, the school only facilitates students with LCD projectors. Apart from that, teachers also rarely use learning media by utilizing existing technology. For previous media, teachers only used printed books provided by the school. So researchers provide solutions and efforts by developing interactive learning media Wordwall in mathematics subjects to make it easier for students to learn because this Wordwall is presented with various images and features, template interesting, so students do not feel bored when studying in class.

Based on the results of the questionnaire, it can be concluded that teachers need Wordwall interactive learning media in mathematics subjects and it is hoped that teachers will be able to utilize this increasingly sophisticated educational technology.

Discussion

Learning media can be print media, sound, or both, including hardware technology used in learning to help students be more active in the learning process. Media that utilizes technology is called interactive learning media. By using learning media appropriately and variedly, students' passive attitudes toward learning will be overcome (Arpan & Budiman, 2018; Feladi et al., 2023; Nasution et al., 2024; Syaifullah et al., 2024). In mathematics lessons, there are still many students who think that mathematics is a subject that is quite difficult to understand and learn. By using interactive learning media provided by the teacher, it will encourage students when learning and help students understand mathematical concepts.

So that automatically there will be a sense of interest in students' learning and student achievement will also increase. By using interactive learning media, teachers no longer need to explain lesson material using the lecture method in front of the class, because this causes students to feel bored (Fitri & Efendi, 2024; Feladi et al., 2017; Sulistiyarini et al., 2018; Supardi et al., 2023; Arpan & Sadikin, 2020).

One of the interactive learning media developed in this research is the interactive learning media Wordwall. The Wordwall

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interactive learning media produced as a product of the development of this research has gone through a needs analysis in the definition process, namely an analysis of the media used in the learning process and students as test objects. The initial observation stage is to determine the material that will be developed and the media concept that will be used.

Based on the results of observations in class VI in mathematics subjects at SD N 095/VIII Karang Dadi, several learning media concepts were obtained, the desired media must be able to display writing, images, and motion animation. From the results of the observations made, media was created that suited the needs, was easy to understand, and easy to use, namely by using Wordwall media in the form of interactive learning media (Aulia, 2014).

Most of the students interviewed thought that the material on arithmetic operations was difficult material because many formulas had to be learned. Class VI students prefer to work on and solve questions in the form of easy calculations and direct results. Students do not understand the subject matter, so students think that learning mathematics is just memorizing formulas, even though many mathematical concepts can be applied.

Learning using Wordwall interactive media requires students to be more active and creative in searching for information and looking for solutions solving problems so that students are used to carrying out learning activities independently which shows an increase in students' interest in learning which has an impact on improving students' cognitive learning outcomes (Aulia, 2014).

Based on Piaget's cognitive theory, the thinking of elementary school-age children enters the thinking stage concrete-operational, namely the period when the child's mental activity is focused on real objects or on various events that he has experienced. Operations are logical relationships between concepts or schemas. Whereas operation concrete is an activity mentally focused on real objects and events or concrete can be measured. This means that elementary school-age children already can think through cause-and-effect sequences and begin to recognize various ways of solving the problems they face.

Children of this age can also logically consider the results of a condition or situation and know several rules or thinking strategies, such as addition, subtraction, multiplication, and ordering things in series, and can understand operations in several concepts, such as 5x6 = 30 and 30:6 = 5. Children in childhood are concrete This operation (elementary school period) has been able to realize conservation, namely the child's ability to relate to several different aspects simultaneously. This is because at this time children have developed three kinds of processes called operations: negation, reciprocity, and identity.

Therefore, needs analysis is a crucial step in developing Wordwall interactive learning media. The analysis is carried out so that the media developed is by the learning objectives that must be achieved and is also following student characteristics. Analysis is carried out by filling in an instrument in the form of a needs analysis questionnaire in the classroom during learning. Through needs analysis, researchers can find out the conditions and characteristics of students in a systematic way, so that the results obtained will be accurate and under the actual situation.

CONCLUSION

Based on the results and discussion, the following conclusions were obtained. Teachers agree with the development of appropriate interactive learning media. The media in question was the interactive learning media Wordwall because it was adapted to the characteristics of digital students native. This was also reinforced by students' opinions that they want learning to use interactive media, rather than printed books. Based on the results of the questionnaire, interactive learning media Wordwall will be developed. With the existence of the learning media Wordwall. It is hoped that this will provide more optimal results in increasing students' interest in learning.

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