Interactive Learning Multimedia Improving Learning Motivation Elementary School Students

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Abstract. Elementary school students need learning media as an effort to concretize learning material that is still abstract. This study uses a literature review to discuss interactive learning multimedia to increase students' motivation to learn science in elementary schools. The research method uses the Systematic Literature Review method. Data was collected by documenting and analyzing articles that matched the research topics published in 2015-2020. This study uses 15 articles sourced from accredited national journals. The research articles were obtained through the Publish or Perish 7 application sourced from the Google Scholar database. The results showed that interactive multimedia helps students understand the learning material, attracts students' interest in learning, and makes the learning process more interactive. Interactive learning multimedia could increase students' motivation to learn science in elementary schools.

Keywords: interactive multimedia, learning motivation, science, elementary school

1. Introduction

The rapid development of information and communication technology has brought significant changes to the world of education. As an essential part of education, the curriculum must adapt to technology and civilization to equip students to live and develop amid technological developments. Teachers as curriculum implementers must design and implement creative and innovative learning by integrating technology in learning. The need for technology-based learning in the form of multimedia continues to increase along with the progress and development of technology and information that is increasing rapidly [1]. One form of technology application in learning is through the use of interactive learning multimedia.

Learning multimedia innovation requires learning to foster more dynamic, intuitive, and quality learning [2]. Interactive learning multimedia is a learning medium that incorporates different components of text, pictures, photographs, sound, video, and animation [3] [4] [5] [6]. Another essential element of interactive learning multimedia is navigation and interactivity. Navigation in learning multimedia facilitates users to manage the direction of learning and supports good interaction between users and learning multimedia [6] [7]. Interactive learning multimedia also has a controller component that students can use to regulate and control the running of interactive multimedia so that students have flexibility in the learning process [2] [6].

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Previous research has revealed various benefits of learning multimedia, including increasing learning motivation [8] [9], helping students to understand learning materials better [7] [10], and having an impact on improving learning outcomes and contributing to improving the quality of learning [11] [12]. In addition, interactive learning multimedia can also accommodate student learning styles both visually, audio, and kinetically [13]. Through the desired learning style according to the needs of these students, it is hoped that students will be happier and motivated so that it is easy to understand the learning material. Thus, students will find it easier to understand the learning material presented.

2. Methods

This literature review research uses the Systematic Literature Review (SLR) method. There are five stages in carrying out a literature review, namely: formulating research questions, searching for articles, evaluating articles, summarizing articles, interpreting article findings [14]. Systematic Literature Review (SLR) identifies, reviews, evaluates, and analyzes all available research. With this method, the researcher reviews and identifies journals in a structured manner following predetermined steps [15]. Researchers collected journal articles on the Google Scholar database with the help of the Publish or Perish 7 application. The keywords used in the articles were: multimedia interactive learning, learning motivation, science, and elementary school. The articles collected are only articles published in the period 2015 to 2020. From various articles, the researchers selected 15 articles from an accredited national journal that are closely related to the keywords used. In the next step, the researcher classifies articles related to interactive learning multimedia, science learning, motivation, and learning outcomes in general. The articles' metadata is tabulated in a table that includes the author's name, the year published, the journal's name, and results. After that, the researcher reviewed and analyzed the article in-depth, especially regarding the research results presented in the discussion and conclusion sections. At the end of the study, the researcher compared the findings presented in the article and concluded.

3. Results and Discussion

Interactive multimedia in the learning process becomes a demand and a need for technology and information-based learning. Interactive learning multimedia supports practical, interactive, and fun learning for students [2]. The learning process's quality and the expected learning objectives can be achieved more optimally through interactive multimedia. The following are the research results on using and utilizing interactive learning multimedia in science learning for students at the elementary school level presented in Table 1.

Table 1. Research Results on the Use of Interactive Learning Multimedia

Author, Year	Journal	Research Result
Muhammad Fahmi Saifudin, Susilaningsih, Agus Wedi. (2020)	Jurnal Kajian Teknologi Pendidikan	Interactive learning multimedia can help students understand learning materials so that they can increase student motivation and learning outcomes
Ikha Nur Jannah, Dwi Prasetiyawati Diyah Hariyanti, Singgih Adhi Prasetyo. (2020)	Jurnal Ilmiah Sekolah Dasar	Interactive learning multimedia make it easier for students to understand the learning material and is effective in improving the science learning process and outcomes

Ratih Wulandari, Herawati Susilo, Dedi Kuswandi. (2017)	Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan	Interactive learning multimedia can attract student interest and attention so that it can increase student activity and learning outcomes
Taufiq Nuril Akbar. (2016)	Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan	Interactive learning multimedia will make students feel happy and motivated in learning so that it can improve student learning outcomes
Hayumuti, Herawati Susilo, Susriyati Manahal. (2016)	Jurnal Pendidikan: Teori, Penelitian, dan Pengembangan	Interactive learning multimedia can foster enthusiasm and motivation for student learning so that it can increase student activity and learning outcomes
Galuh Kartikasari. (2016)	Jurnal Dinamika Penelitian: Media Komunikasi Penelitian Sosial Keagamaan	Interactive learning multimedia is effective for increasing students' motivation and learning outcomes
Naniek Kusumawati. (2016)	Jurnal Pendidikan Dasar dan Pembelajaran	Interactive learning multimedia can increase student interest, activity, and learning outcomes
Mardiki Supriadi, L. Virginayoga Hignasari. (2019)	Jurnal Teknologi Pendidikan	Interactive learning multimedia helps students understand concepts and learning materials so that they have an impact on improving student learning outcomes
Fachrur Rozie, dan Andika Adinanda Siswoyo. (2015)	Jurnal Rekayasa	Interactive learning multimedia is very helpful for making students motivated to learn
Dian Oktafiani, Lukman Nulhakim, Trian Pamungkas Alamsyah. (2020)	Jurnal Mimbar PGSD	Interactive learning multimedia can improve learning completeness and increase understanding so that it contributes to improving learning outcomes and fosters positive interactions in the form of student interest and motivation in learning
Asep Sukenda Egok, Tri Juli Hajani. (2018)	*Journal of Elementary School* (JOES)	Interactive learning multimedia contributes positively to improving student learning outcomes
Windha Octafiana, Madyo Ekosusilo, Singgih Subiyantoro. (2018)	Jurnal Komunikasi Pendidikan	Interactive learning multimedia can make students interested and help students understand the subject matter to increase motivation and learning outcomes

Gede Cris Smaramanik Dwiqi, I Gde Wawan Sudatha, Adrianus I Wayan Ilia Yuda Sukmana. (2020)	Jurnal *Edutech*	Interactive learning multimedia in the learning process is very effective in attracting students' interest in learning and learning to be more interactive so that it can significantly improve student learning outcomes
Berlina Wulandari, Fiqri Ardiansyah, Puspa Eosina, Hersanto Fajri. (2019)	Jurnal Krea-TIF	Interactive learning multimedia can help students understand learning materials, build students' learning enthusiasm and improve student learning outcomes
Nukke Deliany, Asep Hidayat, Yeti Nurhayati. (2019)	Jurnal *Educare*	Interactive learning multimedia can improve conceptual understanding so that it has an impact on increasing student learning outcomes

Based on the results of research that have been carried out as listed in Table 1, the use and utilization of interactive learning multimedia in science learning can make it easier for teachers to deliver learning material and make it easier for students to understand learning material, so that it can improve student learning outcomes [16]. Learning can be more flexible with interactive learning multimedia, because students can study anywhere and anytime. In addition, multimedia can make students active in the learning process. Interactive learning multimedia is effective in improving student learning processes and activities, so that it has an impact on the acquisition of more optimal student learning outcomes [17] [18] [22] [26].

Students' various learning styles and learning speeds can be accommodated through interactive learning multimedia [8]. The use of interactive multimedia in learning will lead students to learn independently. The teacher's help as a learning facilitator will help students achieve the learning objectives determined. The results showed that the use of interactive multimedia could make students feel happy and motivated in learning, so that it can increase motivation and student learning outcomes [19] [20] [21], foster motivation, interest, and good enthusiasm for learning [20] [24] [25] [27] [28]. In addition, interactive learning multimedia can make it easier for students to understand the concepts and learning materials [23] [27] [29] [30], so that the use of interactive learning multimedia can improve student learning outcomes more optimally.

The research results also prove that interactive multimedia can improve understanding of concepts in science learning, because it can concretize concepts classified as abstract. However, it is important to note by a teacher that teachers must bring students to do logical reasoning by applying the material to concrete examples. Teachers must remember that elementary school-aged children are still in the concrete operational stage and cannot yet imagine abstract learning materials. This action aligns with Piaget's cognitive theory, which states that children at elementary school can think logically as long as these thoughts can be applied to concrete examples.

Learning using interactive multimedia will build active student involvement during the learning process to create effective learning. Learning becomes more fun for students, because they can interact directly with the learning media they use. Learning to be fun occurs, because multimedia has valuable interactivity for being actively involved in the learning process by using multimedia [32]. Thus, the activities and involvement of students in the learning process will be more optimal thanks to the use of interactive multimedia in the learning process.

Learning using interactive multimedia attracts students more attention, is more effective and efficient, more practical, and students more absorb the material, because it is by student learning modalities [33]. This explanation is proven through the results of the research that has been done. The results also show that multimedia can create practical and efficient learning in achieving learning objectives. This fact can be proven by increasing students' motivation and learning outcomes after using interactive multimedia in the learning process.

Interactive learning multimedia has an attractive appearance and contains various interactive media to create a memorable learning experience. The results show that interactive multimedia makes students motivated and enthusiastic about learning and builds a fun learning atmosphere. The results of this study support previous research, which concluded that the use of interactive multimedia in learning provides a fun and meaningful learning experience for students [34]. The use of interactive multimedia in learning is one of the efforts to increase students' interest and motivation in learning and learning outcomes that are less than optimal due to the dominance of teachers with the lecture method and the use of media that are less interactive with students.

4. Conclusion

Interactive learning multimedia in science learning, especially for elementary school students, can help students understand the materials and concepts of science learning materials, foster attention, desire, and interest in learning. With these benefits, interactive learning multimedia increases student learning motivation, impacting achieving optimal learning outcomes. In addition, interactive learning multimedia support effective, efficient, fun learning and make students more enthusiastic in participating in learning activities.

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