

# Comparative Study of the Use of Android-Based Kahoot Applications on Student Learning Interest in History Lessons in Grade XI at State Senior High School 1 Ungaran

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## ABSTRACT

The issue examined in this study is the difference in the use of the Android-based Kahoot application in increasing the interest of 11th grade students in learning history at State Senior High School 1 Ungaran. The purpose of this study is to compare students' learning interest in history learning between classes that use the Android-based Kahoot application and those that do not. The method used is quantitative with a quasi experimental design. The population consist of eleventh-grade students from SMA Negeri 1 Ungaran. The sampling technique used was purposive sampling. The results of the study indicate that there is a significant difference in students' learning interest between classes using the Android-based Kahoot application and those that do not use the application in history learning. The sig. (2-tailed) value of  $0.000 < 0.05$  indicates that the use of the Android-based Kahoot application in history learning leads to higher students' learning interest compared to classes that do not use the Kahoot application.

**Keywords:** Learning Interest, Kahoot, History Learning

## INTRODUCTION

Learning is a fundamental aspect of education that aims to bring about changes in individuals' knowledge, attitudes, and skills. Effective learning requires active participation from both teachers and students, supported by clear and meaningful communication during the learning process (Purnamasari, Hala, & Fatmawati, 2023). In history learning, effective planning plays an important role in ensuring that the learning process is structured, focused, and well-organized (Purnomo & Khasanah, 2023). In the learning process, various factors can influence students' engagement, one of which is interest. Interest refers to a condition in which individuals show attention and a desire to understand, learn, and explore something more deeply. It develops when a person gives special attention to a particular object or activity, which subsequently stimulates a desire to gain further knowledge. In addition, interest reflects an individual's awareness of the relevance of an object, situation, or issue to their own needs or experiences (Mesra, Kuntarto, & Chan, 2021). Along with these developments, rapidly evolving technology can support the learning process in a more effective and engaging way. The integration of technology in learning can increase students' enthusiasm

by providing various forms of animation, graphics, and visual elements that make the material more interesting and easier to understand. As a result, students become more motivated and actively involved in the learning process (Yuselmi, Zulyusri, & Lufri, 2022). A more engaging learning process can increase students' interest in learning, particularly in history subjects, making the material more meaningful and relevant (Purnomo, et al., 2023). History learning does not solely depend on teacher–student interaction; the integration of technology in the learning process can also facilitate learning, enhance its effectiveness, create a more dynamic learning environment, and increase students' interest in the material being taught (Fitria, 2023). The conventional teacher-centered model is unable to determine the extent to which students understand the lessons being taught (Nabila & Purnomo, 2024). One of the problems encountered in teaching history to eleventh-grade students at SMA Negeri 1 Ungaran is the relatively low level of students' interest in the subject. This condition can be observed from students' responses during the learning process, which indicate a lack of interest, attention, enthusiasm, and participation in classroom activities. According to Irawati in (Taqwan & Ni'mah, 2024), indicators of learning interest include: (1) students' enjoyment of learning, (2) students' attention during learning, (3) students' interest in the learning material, and (4) students' involvement in the learning process. Based on these indicators, the level of interest in learning history among eleventh-grade students at SMA Negeri 1 Ungaran can be considered relatively low, as many students do not demonstrate strong indicators of learning interest. Based on these conditions, the level of interest in learning history among eleventh-grade students at SMA Negeri 1 Ungaran can be considered relatively low, as many students do not demonstrate strong indicators of learning interest. One example of the integration of technology in learning is the use of educational games such as Kahoot. The use of interactive quizzes through the

Kahoot application can serve as an alternative learning medium by considering students' needs and their familiarity with digital technology (Ramadhan, 2022).

## **LITERATURE REVIEW**

### **Theoretical Description**

#### **A. Constructivist Learning Theory**

Constructivist learning theory states that knowledge is actively constructed by learners based on their experiences. In the context of education, the development of technology has encouraged various innovations in the learning process. The shift from conventional learning to technology-based learning has led to the emergence of more innovative, practical, and efficient learning methods that adapt to the changing needs of education. Technology-supported learning can create a more interactive learning environment, which encourages greater student engagement in the learning process. From a constructivist perspective, learners are viewed as active participants who construct their own knowledge through experience and interaction with their environment. Learning is not merely a process of receiving information from the teacher but involves thinking, discussing, and interacting with learning resources. Furthermore, the integration of technology in history learning can strengthen students' understanding of historical events and their relevance to contemporary issues, while also encouraging active participation and deeper engagement with the learning material (Purnomo & Kurniawan, 2025). In addition, history learning plays an important role in shaping students' national identity by helping them understand historical narratives, collective memory, cultural diversity, and the values of unity that form the foundation of the Indonesian nation. Through interactive and student-centered learning approaches, students are encouraged to engage critically with historical events and develop a stronger sense of patriotism and national consciousness (Purnomo & Kurniawan, Unearthing the Intellectual Roots of the Name 'Indonesia': Construction

of National Identity Among High School Students in Indonesia, 2025). Therefore, the teacher's role is primarily as a facilitator who supports students in developing their understanding and learning experiences. In history learning, the application of constructivist principles encourages students to actively explore historical events through discussion, exploration, and participation in learning activities. The use of interactive learning media, such as the Android-based Kahoot application, can support this constructivist learning process. Through interactive quizzes and game-based activities, students can participate more actively in learning, which is expected to increase their interest in learning history.

### **A. Interest in Learning History**

The learning process is the implementation of a learning design aimed at achieving predetermined learning objectives (Sari & Purnomo, 2022). One of the important factors influencing the success of learning is students' interest. Interest refers to a feeling of liking and attraction toward an activity that arises naturally without coercion (Mohzana, 2023). In the context of learning, interest can be understood as a psychological tendency to pay attention to and engage in learning activities, which can motivate students to participate actively in the learning process (Sati, Setiana, & Amelia, 2022; Yunitasari & Hanifah, 2020).

In history learning, students are not only required to memorize past events but also to understand historical processes, cause-effect relationships, and the values contained in those events. However, history learning is often perceived as less engaging due to limited variation in teaching methods and learning media. As a result, students may feel bored and show low interest in learning history.

To overcome this issue, teachers need to apply innovative learning strategies and utilize interactive learning media. One example is the use of technology-based learning media such as the Android-based Kahoot application, which can create a more

engaging learning environment and encourage students' active participation in history learning.

### **B. Factors that Affect Learning**

For students, interest in learning is one of the determining factors for success in learning. This is because students who are interested in learning will try their best to understand the material taught by the teacher, thereby achieving success in learning. Conversely, if students are not interested in learning, their success in learning may be delayed or even not achieved at all (Setiwan & Abrianto, 2021). Student interest in learning is influenced by internal and external factors. Internal factors include the physical and psychological condition of students, while external factors include the social environment and learning conditions and facilities that support the learning process.

### **C. Definition of Kahoot**

Kahoot is a highly educational online platform because it provides various features that can be used as learning media. Initially, Kahoot was a collaborative project between a team consisting of Johan Brand, Jamie Brooker, Morten Versvik, and the Norwegian University of Technology and Science in March 2013. Kahoot is an educational technological innovation that can be implemented in the learning process (Irwan, Luthfi, & Waldi, 2019). Good and ideal learning is when relevant sources and media are utilized to make it easier for students to understand the material (Astuti & Suryadi, 2020). In this context, Kahoot helps make student self-evaluation more interesting, interactive, easy, and conducive. This platform provides features for creating questions with predetermined answers and time limits. Kahoot delivers enjoyable learning and evaluation through interactive games that allow educators to monitor student activity (Atmojo, et al., 2023).

## **MATERIALS & METHODS**

This study used a quasi-experimental method with a quantitative approach to examine the difference in the use of the Android-based Kahoot application on students' interest in

learning history. This study also compared the level of student interest in learning between the experimental class that used Kahoot and the control class that did not use it. This design used a non-equivalent control group design approach to compare the results between the experimental group and the control group. Both groups were given a pre-test at the beginning, followed by treatment, and ended with a post-test (Rukminingsih, Adnan, & Latief, 2020). In this study, the population was students of SMA Negeri 1 Ungaran, with a total population of 72 consisting of classes XI-2 and XI-5, where XI-2 was the experimental class and XI-5 was the control class. In this study, the sample taken was students from class XI of SMA Negeri 1 Ungaran. The sampling technique used in this study was purposive sampling. This study used two variables, namely the independent variable in the form of the use of the Kahoot application and the dependent variable in the form of students' interest in learning. The researcher used SPSS version 25.

## **RESULT**

This research was conducted at Senior High School 1 Ungaran, located on Jalan Diponegoro, Ungaran, Semarang Regency, Central Java. This study was conducted through history lessons in two classes, namely class XI-2 as the experimental class and class XI-5 as the control class. At the beginning of the meeting, a pretest was conducted to measure their initial interest in learning history in both classes. Then, the meeting continued with the use of teaching modules and Kahoot in the experimental class and history lessons using only teaching modules in the control class. The learning activities in the experimental class were conducted in four sessions from September to October 2025, with each session allocated  $2 \times 45$  minutes. The learning activities were conducted once a week in accordance with the history class schedule for class XI-2. In the first meeting, learning began with a pretest in the form of a learning interest questionnaire, followed by the delivery of

material on the Characteristics of Indonesian People's Resistance Before and After the 20th Century using PowerPoint media and assignments through the Kahoot application. The second meeting discussed the material on the Factors Driving the Birth of Indonesian National Movement Organizations, in which students took an interactive quiz through Kahoot and completed worksheets. In the third meeting, learning focused on the material of the Development of the Indonesian National Movement, reinforced with individual Kahoot quizzes to measure student understanding. The fourth meeting was a continuation of the previous material, conducted through group discussions, concept mapping, and mini exhibition activities. At the end of the meeting, students took a group Kahoot quiz and filled out a post-test in the form of a learning interest questionnaire. Overall, Kahoot was used consistently in every meeting as a medium for evaluation and reinforcement of learning materials. The learning activities in the control class were conducted in four sessions during October 2025, with each session allocated  $2 \times 45$  minutes, in accordance with the history class schedule for class XI-5 at Senior High School 1 Ungaran. The learning activities were conducted once a week without using Kahoot. At the first meeting, learning began with a pretest in the form of a learning interest questionnaire, followed by the delivery of material on the Characteristics of Indonesian People's Resistance Before and After the 20th Century through explanations by the teacher using PowerPoint. Students took notes on the material and completed written assignments on paper. The second meeting discussed the material on Factors Driving the Birth of Indonesian National Movement Organizations. Learning was conducted through teacher explanations and individual completion of student worksheets, which were then presented by student representatives. In the third meeting, the lesson focused on the material of the Development of the Indonesian National Movement. The teacher delivered the

material through lectures and discussions, then the students took a written test in the form of multiple choice questions. The fourth meeting was a continuation of the previous material, which was carried out through group discussions, concept mapping, and mini exhibitions. At the end of the lesson,

students worked on LKPD in groups and filled out a post-test in the form of a learning interest questionnaire. Overall, the lessons in the control class were conducted without the use of Kahoot media and used conventional learning methods as a comparison with the experimental class.

**Table 1 Data on Interest in Learning Early History**

Interest in Learning Early History	Data	Experimental Class	Control Class
		Statistic (%)	Statistic (%)
	Number of Samples	36	36
	Lowest Score	56	56
	Highest score	69	68
	Average	63,25	62,33

Source: (2025, Research Data, processed)

In terms of initial learning interest, the experimental class obtained an average score of 63.25. Meanwhile, the control class obtained an average score of 62.33.

Therefore, it can be concluded that both the experimental and control classes were in the “high” category in terms of interest in learning history.

**Table 2 Data on Interest in Learning Late History**

Interest in Learning Late History	Data	Experimental Class	Control Class
		Statistic (%)	Statistic (%)
	Number of Samples	36	36
	Lowest Score	73	61
	Highest score	86	81
	Average	80,06	70,03

Source: (2025, Research Data, processed)

In terms of final learning interest data, the experimental class obtained an average score of 80.06. Meanwhile, the control class obtained an average score of 70.03. Thus, it can be concluded that the category of interest in learning history in the control class was in the “high” category, while in the experimental class it was in the “very high” category. To determine whether or not the use of Kahoot in history learning has an effect on student interest, a hypothesis test was conducted. To test this hypothesis, data on student interest at the beginning and end of the study were analyzed using a paired sample test because the measurements were taken on the same subjects before and after the treatment. Based on the hypothesis test results, a t-value of -23.405 and a t-table value of 2.030 were obtained. The significance value obtained was 0.000. Therefore,  $0.000 < 0.05$ , so it can be

concluded that there is an effect of Kahoot on students' interest in learning history.

## DISCUSSION

The use of different game-based learning media between the experimental class and the control class is part of the research design that has been developed. The experimental class uses Kahoot as a game-based learning medium, while the control class uses conventional media in learning activities. Kahoot is an internet-based learning medium that contains quizzes and games. The use of Kahoot can also create a more interesting and enjoyable classroom atmosphere. Kahoot is a quiz medium that requires students to actively participate in the learning process through digital devices to answer questions that are presented directly and within a time limit. This medium encourages students to think more focused, quickly, and compete healthily, because each answer will

immediately receive feedback in the form of a score and ranking. The use of Kahoot in history lessons makes the classroom atmosphere more interactive and enjoyable, thereby increasing students' interest in learning and engagement. In addition, Kahoot's automatic scoring system helps teachers monitor students' understanding directly. Thus, Kahoot also serves as a means of reinforcing understanding of the material that has been learned. The implementation of Kahoot plays a role in introducing students to the appropriate use of technology, so that they become accustomed to and trained in keeping up with technological developments in the current era (Cristiani, Adrianto, Anggraini, & Goein, 2019). Through Kahoot, the learning process is packaged in the form of interactive quiz activities that involve the direct participation of students, so that the interaction between students and learning materials becomes more intense. The responses shown during the learning process using Kahoot can increase student interest, which in turn can increase their interest in learning. In line with the opinion of (Tualaka & Sitompul, 2023) that the application of Kahoot as a learning medium can foster students' interest in learning. The findings of this study are consistent with constructivist learning theory, which emphasizes that learning becomes more effective when students actively construct their own knowledge. In this perspective, students are viewed as active participants in the learning process, while teachers act as facilitators who guide students in understanding the learning material. The use of the Kahoot application in history learning provides opportunities for students to interact directly with the learning material through competitive and engaging quiz activities.

## CONCLUSION

From the results of the research, data analysis, and discussion, the following conclusions can be drawn:

1. Based on the results of data analysis, the initial learning interest of students in the experimental class obtained an average score

of 63.25, which is in the high category. In addition, the final learning interest of students in the experimental class increased with an average score of 80.06, which is in the very high category. Thus, it can be concluded that the learning interest of students taught using the Android-based Kahoot application was in the very high category and increased after being taught using the Kahoot application.

2. Based on the results of data analysis, the initial learning interest of students in the control class obtained an average score of 62.33, which is in the high category. In addition, the final learning interest of students in the control class obtained an average score of 70.03, which is still in the high category.

3. Based on the hypothesis test results, a t-count value of  $-23.405$  and a t-table value of  $2.030$  were obtained, with a significance value of  $0.000$ . This significance value is smaller than the significance level of  $0.05$  ( $0.000 < 0.05$ ), so  $H_0$  is rejected and  $H_1$  is accepted. Thus, it can be concluded that the use of the Android-based Kahoot application has a significant difference on the learning interest of 11th grade students at SMA 1 Ungaran, as shown by the difference in student learning interest before and after using the Kahoot application.

## Declaration by Authors

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