

# The Use of Interactive Media to Improve Student Engagement in Primary Schools

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**Abstract.** The use of technology has become inevitable in the fast-growing digital age. Advances in information and communication technology have changed almost every aspect of life. One area affected is education. This study examines how interactive media tools can help students become more engaged in elementary school. This research aims to improve understanding of interactive media and analyze various literature studies that show that technology can aid education, make lessons more interesting and entertaining, and support different learning styles. This research explores issues related to interactive media in the classroom. This is done through a qualitative approach. The results of the study show that interactive media not only increase students' engagement, but also improve their experience, help better master educational material, and create an interesting learning environment. This study also suggests that teachers use interactive learning tools to increase students' learning potential in primary schools. Additionally, this study provides recommendations for future researchers regarding nutritional supplements aimed at increasing student engagement.

**Keywords:** Use, Interactive Media, Increase Student Engagement

**How to Cite:** Kesuma, K, S. (2025). The Use of Interactive Media to Improve Student Engagement in Primary Schools. Proceeding The 7th International Conference Elementary Education, 7(1) 913-926

## INTRODUCTION

An increase in teachers' efficiency in implementing the learning process can be observed. Learning is one of the most important educational activities, as learning is the main educational activity that students receive. Regarding Protocol PP No. 19, Article 2005, Article 19 paragraph 1, which states: "At school, learning is interactive, inspiring, fun and challenging. It encourages students to actively participate in education and provides sufficient space for creativity, initiative and independence. The initiation into learning is adapted to students' interests, talents and physical and psychological development." This must be compared with the pedagogical competency stipulated in Article 3 of 2008, which stipulates that one of the pedagogical competencies that teachers must possess is the use of learning tools.

In the rapidly developing digital age, the use of technology has become inevitable. The role of ICT has changed in almost every lifestyle, and one of the effects of the development of this technology is the field of education, where education is basically a process of communication and information from teachers to students where educational information, i.e. the media, is used as a tool to capture the ideas and concepts of educational materials (Elyas, 2018). Technological advancement is bringing about profound changes in the teaching model, encouraging the use of interactive learning tools to increase student engagement in the learning process. Education will be able to adapt to these changes. The development of information technology changes many aspects of human life. Technology can accelerate knowledge development in classroom learning circles, across time and space. Naturally, this situation encourages new efforts to use the results of technology in the learning process.

Technology plays a big role in achieving learning goals. As technology produces educational aids, it supports audio-visual learning. Teachers can then choose the appropriate learning environment, develop learning strategies, and create healthy emotional relationships among students. Therefore, the learning process, whether oral or written, can be enriched with various educational tools (Asala, 2020).

Interactive educational means that allow students to interact with the material. This type of media can be in the form of games, images, animation, simulation, etc. The ability to share information in various visual and multimedia formats is one of the main advantages of using interactive learning tools. Elementary students can gain a better understanding of difficult and complex concepts using rich content and interactive visual aids. Interactive books and videos can provide a clear picture of various difficult phenomena and processes that cannot be explained in words. Primary school students can get a better understanding of various topics with the help of this interactive tool. Interactive media allows students to participate directly in the learning process, increasing student engagement in the lesson and improving students' understanding of the topic.

Student engagement is one of the key factors in creating an effective and enjoyable learning experience. They discover a variety of innovations, from science and gadgets to learning technology. The development of the era is social, cultural life, economy, and especially education. Education is defined as the process of developing a person in terms of strength, personality and talent. Learning is the interaction between teachers, students and their partners. Teachers in primary education must respond quickly to any developments that occur (Rukmana et al., 2024). In addition, the use of interactive tools can encourage the active participation of school elements students in the learning process. In traditional learning, elementary school students become passive listeners only when the teacher presents the material. However, by using interactive learning tools, students can directly participate in various interactive learning activities. The use of educational games and digital platforms can provide interesting and fun challenges and tasks for students to be more active in developing understanding (Otomo, 2023).

The results of a survey conducted by the Ministry of National Education and Culture in January 2021 stated that students in 20% of schools experienced learning loss that was disproportionate to their competence and interest in learning. In relation to these circumstances, the formation of interest in learning must be revitalized to increase students' interaction with interactive media systems with adaptive interference that matches the characteristics of students in the current digital era. The use of interactive media in primary schools is an incremental step in response to the development of technology, as well as a way

to improve use in an effort to increase student engagement and quality of education. By including interactive elements, students not only passively receive information, but actively participate in the learning process (Nisa Maghfiroh et al., 2024). By using interactive tools in the learning process to increase student participation in the learning process and enhance students' understanding of the educational material. Therefore, the purpose of this study is to determine the effectiveness of using interactive tools in improving students' understanding of learning concepts.

Many studies focus on the use of technology in education, but there is still a need for studies on the use of interactive tools in primary schools. Among many studies related to interactive media in students' better understanding, this study discusses interactive media, types of interactive media, use and application of interactive media in depth. This gap is the focus of this study. Therefore, the purpose of this study is to investigate the effectiveness of using interactive media in improving students' understanding of learning concepts.

Through the explanation provided, the question arises how the use of interactive media can increase the engagement and understanding of students in primary schools. Teaching that uses traditional methods does not benefit students because boredom and interest in learning decrease. Therefore, it is important for this study to deeply investigate the application of interactive tools in the context of educational elements, as well as how interactive tools are designed and implemented to improve the quality of learning engagement. This study is expected to help in the development of interactive media in primary schools. In addition, this study is also expected to provide important references for education that uses technology to support better quality education.

## METHODOLOGY

This paper describes desk research methods. The purpose of this research is to describe research results obtained from documents in the form of books, repositories, journals and other documents related to the subject or subject of the study, without direct research or field research. The documents that follow the material are obtained, and the next step is to collect, review, re-examine and then organize and discuss the results of the study into a good study, which can be a source for further studies, because it is a summary of previous studies (Fayez et al., 2022). Below are the steps for a literature review:



Figure 1. Top Research Literature Review

Then the researcher used data analysis methods taken from the book (Sugiono, 2015) with techniques or methods, which are: collecting data, reducing data, displaying data, and drawing conclusions related to the topic at hand. The following diagram shows the flow of data analysis.

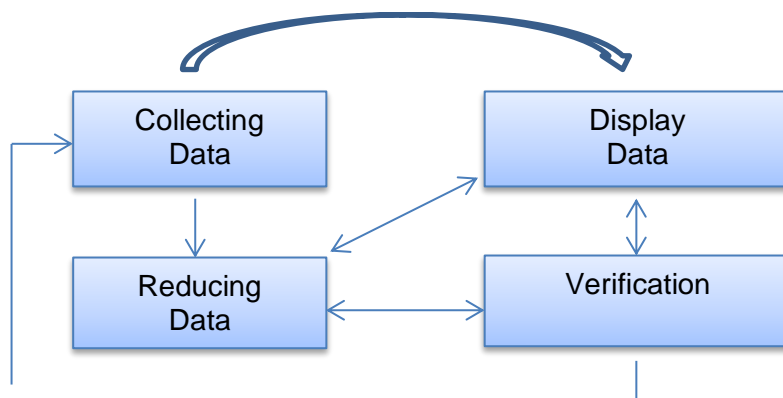


Figure 2. Data Analysis Flow (Faiz, A., & Soleh, 2021)

## RESULTS AND DISCUSSION

In the first stage of this study, the researcher carried out the data collection process through a literature search in the form of 10 articles. Through the study, the following table appears:

No	Author and Year	Article Title	Investigation Results
1.	(Utomo, 2023)	Innovating interactive learning methods to improve learning in the digital age in schools	Innovation in developing interactive learning media to improve the effectiveness of learning in the digital age in primary schools is an important step in meeting the demands of increasingly sophisticated technology and educational needs. In the rapidly evolving digital age, the use of interactive learning tools shows great potential to improve the learning process at the school level.
2.	(Rukmana et al., 2024)	Literary technology Confortans for every interactive doctrine using Kahoot media in fifth grade schools	The results of this study support that elementary school students can better understand technology through interactive learning using Kahoot tools. Using technology in learning not only increases student engagement and participation, but also significantly improves academic outcomes.
3.	(Rositta et al., 2022)	The relationship between interactive media and students' learning enthusiasm	Interactive media can be in the form of a combination of multimedia, such as moving images (animation and video), audio, or text that can accommodate user responses. Using interactive media in the learning process will be

		able to develop interest in learning, because the media used are arranged in the best possible way, so that learning is more interactive.
4.	(Ruhatul, Fikriya, and Al-Nahdi, 2024) A variety of interactive multimedia programs to improve the quality of school science learning	The results of the study showed that interactive multimedia programs can have a positive impact on science learning in arts schools in the form of increased learning activities, learning motivation, conceptual understanding, critical thinking, scientific literacy, learning outcomes, and student learning activities with characteristics that can provide an enjoyable and effective learning experience by providing students with active opportunities to understand concepts, flexible and easy learning speed, and easy and convenient access to them.
5.	(Nisa Maghfiroh et al., 2024) The effectiveness of interactive learning methods in learning mathematics in schools	As a result of the study, the use of interactive learning tools, especially colorful ones, provides support for mathematics learning in primary schools. Using colored pencils not only improves students' understanding of mathematical concepts but also facilitates the process of understanding internal material through interesting and easy-to-understand visualizations.
6.	(Inayah et al., 2023) The effect of using interactive media based on detailed stories on interest in learning social studies?	The results of studying the use of interactive tools based on narrated stories can shape students' interest in participating in social learning activities.
7.	(Herdianti et al., 2024) Advertising Needs Analysis Development of Serpentes et Scalas Digital Learning Media in Social Studies Learning to Increase Educational Engagement for Fourth Grade Students	Among the results of students' questions in this study, 82% of the sample expressed their interest in using the digital snake game through the Genially platform as a means in the process of teaching and learning social studies in primary schools.
8.	(Aselah, 2020) The role of interactive media in learning Islamic religious education for students using the visual learning method	Examples of interactive learning tools include interactive CDs, games, and software applications. The visual image or display screen of this device can attract students' attention to create an interesting learning process.
9..	(Dwi, 2020) Using Educational Technology During the COVID-19 Pandemic: Characteristics of Online Play at University of	The results of the study showed that multimedia is widely used through the use of text, images, animation, video

	Muhammadiyah Lampung	Pringeu	and audio to motivate students with similar learning materials.
10.	(Elyas, 2018)	Using e-learning examples to improve the quality of learning	E-learning systems are essential to stay ahead of the development of the era with the help of information technology as everything tends to the digital era, both devices and content.

### Definition of Interactive Media

The word media comes from the Latin word *medius*, which literally means "middle", "middle" or "foreground". Media in Arabic means presenting by sending a message to the recipient who carries it. Gagne describes media as different elements of a student's environment that students can use to learn. Interaction is actually a relationship of two or more communications, but what is meant by interaction is the mutual communication between the tool and the user. It starts with the data entered by the user and the response from the media, which makes the transaction happen. Therefore, interactive knowledge media can be defined as everything, including software and hardware, that can be used as a tool to deliver materials from learning sources to students with learning methods that allow users to respond to what is presented on social media (Suarte, 2017). Interactivity in general means two or more ways of communicating.

Interactive media according to the Indonesian Language Dictionary (KBBI) is media that is intermediate or connected to related media that actively interact with each other. Media can help students become more engaged while learning, especially if the media highlights animated elements, attractive visuals, and digital formats. Interactive media is one of the favorite learning methods among students, because it can make the educational situation less boring. Interactive communication itself is two-fold (Tarigan & Siagian, 2015). Interactive media is media that combines several elements, such as integrated text, graphics, photographs, audio, video, quizzes, and animation. Using interactive tools can help students get creative with learning design to make the learning process more fun and interactive.

Interactive media is an educational method based on information and communication technology. It includes communication between teachers and students through media, electronic systems and infrastructure such as application software. These media are designed to actively engage the user in the activity, which is why they are called interactive. Interactive media according to (Yasa et al., 2017) contains a type of media that users can participate in, and users can choose what they want to do next. Examples of interactive media are interactive learning, gaming applications, etc. Among the characteristics of interactive learning media are

the following: (1) that they contain more than one audio, visual, and video medium; (2) It must have a result with different colors and objects; (3) It must have interactive and diverse educational strategies; (4) It must be interactive and have interactive tests.

The researcher concluded from some previous opinions that technological progress has changed many aspects of life, including the field of education. Interactive media using technology gives students the opportunity to participate directly in the learning process by using media tools to present educational materials. Interactive media combines elements such as text, images, audio, video, animation, and quizzes to make learning more interesting and less boring. Interactive media helps students understand learning materials more easily to increase student engagement.

### **Use of Interactive Media**

In a study (Ftorokhman, 2024), he said that using interactive tools in the learning process is useful for increasing student participation in the learning process and enhancing understanding of the concept of educational materials. Using interactive tools can help teachers facilitate interactive learning. Interactive tools can provide an advantage to improve student learning. The reason is that social media allows students to be active in learning, i.e. students can directly participate in the learning process. However, the use of interactive tools is not only used as a tool to attract students' attention, but to be developed systematically, effectively and in the learning process through innovation. The use of innovative development technology must be implemented so that the use of interactive tools is truly effective in increasing student engagement to achieve quality education. Strategies that can be used to implement the use of interactive tools in the learning context appropriately and properly, and developing teacher expertise is important to improve the ability to use interactive tools in the teaching process.

Interactive media belongs to the category of constructive media that covers learning, students, and learning. Multimedia tools and global networks have a great impact on students' educational tools. Interactive multimedia software is a type of computer-based learning tool that combines a variety of media, including text, graphics, pictures, video, animation, music, and narration. Interactive learning media can increase students' engagement in learning because there is two-way interaction between students and learning materials. This can encourage students to be more interested in what they are learning. Students can also use two-way communication to see first-hand how they can learn and better assess their understanding. Interactive learning media can also increase students' engagement in problem solving and decision making, because they are more connected to what they are learning (Duy, 2020).

In addition to being beneficial for students, interactive learning tools can also benefit teachers. Teachers can use it to engage and enhance the learning experience for students. They can create interactive and personalized learning materials using various applications and digital media. In addition, by using interactive learning tools, teachers can better assess students' learning progress and provide support if necessary. The role of the teacher is important in using interactive learning tools, as teachers can make learning more interesting and effective. Students can use interactive learning aids wisely and help them understand the subject better. Teachers can also use the two-way interaction that occurs in interactive learning media to find more specific learning needs of students and develop strategies that are more appropriate for students (Hannum, 2013).

### Interactive Media Applications

Implementing interactive tools can involve using the right strategy to stimulate students' positive response to educational materials (Enaya et al., 2023). Interactive media can properly attract direct interaction between students and interactive media. Interactive tools can be external factors that stimulate interests, interests, simple teaching materials, and diverse learning. If properly chosen interactive media can be used, social media can work well for teachers and students. The cone of experience theory according to Edgar Dale states that reality is one of the best tools. But when choosing educational media, students should also pay attention to the characteristics, backgrounds and numbers of students. Make sure that the use of social media is effective and efficient, because 50% of experience and knowledge is formed from the senses of sight and hearing. So that the use of appropriate media affects students' participation in learning. Daryant mentioned in the source (Al-Hussein, 2020) that the rate of assimilation of the human ability to use the sense organs is as follows:

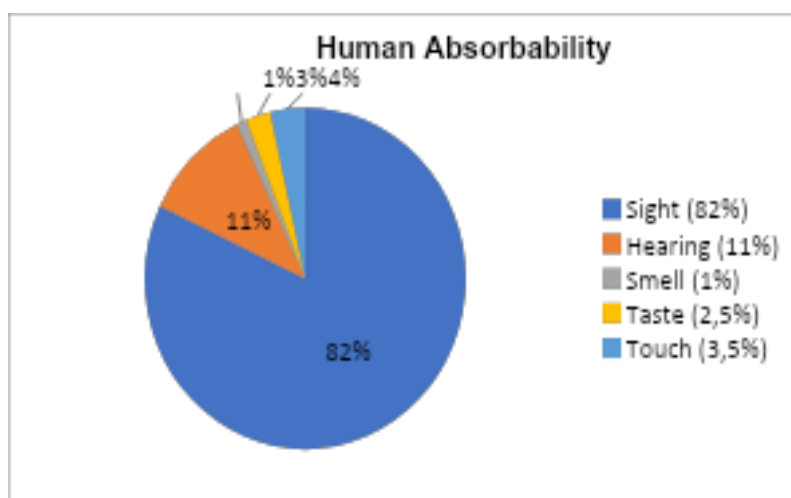


Figure 3. Human Absorption



Low student engagement in learning can be caused by a less supportive environment, lack of physical connection to students' daily lives, prolonged teaching style, and lack of interactive tools in the learning process. Achieving learning objectives depends on students' willingness to participate in the learning process. When students are actively engaged in learning, the learning experience is more effective in understanding the material. The researcher found that there are still few teachers in schools who use digital devices as an interactive medium, even though interactive media aims to enhance interest and engagement and improve student learning (Herdianti et al., 2024). Interactive tools can be used to communicate material using text, audio, images, video, and animation using computers and communications, as well as to engage students in hands-on learning. Interactive tools can also be combined with various tools. By combining these various learning tools, learning becomes more fun and less boring.

In order to increase students' engagement in learning, the use of interactive learning tools has attracted the attention of many teachers and researchers. This literature review aims to provide an overview of the use of interactive learning media and how it can impact the learning process in the current digital age. A study conducted by (Rouhatul, Fikreya, and Al-Nahdi, 2024) shows that the basic components of interactive learning tools that have been developed appear as menus or features that play an important role and are always present in physical tools, tests, practice questions, assessments, educational games or simulations. From each of these existing ideas, it has a different idea of delivery, for example in delivering the material in the form of text that allows students to read, but there are also options that provide text and audio around the explanation of the material so that students are free to read or just listen, and there is a form of delivery of materials that uses 3D concrete, as well as for practice questions that are in the form of presentations, questions in the form of tests, and training that is in the form of delivering questions. This is done, which is practiced in the form of questions, so that students are free to read or just listen, a form of material delivery that uses 3D concrete, and also for question form exercises, which are done in the form of presentations. Telling students the correct or incorrect answers or collecting them at the end of the assessment and in the form of a final presentation of various educational games, such as adaptation or composing games.

### **Genres of Interactive Media**

Based on the literature review, types of interactive media include educational videos, interactive simulations, educational games, and digital platforms. Research conducted by (Roosita et al., 2022) says that learning media can be classified into different types: audio media (using sound, such as radio tapes and recordings); Visual media (using the sense of sight, such as pictures, pictures, cards, posters); audio-visual media (using a combination of

sound and video, such as television and video); and media animation (using moving images). Teachers must be active in interactive learning. An example of this is using page navigation to explore different pages, such as the front and back pages. In addition, there are menu or link controls for creating lists or links, such as in hyperlinked media. Additionally, there are animation controls that are used to control the progress of the animation, such as tapping to turn it on or off. Finally, there are simulation controls that typically provide input to change the process, and game controls that are used in the game. In addition, there are also comments that are usually found in drag-and-drop tests, such as objects from one place to another, a hypermap, a group of hyperlinks that make up a small area in a large area and so on.

Interactive media is increasingly popular in education. The use of interactive media may vary depending on the learning objectives and materials to be presented:

- A. Interactive video is one type of interactive media that is often used. Interactive videos allow students to actively participate in the learning process by choosing or answering menu options in the video. Using the interactive method certainly provides a more enjoyable learning experience and allows students to delve deeper into the learning material.
- B. Educational games include interactive tools that use game mechanics to encourage and engage students in the learning process. Students can test their understanding in a fun way and get instant feedback using interactive educational games, and the learning process becomes more interesting and interactive.

### **Challenges and Limitations**

The use of interactive media in elementary schools provides many benefits to students and teachers. But there are also challenges and obstacles in the implementation process. Some of the challenges that arise are related to adequate technological infrastructure. When implementing interactive media, schools must have supported Internet access, as well as enough computers or tablets for students and teachers. In rural or remote areas, schools do not have sufficient technological and network infrastructure to use interactive tools smoothly. Limited resources are also a barrier to using interactive tools. Using interactive tools requires a significant investment in purchasing the necessary hardware and software. There is a need for schools to overcome these limitations or make financial and sponsorship offers (Moelyani, I. A., 2021).

Regarding barriers to teacher efficacy, it is important for teachers to ensure that the media taught are appropriate to the learning objectives and materials. Each element of interactive media content should support learning objectives and help students achieve expected competencies. The use of interactive media also requires technological knowledge and skills

from teachers. In order to facilitate the use of interactive tools, schools must provide appropriate training to teachers so that they can use interactive tools well. This training can include the use of technology, interactive content development, as well as learning strategies that adapt to the use of interactive media. Challenges related to student readiness and motivation in interactive media. Not all students have the same access and experience with technology. The use of interactive tools should be available to all students without exception. Therefore, the use of interactive tools must take into account accessibility and equity, so that school students are not excluded from learning due to technical limitations or inappropriate devices.

## CONCLUSION

The use of interactive media in the learning process has the potential to increase the engagement of primary school students. Interactive media is an educational method based on information and communication technology. Interactive media is media that combines several elements, such as text, graphics, pictures, images, sound, video, quizzes, and animation. This application can include the use of interactive tools and be the right strategy to encourage positive response to learning materials by students. Using interactive tools in the learning process is beneficial to increase students' engagement in the learning process and enhance their understanding of subject concepts. Using interactive tools can help teachers facilitate interactive learning. Interactive tools can give advantages to increase student engagement in the learning process.

## ACKNOWLEDGMENTS

Many thanks to everyone who contributed to this research, especially to the previous authors and researchers who published works that will be discussed in this literary research. It is expected that the results of this literature review will add insight for readers and information for future researchers.

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