Educare: Journal Educational and Multimedia
Volume 02, Number 01, 2024
DOI 10.
2988-4969 (Online - Elektronik)

Improving Interactive Multimedia Based Learning Media for Elementary School Students

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ABSTRACT

This study aims to develop interactive multimedia-based learning media for solar system material for grade VI elementary school students that is feasible in terms of validity, practicality, and effectiveness. The method used in research is research and development or Research and Development using the ADDIE model (Analyze, Design, Development, Implementation, Evaluation). The research data collection instruments were media expert validation sheets, material expert validation sheets, teacher questionnaire sheets, student questionnaire sheets, pretest and posttest. The data analysis technique used in this study is the validity test, the practicality test and the effectiveness test of learning media. The results of the learning media validity data were obtained based on the results of the media validation assessment by experts who obtained a percentage of 96.67% in the "very valid" category and the results of the material validation assessment by experts who obtained a percentage of 95 % in the "very valid" category. The results of the practicality of learning media data were obtained based on the results of the teacher's questionnaire assessment which obtained a percentage of 93.75% in the "very practical" category and the results of the student questionnaire assessment which obtained a percentage of 94.63% in the "very practical" category. The results of the data on the effectiveness of learning media were obtained from student learning outcomes on the pretest - posttest scores. That way, it is known that there is a significant increase in the N-Gain analysis with an average acquisition of 0.74 in the high category and a learning completeness percentage of 100% in the "very good" category. So it can be concluded that learning media based on interactive multimedia on solar system materials is feasible to be used as a learning medium.

Keywords:
Instructional Media, Interactive Multimedia, Student.

INTRODUCTION

Learning media requires renewal, namely utilizing technology. Learning media developed with technology can help teachers deliver material that is packaged more interestingly. Learning media cannot be separated from the learning process because learning media is an intermediary between teachers and students in transferring knowledge. Teachers and students are important subjects or main actors in the world of education (Wibawanto, 2017:1). Teachers are required to keep up with the times. Teachers are required to be able to develop their skills in creating interesting, interactive, fun learning media, and apply them to teaching and learning activities by utilizing technology. One example of a subject that utilizes technology is Natural Sciences. Changes are needed in the learning process so that student learning outcomes improve. One of them is using creative and innovative learning media.

According to the Association of Educational and Communication Technology (2016:3), media is all forms used to channel messages and information. According to the Information and Technology Data Center for Education and Culture (2021:10), media is an intermediary for messages from sender to recipient. Meanwhile, according to Maswan and Muslimin (2017: 123), media is one solution that is considered appropriate for creating impressive and enjoyable teaching and learning activities for students. In accordance with Kustandi and Sutjipto (2016:23) that with the sound of learning media,

student learning outcomes will increase according to their interests and abilities. Learning media is used as an effort to improve the learning process so that it is more optimal. In the opinion of Suryani et al. (2018: 13) that accuracy in selecting media is very important so that the function of the media in the learning process can be optimal. It is concluded that learning media is an intermediary for explaining learning material and as an effort to improve student learning outcomes.

In accordance with Kumalasani's opinion (2018:2) that the use of interactive multimedia can activate and involve students directly. Flexible because this media can be saved in file form and used anywhere and anytime with a laptop or computer device. Interactive multimedia is media using technology that is presented interactively using computers or cellphones (Wahyugi & Fatmariza, 2021: 245). There are many media that can be used to teach solar system material, one of which is interactive multimedia. Solar system material can be said to be interesting because it is directly related to everyday life. Solar system material is one of the materials that is difficult for students to learn. Therefore, an appropriate intermediary tool is needed, namely media. Because media will help students to better understand abstract material to become more concrete. The researcher chose the solar system material because based on the results of interviews and observations at the elementary school, the solar system material was very broad but the media used still did not explore students' knowledge. Another reason was that during teaching practice, the researcher knew that the sixth grade teacher only delivered material without using interesting media. This means that the learning carried out in class is still conventional.

Based on the differences mentioned above, the interactive multimedia-based learning media that will be developed by researchers in this research has unique qualities that differentiate it from previous research products. The first uniqueness is the game's modified material features. So students not only learn the material, but it is as if they are going on an adventure in outer space from the planet closest to the farthest from the center of the solar system. When the planets are clicked, the presentation of the material can be displayed. Second, the addition of a feature, namely the sing-along feature. This feature contains songs of the names of the planets in the solar system. With the addition of this feature, students can memorize the names of the planets in sequence easily. Third, additional features, namely the bibliography feature. This feature is used as a learning resource presented in the solar system material feature. Fourth, the addition of the concept map feature. This feature can make it easier for users to study solar system material. Based on the explanation presented.

METHOD

This research is a type of research and development or R&D (Research and Development). The research developed interactive multimedia-based learning media containing solar system material for grade VI elementary schools using the ADDIE model with the stages "Analyze, Design, Development, Implementation, And Evaluation". The ADDIE model contains systematic stages and aims to achieve the desired results.

RESULTS AND DISCUSSION

The greater variety of learning media will support teaching and learning activities (Ilmawan Mustaqim & Nanang Kurniawan, 2018). This is in line with the value and benefits of learning media stated by Hasanah & Sumiharsono (2017:14-15), namely that abstract material concepts are made more concrete and simpler so that they are easily understood by students. Apart from that, according to Arsyad (2016:29), the benefit of learning media is that the message or information is conveyed more clearly with the aim of improving the quality of learning and smoothing the learning process. The use of this learning media can provide students with understanding in studying natural science material, especially solar system material. Students are very enthusiastic and enthusiastic about learning. With this media, students can explore the material being studied. Learning media that contains the solar system is able to make students active in the natural sciences learning process and is able to bring abstract concepts into students' real experiences. In accordance with Kumalasani's opinion (2018:2) that the use of interactive multimedia can activate and involve students directly. This media is also able to provide technology learning experiences to students in the digital era. The use of technology in the learning process has a very influential impact on increasing student achievement (Tanwir et al., 2018).

By creating interactive multimedia-based learning media in the field of education, it is a problem solver that we face and of course we should use it optimally because using interactive multimedia-based learning media can make it easier for students to learn anywhere so that students' knowledge will increase. Judging from practicality, data on practical results were obtained from questionnaires filled out by students and teachers after using learning media in extensive trials. In accordance with the opinion of Suryani, et al. (2018:13) that accuracy in selecting media is very important so that the function of the media in the learning process can be optimal. The results of media practicality show that the function of learning media according to Wina Sanjayan (in Nurrita 2018: 176) is that interesting learning media can increase students' enthusiasm in receiving the material. Learning media can also make it easier for students to understand lesson material. Apart from that, according to Nieveen Rochmad (2016:70), the practicality of media can be determined from user responses.

Practical media can involve students directly in its use. This is in line with the function of learning media according to Levie & Lentz (in Hasanah & Sumiharsono, 2017: 11), namely attracting students' attention, creating a feeling of comfort for students, making it easier to understand the concept of the material, and helping students who are slow to learn to understand the material. This is in line with the opinion of Nurfadhillah, et al (2021:5) that to make learning activities more meaningful, educators need to develop various media with attractive designs so that they can create enthusiasm for learning. Interactive multimedia-based learning media can be used as a solution to make learning more meaningful because it has an attractive appearance.

Based on the increase in learning outcomes in science learning, this means that interactive multimedia-based learning media can improve student learning outcomes effectively. According to Susanto (2016:5) Learning outcomes are the abilities that students have after receiving learning activities. This proves that the learning media developed by researchers can meet the KKM 75 set by the school and can fulfill the objectives of developing the media so that it can improve learning outcomes. Apart from that, according to Oemar Hamalik in Amka (2018), the use of learning media in the student learning process can generate motivation to stimulate learning activities, new desires and interests, and even have a psychological influence on students. The use of learning media can really help increase the effectiveness of the learning process and convey messages and learning materials well. Effectiveness is defined as success in achieving a goal with a certain method. Media can be said to be effective if it can fulfill the learning objectives. Improving learning outcomes covering students' cognitive, affective and psychomotor domains is a learning goal. According to Saudi n(2018:22) This cognitive domain can be known from the test scores given. The affective domain can be seen from students' attitudes during learning. It is known that interactive multimedia-based learning media makes students active during the learning process. The psychomotor domain can be identified through students' skills using interactive multimedia-based learning media, students are encouraged to carry out new activities according to the instructions provided. Students are motivated to discover their own knowledge in adventures in interactive multimedia-based learning media developed by researchers. The description that has been expressed shows that interactive multimedia-based learning media in this research can achieve learning objectives, namely improving student learning outcomes seen from the three domains of cognitive, affective and psychomotor. So interactive multimedia-based learning media can be said to be effective for use by class VI students in learning solar system material.

CONCLUSION

Based on the explanation above, improving interactive multimedia-based learning media on solar system material in elementary schools is suitable for use in the learning process in terms of three aspects, namely validity, practicality and effectiveness. Interactive multimedia-based learning media can improve learning outcomes and learning motivation. Student learning outcomes can increase because this media provides new experiences in discovering concepts, clearly showing something that was previously impossible for students to see, which can trigger enthusiasm for learning.

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