

The role of interactive multimedia as a problem solving-based learning media for elementary school students

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ABSTRACT

In elementary schools the function of interactive multimedia as a learning medium for problem-solving is crucial in helping students comprehend the concepts and principles of problem-solving more thoroughly. Multimedia that is interactive assists students in visualizing how to solve issues, enhances their visual, communication, and creative thinking skills, and makes learning more enjoyable and participatory. A literature study demonstrates that interactive multimedia has the ability to improve students' learning outcomes and assist them in solving problems in a more efficient and effective manner. The value of this study is that educators and developers of learning media must continue to explore innovation and development of interactive multimedia as a learning medium for primary school problem solving.

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INTRODUCTION

Education is crucial to a person's growth, particularly in preparing them for the future. In this instance, learning media play a crucial role in facilitating student comprehension of the concepts and principles taught. Interactive multimedia is one of the learning medium that is now undergoing development (Prasetyo, 2020; Purba et al., 2020).

Interactive multimedia is a learning medium that blends text, visuals, sound, and animation to aid students in comprehending the technology integration concepts and principles taught (Fauzi et al., 2023). It makes learning more enjoyable and interactive, and facilitates students' comprehension of topics and principles. For primary school students, the importance of interactive multimedia as a learning medium for problem solving is crucial (Ratnaningsih et al., 2022). Students can learn more effectively and efficiently how to solve problems by using interactive multimedia. Multimedia that is interactive helps students comprehend topics and principles in a more engaging and enjoyable manner (Arifin et al., 2023; Rachmadtullah et al., 2018; Sudipa et al., 2022).

Interactive multimedia is closely related to problem solving in learning, because interactive multimedia allows students to learn how to solve problems in a more effective and efficient way. Interactive multimedia combines text, images, sound, and animation to help students understand

the concepts and principles being taught, making learning more fun and interactive(Widianto et al., 2022). By using interactive multimedia, students can learn how to solve problems in a more visual and interactive way. They can explore and test their own ideas, understand concepts and principles better, and strengthen their understanding of how to solve problems(Candra & Rahayu, 2021).

The link between interactive multimedia and learning problem solving is that interactive multimedia helps students understand concepts and principles in solving problems in a more effective and efficient way. This helps make learning more fun and interactive, and makes it easier for students to understand the concepts and principles being taught(Natalia & Setiawan, 2020; Putra et al., 2021). Therefore, interactive multimedia has a very important role in learning problem solving in elementary schools.

In its application, interactive multimedia can help students prepare themselves to solve problems and solve problems by thinking creatively. This helps make learning more fun and interactive, and makes it easier for students to understand learning material by using attractive visualizations and displays(Aditama et al., 2019; Yasa et al., 2020). Differentiating the research is the role of interactive multimedia in assisting students to solve teaching and learning-related challenges.

The purpose of research on the role of interactive multimedia as a learning media for problem solving in elementary schools is to find out how interactive multimedia influences the problem solving process of elementary school students. Whether interactive multimedia helps students to better understand the concepts and principles of problem solving, how interactive multimedia helps students improve visual, communication, and creative thinking skills in problem solving (Avianty & Cipta, 2018).Is interactive multimedia helping to make learning more fun and interactive. By knowing these things, this research can provide benefits in helping to understand the role of interactive multimedia as a learning media for problem solving in elementary schools and provide useful information for educators and learning media developers. This research will also help improve the quality of learning problem solving in elementary schools and ensure that students understand concepts and principles better and solve problems in a more effective and efficient way.

RESEARCH METHODOLOGY

The literature review approach to research on the role of interactive multimedia as a learning media for problem solving in elementary schools involves revising and analyzing related sources. In this approach, researchers will collect sources such as journals, books, articles, and papers related to the role of interactive multimedia as a medium for learning problem solving in elementary schools. After collecting the sources, the researchers will analyze and revise these sources to understand and evaluate related research developments. They will look for trends and patterns in previous research, compare and contrast research results, and evaluate the methodology and results of previous research.(Sugiyono, 2017).

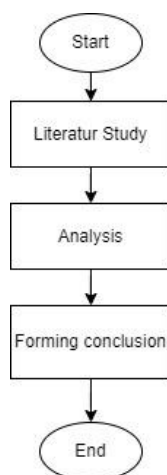


Figure 1. Research Flow

In this study, the research flow depicted in Figure 1 was used in the early step of completing a literature review by collecting journal articles discussing the utilization and role of interactive multimedia for elementary school students' problem solving. The following stage evaluates the data acquired from the literature review. Information pertinent to the use of interactive multimedia as a problem-solving-based learning medium for elementary school students, categorized according to themes. During the analysis phase, the data acquired from the data analysis are synthesized. The final stage is to make conclusions from the data analysis, especially the role of interactive multimedia as a problem-solving-based learning media for elementary school students and give recommendations for further research.

RESULTS AND DISCUSSIONS

3.1. Relationship between Interactive Multimedia and Problem Solving Based Learning

Interactive multimedia has a close relationship with learning problem solving in elementary school students. Interactive multimedia combines text, images, sound, and animation to help students understand the concepts and principles being taught, making learning more fun and interactive. By using interactive multimedia, students can learn how to solve problems in a more visual and interactive way. They can explore and test their own ideas, understand concepts and principles better, and strengthen their understanding of how to solve problems (Gumilang et al., 2019). The link between interactive multimedia and learning problem solving is that interactive multimedia helps students understand concepts and principles in solving problems in a more effective and efficient way. This helps make learning more fun and interactive, and makes it easier for students to understand the concepts and principles being taught (Daheri et al., 2022). Therefore, interactive multimedia has a very important role in learning problem solving in elementary schools.

3.2. The Influence of Interactive Multimedia on Problem Solving Learning

Interactive multimedia has a positive influence on students' problem solving processes. The following are some of the positive influences of interactive multimedia on students' problem solving processes (Kertati et al., 2023):

- a) Make learning more fun: Interactive multimedia makes learning more fun and interactive, motivating students to learn and understand the concepts and principles being taught (Setiawan et al., 2021).
- b) Improve visual skills: Interactive multimedia provides students with rich visuals and helps them understand concepts and principles better.

- c) Simplify the problem-solving process: Interactive multimedia helps students understand how to solve problems in a more effective and efficient way, facilitating the problem-solving process.
- d) Improve communication skills: Interactive multimedia helps students improve their communication skills, because they have to work together and talk to each other to solve problems.
- e) Improve creative thinking skills: Interactive multimedia helps students improve their creative thinking skills, because they have to think in different ways and explore new solutions to solve problems (Muhammadiyah et al., 2022).

Therefore, interactive multimedia has a positive influence on students' problem solving processes and helps them understand concepts and principles better and solve problems in a more effective and efficient way.

3.3. The concept of Interactive Multimedia to become a Problem Solving Learning Media

Here are several ways to create interactive multimedia concepts so that they can become problem solving media for elementary school students: Make concepts interesting and easy to understand: Use pictures, animations, and sound to make concepts easier to understand. Make concepts interesting and fun to motivate students and help them understand concepts better. Focus on problems and solutions: Focus concepts on problems and solutions, and have students actively participate in solving problems. Give them several solution options and help them understand the concepts and principles related to problem solving. Use interaction: Use interaction to help students understand the concepts and principles being taught. Give them the opportunity to explore and test their own ideas, and help them understand concepts and principles better. Give feedback (Aditama et al., 2021): Provide feedback that helps students understand their chosen solution and helps them strengthen their understanding of problem solving. Adapt to students' cognitive levels: Adapt concepts and interactions to students' cognitive levels, and ensure that concepts and interactions are appropriate to students' understanding levels. By considering these factors, you can create an effective interactive multimedia concept as a problem solving medium for elementary school students.

3.4. Advantages of Interactive Multimedia in Improving Students' Problem Solving Ability

There are several advantages of interactive multimedia helping students improve visual skills, communication, and creative thinking in solving problems:

- a) Visual Skills: Interactive multimedia provides students with rich visuals and helps them understand concepts and principles better. This helps them visualize how to solve problems and understand concepts and principles better.
- b) Communication Skills: Interactive multimedia helps students improve their communication skills, as they have to work together and talk to each other to solve problems. This helps students understand how to solve problems together and helps them improve their communication skills (Satriawan et al., 2020).
- c) Creative Thinking Skills: Interactive multimedia helps students improve their creative thinking skills, as they have to think in different ways and explore new solutions to solve problems. It helps students understand how to solve problems in an innovative way and helps them improve their creative thinking skills.

Interactive multimedia has an important role in helping students improve visual skills, communication, and creative thinking in solving problems. This helps students understand concepts and principles better and solve problems in a more effective and efficient way.

The problem-solving education of elementary school children has benefited from the usage of interactive multimedia. Text, graphics, music, and animation can be used in conjunction with interactive multimedia to facilitate comprehension. According to the findings of (Gumilang et al., 2019), interactive multimedia may make learning entertaining and interactive for students, and visual learning can make it easier for students to solve problems connected to the content they are studying (Daheri et al., 2022). The relationship between interactive multimedia and problem-solving learning is that interactive multimedia facilitates a more effective and efficient understanding of problem-solving concepts and principles by students (Adnyana et al., 2019). This makes studying more enjoyable and interactive and facilitates student comprehension of the concepts and principles presented. In elementary classrooms, interactive multimedia plays a crucial role in teaching problem solving.

According to research (Kertati et al., 2023) one of the positive effects of interactive multimedia on the problem-solving process of elementary school students is that it can make learning enjoyable, thereby making students more at ease in carrying out the teaching and learning process and making it easier to comprehend the concepts and materials taught because there are visual displays of learning materials; this is also a form of reinforcement (Setiawan et al., 2021). Another good influence is on student involvement and communication, as interactive multimedia can assist students develop their communication skills while solving challenges linked to learning materials, as the students must collaborate and communicate (Kertati et al., 2023). According to research (Muhammadiyah et al., 2022), interactive multimedia can also assist students enhance their creative thinking skills since they are required to think in novel ways and explore fresh approaches to problem-solving. Hence, interactive multimedia has a significant impact on students' ability to comprehend how to solve problems more effectively and efficiently, thereby improving the problem-solving process (Putra et al., 2021).

In order to maximize the effectiveness of interactive multimedia in assisting elementary school students in problem-solving related to learning material, it is necessary to apply several concepts outlined in research by (Aditama et al., 2021), which explains that interesting concepts with a combination of images, animations, and sounds to make concepts easier to understand in order to motivate students and help them better comprehend concepts. In interactive multimedia, you can add evaluation features or tasks to stimulate students' knowledge to interact after viewing learning materials, this interaction process can be by working on problems or tasks related to the material, this is consistent with research by (Chaniago & Usmeldi, 2020) which explains the existence of features that can provide feedback that helps students understand the solutions they choose and strengthens their understanding of problems. Adapting interactive multimedia material to the level of kids' understanding capacity so that it can effectively function as a problem-solving medium for elementary school students is another concept suggested by (Sari et al., 2018; Zulhelmi et al., 2017).

There are advantages of interactive multimedia that can be used to support the teaching and learning process that can help improve the quality of learning for elementary school students, according to research that explains the ability to perform visual skills that can help students understand the concepts and principles of learning material (Jannah & Atmojo, 2022). According to research by Satriawan et al. (Satriawan et al., 2020), another student ability that can be improved through interactive multimedia is the ability of communication skills in relation to working together and coordinating in problem solving. Additionally, the ability to think creatively can be one of the points of interactive multimedia development because elementary school students can explore new solutions from interactive material delivery, which can help train them to think creatively (Firdaus et al., 2020; Nada et al., 2018).

CONCLUSION

The research conclusion derived from the analysis of the literature review indicates that interactive multimedia plays a significant role in primary schools as a problem-solving learning medium. By the use of interactive multimedia, students can obtain a deeper knowledge of the concepts and principles underlying problem solving, gain insight into potential solutions, and refine their visual, communicative, and creative thinking skills. It also adds a new degree of fun and involvement to the learning process for kids. This research is valuable because it explains why primary school teachers and educational technology designers must continue to push the frontiers of interactive multimedia as a problem-solving teaching tool. By doing so, students will be able to comprehend the fundamentals and apply this understanding to problem solving. Interaction and communication are also positively impacted, as interactive multimedia can help students improve their communication skills when solving problems related to learning materials, as they must collaborate and communicate with one another to solve problems, thereby improving their creative thinking skills. The development of innovative problem-solving and creative thinking skills may also be one of the goals of interactive multimedia, as elementary school students are able to explore new solutions through interactive material delivery, thereby enhancing their creative thinking and problem-solving abilities. The weakness of the research is that it has not focused on a subject that is the subject of interactive multimedia material, so a suggestion for future research would be to develop interactive multimedia that focuses on problem-solving skills in the segmentation of elementary school students who specialize in an increase in elementary school subject comprehension.

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