

## The Effectiveness of Using Kahoot in Supporting Learning at Elementary Schools

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### ABSTRACT

In the Era of Industrial Revolution 4.0 which is sweeping all life the world of education must be able to adapt to technological developments, For an educator, mastery and knowledge of technology (technological knowledge) is a competency that must be mastered in order to support improving the learning process. Kahoot! is one of the learning media that can support the learning process to be more effective. The research method chosen was the Literature Review method. Collection data was carried out by documenting and reviewing several articles regarding effectiveness of using Kahoot! in the field of education, especially schools Base. This research uses 10 articles published in the period 2019-2021. This article was obtained from the Google Scholar database. Based on this research, it can be concluded that the use of applications Kahoot! very effective in the process of teaching and learning activities (KBM) in particular Elementary School.

**Keywords:** *Effectiveness, Learning Media, Kahoot*

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### INTRODUCTION

Education is a process of developing basic fundamental skills, and the benchmark for its success is an innovative and quality learning process. It all begins with basic education. Basic education according to Law Number 20 of 2003 concerning the National Education System is a conscious and planned effort that is stated in the objectives of national education and education in elementary schools, namely, to create a learning atmosphere and learning process with the aim that students actively develop their potential to have spiritual religious strength, self-control, personality, intelligence, noble character, and the skills needed by themselves and society, in the nation and state.

In the era of the Industrial Revolution 4.0, which is currently sweeping across all aspects of life, the world of education must be able to adapt to technological developments. For educators, mastery and knowledge of technology (technological knowledge) are competencies that must be mastered to support the improvement of the learning process. Meanwhile, for students, mastery of technology can support the thinking process and mastery of science and technology (Irwan, Zaky Farid Luthfi, and Atri Waldi, 2019). Students are required to have the

4C skills (Communication, Collaboration, Critical and Creativity thinking and Problem solving) (Sulistiyawati, et al. 2021). Reflecting on the learning conditions in elementary schools carried out by educators are still conventional and monotonous, thus making students feel passive in learning activities and lacking resilience or motivation to be enthusiastic in learning and understanding the material presented, a transition or change is needed, both methods and learning media to be more creative, varied, interactive, easy to understand for elementary school students and can develop their cognitive abilities and soft skills.

Nowadays, most teachers tend to only use textbooks as learning media; the use of other media is less popular. A teacher who underutilizes learning media will have a negative impact, both on students and the teacher themselves. The lack of media utilization in learning is also referred to as a lack of teacher creativity in teaching their students. A teacher should not only focus on a single material in learning, but also be able to use media wisely and in a planned manner. The goal is for students to be able to understand the subject matter well and correctly. The main goal in the educational process is successful learning. Efforts to achieve this educational goal include designing a learning process that is targeted, impactful, and effective in improving student competency across cognitive, affective, and psychomotor aspects.

Meanwhile, one of the learning methods that has begun to be implemented is the online learning process. This learning process uses an internet network and several supporting media such as software. Interactive quizzes are classified as computer-based learning media. Interactive quizzes can be classified as computer-based media because in the process of using them a computer is required. An interactive quiz is an application that contains learning materials in the form of questions or questions that allow students to increase their insight and knowledge about the learning material. Kahoot! is a digital education platform initiated by Johan Brand, Jamie Brooker and Morten Versvik in March 2013. Kahoot! can be accessed via devices such as mobile phones and laptops with the link format <https://kahoot.com/> for teachers or users, and <https://kahoot.it/> for students. Kahoot! is an educational website that can be used in the teaching and learning process at school, learning activities that can utilize the Kahoot! Online Game such as Pre-test, Post-test, Practice Questions, Material Reinforcement, Remedial, or Enrichment. The form of interactive quizzes on Kahoot! It is made like a game with a colorful display, the question or answer column can include images or other interesting visualizations and there is a duration for answering questions and there is a ranking (scoring) for those who answer quickly and correctly, so it is more interactive, stimulates students' enthusiasm for learning and is easy to use.

The benefits experienced by students when taking interactive quizzes using Kahoot! as a mathematics learning medium conducted by (Sulistiyawati, et al. 2021) include improved student learning outcomes, rapid understanding of the material, the growth of positive attitudes

in students, students become more proactive, learning becomes more enjoyable and not boring. For educators, the benefits provided by implementing the Kahoot! application as a learning medium include increasing teacher knowledge about innovative online-based learning media, improving teacher skills in using innovative online-based learning models and influencing the effectiveness of the learning process, especially in elementary schools.

## METHOD

This study uses a literature review method. Literature review is a term used to refer to a particular research methodology or research and development carried out to collect and evaluate research related to a particular topic focus (Triandini, et al., 2019). This technique is used with the aim of revealing various theories related to the problem being studied as reference material for discussing the research results. The literature review method is carried out by collecting journals from various sources such as national and international journals obtained from the Google Scholar database. The data collection technique in this study is a collection of journal article data obtained from the Scholar database. The Literature Review used in this study was 9 national journals published from 2019 to 2021. The criteria for the journals reviewed were Indonesian language research journal articles related to the research title, namely Kahoot learning media in elementary schools.

## RESULTS AND DISCUSSION

The rapid advancement of technology in education can be utilized, one of which is the use of creative learning media, namely tools that bridge the relationship between students and learning resources, whether in the form of educators or other learning resources. Game-Based Learning is one way to provide a learning experience that can increase student collaboration in learning. Kahoot is an interactive education-based game in which there are several icons to be developed, which can make the learning atmosphere more enjoyable. Kahoot! can also be applied to all subjects.

Advantages and Disadvantages of Kahoot as a Learning Medium: 1. Advantages a. The atmosphere of learning activities in the classroom can be more enjoyable. b. The use of Kahoot can increase students' learning motivation. c. Can train students' motor skills in operating Kahoot. 2. Disadvantages a. Some schools are still hampered by inadequate school facilities. b. Not all teachers can use technology. c. Not all teachers have time to organize and design learning with Kahoot. Research results regarding the effectiveness of using Kahoot! in the world of education are presented in the table below:

**Research Table on the Effectiveness of Kahoot!**

No	Researchers	Research Title	Research result
1.	Lin Sururoh	<i>Kahoot</i> As an	This research uses descriptive writing with a

(2020)	Innovation in Student Learning and Evaluation	qualitative approach. In the field of education, Kahoot! can be an innovative and creative new medium for learning and evaluating student learning outcomes in schools. The results of this study indicate that the use of Kahoot! can improve students' thinking and learning abilities, thus warranting its development.
2. Beta Centauri (2019)	The Effectiveness of Kahoot! as an Interactive Quiz Learning Medium at SDN-7 Bukit Tunggal	This study employed both qualitative and quantitative research methods. In education, Kahoot! is a learning tool that can enhance students' understanding and retention of subject matter, while also engaging them. The results of this study indicate that using Kahoot! as an interactive quiz learning tool is highly effective, enjoyable, and enhances classroom learning. However, the ability of educators to optimize the Kahoot! application is still required.
3. Ramlah, Aunurrahman, Siti Halidjah (2021)	The Influence of Kahoot-Based Learning Evaluation on Students' Interests and Thematic Learning Outcomes at Al-Mumtaz Elementary School, Pontianak	This study employed quantitative and experimental methods. Based on the results of the research hypothesis testing and discussion, it can be concluded that the use of Kahoot in learning evaluation effectively stimulates students' learning interest. This means that learning using Kahoot has a significant effect on students' learning interest.
4. Eka Kusumaningrum, Puri Pramudian (2021)	<i>The Influence of using Kahoot Learning Media on Primary School Students' Learning interest in Social Studies</i>	This study uses a quantitative method with a quasi-experiment. It can be concluded that there is an influence of the use of Kahoot learning media on the interest in learning social studies in elementary school students.

5.	Etha Salaza Titiana, Bella Yolandini, Kikit Wiriyanti, Nur Azizah (2019)	Transformers Teachers: Learning Media Innovators in Elementary Schools in the Industrial Revolution 4.0 Era	Based on the research results, researchers concluded that children are happier when exposed to technology-based learning media such as augmented reality and Kahoot. Furthermore, technology-based learning media can equip children for the Industrial Revolution 4.0 era.
6.	Lutfi, Misriandi, Siska Kusumawardani, and Sri Imawati (2020)	Evaluation of the Use of the Kahoot Application in Elementary School Learning for Teachers	This study employed classroom action research. The use of technology in various teaching and learning activities has made learning more innovative and less monotonous or boring. The results of this study indicate that Kahoot! has been implemented in schools in the Sukabumi area, making classroom lessons more enjoyable and improving students' motor skills. Besides being a learning tool, Kahoot! is also implemented as a learning evaluation tool, thus making the learning process more effective.
7.	Fenny Eka Mustikawati (2019)	The Function of the Kahoot Application as a Medium for Learning Indonesian	Kahoot! is an interactive learning tool that makes learning fun and engaging. The results of this study indicate that the Kahoot! app is effective as a teaching aid, but its use would be even more effective if a device and laptop with adequate, high-speed internet access and a projector screen were available to display the final score for students to view together.
8.	Herwina Bahar, Dewi Setiyaningsih, Laily Nurmalia, and Linda Astriani (2020)	The Effectiveness of Kahoot for Teachers in Learning in Elementary Schools	This study employed qualitative research. In education, the use of technology in learning is essential for more effective learning. The results of this study indicate that Kahoot!, a technology-based learning tool, is effective for elementary school teachers in Sukabumi, West Java. However, there are several

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		challenges, including limited time and the lack of experience among some teachers who are not yet familiar with Kahoot!.
9.	Aprilia Riyana Putri and Muhammad Alie Muzakki (2019)	Implementation of Kahoot as a Digital Game-Based Learning Media in Facing the Era of the Industrial Revolution 4.0
		This research uses a research study type. In this case, Kahoot! can be used not only for learning in the classroom but also outside the classroom. The results of this study are that Kahoot! as a digital game-based learning medium can be optimized to increase student motivation and independence and be used to facilitate the learning evaluation process. In addition, students' intellectual intelligence can be encouraged by using interesting Kahoot! content.

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The author analyzed approximately 9 main articles related to the use of Kahoot media in learning in elementary schools. The results showed that both offline and online learning always utilize technology in the process. According to Krista Graham, Kahoot is an online learning media that can be used for free or without payment which is used in teaching and learning activities to evaluate the results of the student learning process, review learning materials and stimulate student interest in conducting discussions both in groups or as a class about the statements given by Kahoot (Hartanti, 2019). This learning media is a tournament or game-based learning media and is fun and flexible because the material presented can be customized by the user. The Kahoot application here can be a learning technology platform that is able to combine the experience of learning evaluation with interactive games equipped with a system for monitoring student activity (Wati, 2020).

Based on a study entitled "The Effectiveness of Using Kahoot! in Supporting Learning in Elementary Schools," Kahoot! learning media can make students active in learning, productive, and innovative. Furthermore, it can encourage students to utilize mobile phones optimally for learning purposes, which means mobile phones can be used as a good source and learning media, and can even create a fun classroom atmosphere. Advanced technology can create a different atmosphere in learning. Kahoot is one platform that utilizes technology and can be used as an interactive learning medium that can present knowledge in the form of quiz games, where this can be used as a breakthrough in presenting knowledge in an entertainment form (Hartanti, 2019).

Based on the results of research that has been conducted as listed in the table, the use of Kahoot! has been proven to improve students' thinking and learning abilities (Sururoh, 2020), as well as being very fun, and making them more enthusiastic in learning (Centauri, 2019), and effective as a technology-based learning medium (Bahar, Setiyaningsih, Nurmalia, & Astriani, 2020), but is more effective if accompanied by adequate internet facilities (Mustikawati, 2019). In addition, Kahoot! can also motivate and increase students' independence in learning (Putri & Muzakki, 2019), and train students' motor skills (Misriandi, Kusumawardani, & Imawati, 2020).

Learning activities using Kahoot! have successfully improved learning outcomes and student engagement in classroom learning. Students are gradually able to construct knowledge independently through Kahoot!, a process consistent with constructivism theory. This allows students to become more active in participating in the learning process and gain confidence in expressing opinions or asking questions. In this learning process, students are also required to seek out a wealth of information about the material to be studied independently. Furthermore, students become more diligent in reading. With student engagement, the classroom learning process becomes student-centered, with the teacher's role as a facilitator or mediator. The teacher's role in the learning process can be to provide an engaging learning medium, using Kahoot! as a tool or medium that can stimulate students' independent thinking, provide engaging learning experiences, and stimulate curiosity.

Kahoot can facilitate learning evaluation (Putri & Muzzaki, 2019), in addition, the use of the Kahoot application as a technology-based learning media can equip children to face the era of the industrial revolution 4.0 (Titiana, Wirianti, & Azizah, 2019), the use of Kahoot in learning is effective in encouraging children's interest in learning (Ramlah, Aunurrahman, & Siti Halidjah, 2021). In addition to improving learning outcomes, the use of Kahoot! has also been proven to increase student activity in following the learning process because in each meeting students are sometimes required to discuss by expressing opinions. This can increase student confidence because before the implementation of Kahoot! media, students tended to be passive and not confident in expressing their opinions. Another thing that makes student learning outcomes and activity continue to improve in a better direction is because of the learning process using Kahoot! This has many positive impacts on students. It also makes them more independent, improves their memory, helps boost their self-confidence, and makes the learning process using Kahoot! more active, fun, and engaging. This makes the classroom learning process more conducive and prevents students from becoming bored.

In addition, it can also be concluded that Kahoot! is a web tool that offers many different features that are quite useful in terms of creating a fun, competitive, and new classroom environment in the learning atmosphere. And it is clear that Kahoot! is a multimodal tool because it is not limited to a subject or area. However, there are also challenges in its use,

namely the media is easy to use but takes more time to set up, requires quota and a stable internet network because the quiz is done online and in real time, the menu and buttons on Kahoot are easy to understand and the features are interesting but teachers need to learn first if they want to use the Kahoot platform as an interactive learning medium, teachers aged 40 and above are enthusiastic about implementing Kahoot as an interactive quiz learning medium because it can increase student interest in participating in learning, however, the ability to optimize the use of technology is still minimal. However, this can actually be learned because the features available in Kahoot are not too complicated. According to students' opinions, Kahoot media is very easy to use. Students can work on Kahoot quizzes easily, fill in Kahoot pins easily, and use the multiple choice button easily. Nevertheless, it is relatively evident that Kahoot! stands out among most other similarly designed tools although some drawbacks can be avoided by using the appropriate method to use it.

## **CONCLUSION**

Kahoot is a platform that utilizes technology and can be used as an interactive learning medium that can present knowledge in the form of quiz games where it can be used as a breakthrough in presenting knowledge in a game-based entertainment. This learning media is a tournament or game-based learning media and is fun and flexible because the material presented can be adjusted by the user. In learning activities, Kahoot can be used for pre-tests, post-tests, practice questions, material reinforcement, remedial, or enrichment. Based on the results of the research and discussion above, it is proven that the use of Kahoot can help in improving students' thinking and learning abilities. In supporting learning in elementary schools, Kahoot! learning media is also able to make students active in learning, productive, and innovative. Kahoot also helps teachers in the learning process to be more effective and facilitates the learning evaluation process. In using interactive Kahoot media, students in participating in the learning process become fun and not boring, because Kahoot is a digital game-based learning media that is proven to help optimize to increase motivation, independence, and train students' motor skills.

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