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Using Kahoot! learning game media to improve students' learning results in 5th grade on Islamic Education and Character Lesson

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Abstract

This study aims to investigate the impact of using Kahoot! learning game media on the academic performance of fifth-grade students in Islamic Education and Character lessons. The research employed the McTaggart Classroom Action Research (CAR) method, consisting of two cycles that included planning, implementation, observation, and reflection stages. The results indicate a significant improvement in students' academic achievement, with the mastery level increasing from 94.74% in the first cycle to 100% in the second cycle. The use of Kahoot! as a game-based learning medium proved effective in enhancing student engagement, participation, conceptual understanding, and material retention. This study highlights the importance of innovative and technology-based teaching strategies to improve learning effectiveness. The implementation of interactive media such as Kahoot! can serve as a solution for educators to create a more dynamic and engaging learning experience for students.

Keywords: *Kahoot!, Classroom Action Research, Islamic Education, Learning Outcomes, Digital Learning Media.*

Abstrak

Penelitian ini bertujuan untuk menyelidiki dampak penggunaan media permainan pembelajaran Kahoot! terhadap hasil belajar siswa kelas lima dalam mata pelajaran Pendidikan Agama Islam dan Budi Pekerti. Metode penelitian yang digunakan adalah Penelitian Tindakan Kelas (PTK) McTaggart dengan dua siklus yang mencakup tahap perencanaan, pelaksanaan, observasi, dan refleksi. Hasil penelitian menunjukkan peningkatan signifikan dalam capaian akademik siswa, dengan rata-rata ketuntasan belajar meningkat dari 94,74% pada siklus pertama menjadi 100% pada siklus kedua. Penggunaan Kahoot! sebagai media pembelajaran berbasis game terbukti mampu meningkatkan keterlibatan dan partisipasi siswa dalam kelas, memperbaiki pemahaman konsep, serta meningkatkan retensi materi. Studi ini menekankan pentingnya strategi pembelajaran yang inovatif dan berbasis teknologi untuk meningkatkan efektivitas pembelajaran. Implementasi media interaktif seperti Kahoot! dapat menjadi solusi bagi guru dalam menciptakan pengalaman belajar yang lebih dinamis dan menarik bagi siswa.

Kata Kunci: Kahoot!, Penelitian Tindakan Kelas, Pendidikan Agama Islam, Hasil Belajar, Media Pembelajaran Digital.

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I. Introduction

The learning process has changed in the current technological era, offering a variety of approaches ranging from conventional methods to contemporary online platforms (Harmawati et al., 2024). Technology has significantly impacted the learning process, creating creative learning media to create an engaging learning environment for students (Hite, Jones, and Childers, 2024). The selection of learning processes and media tremendously impacts student achievement (Hasibuan & Saragih, 2024). There are several reasons why technology integration in education has failed, especially for Islamic Education teachers. These include not having enough time to fully comprehend the purpose of education, being unprepared for the classroom, and not being motivated or trained to use technology.

Fostering competition and innovation among educators is crucial to overcoming this, as is giving educators the necessary support and training to integrate technology into the classroom. Focusing on the individual student, student-centered learning can boost motivation and participation in the classroom by encouraging students to express their thoughts and experiences, which increases their level of activity and engagement in learning (Fortuna, De La Fuente, and Velasco, 2023).

Teachers are crucial in shaping students' personalities and education (Rochmat et al., 2024). With the curriculum renewal, they strive to develop innovative and engaging learning methods to capture students' attention (Rochmat, Sholihah, and Qonita, 2022). Teachers' responsibilities extend beyond creating a learning environment to understanding the importance of shaping students into intelligent and virtuous individuals (Shahzad et al., 2024). While technology has significantly impacted education, human aspects such as attitudes, values, and motivation cannot be replaced by modern technology; therefore, teachers must utilize appropriate learning methods and media to improve the quality of learning (Rochmat, Riza, and Murni, 2024).

One effective learning media is the Kahoot! application, which offers game-based interactive learning and can increase students' interest and motivation (Wang & Tahir, 2020). Kahoot! is an educational platform that evaluates game-based learning (Wirani, Nabarian, and Romadhon, 2022). By creating a fun and engaging learning experience, Kahoot! can help students understand the material presented by the teacher (Fiani, Ahsanuddin, and Morhi 2021). The Kahoot! application enables teachers to create quizzes and allows students to respond in real time (Martín-Sómer, Casado, and Gómez-Pozuelo 2024). Students can instantly see their scores and rankings on the classroom screen. The scoring system is based on speed and accuracy, with faster and more accurate responses yielding higher scores (Iqlimah & Hazim, 2023). Teachers can set a time limit for each quiz item and easily download and analyze the results (Ashtari & Taylor, n.d.).

Previous studies have employed a mix of qualitative and quantitative methodologies to assess the impact of Kahoot! on student engagement and learning results. For instance, (Rahma Diana Sayidah 2022) conducted a comprehensive analysis that revealed Kahoot!'s potential to increase student motivation and participation. The study highlighted that the interactive nature of Kahoot! fosters a competitive yet collaborative environment, which can lead to improved academic performance. However, it also pointed out challenges such as varying levels of digital literacy among students and the need for adequate technological infrastructure.

In contrast, other studies have focused on quantitative metrics, such as test scores and completion rates, to measure the effectiveness of Kahoot!. These studies often report statistically significant improvements in learning outcomes, suggesting that game-based learning can be a powerful pedagogical tool. However, they may overlook the qualitative aspects of student experience, such as engagement and enjoyment, which are crucial for sustained learning. While the benefits of Kahoot! are well-documented, several challenges have been identified in its implementation. For example, the reliance on technology can create barriers for students who are less familiar with digital tools. Additionally, the competitive nature of Kahoot! may not suit all learning styles, potentially alienating some students. These challenges underscore the importance of contextualizing the use of Kahoot! within specific classroom environments and considering the diverse needs of learners. (Deda, Hijriani, and Alnabe 2024).

Using CAR, the researcher can identify specific challenges and successes in implementing Kahoot!, allowing for adjustments based on feedback and observations. This approach enhances the researcher's professional development and contributes to a more tailored educational experience for students, aligning with competency-based learning objectives (Fiani, Ahsanuddin, and Morhi 2021).

II. Research Method

The research utilizes the Classroom Action Research (CAR) methodology developed by Kemmis and McTaggart. In their seminal work, Kemmis and McTaggart (1988) outlined a cyclical process of planning, acting, observing, and reflecting, which serves as a framework for educators to systematically investigate and improve their teaching practices (Hafizah, 2022). This approach emphasizes collaboration among educators and stakeholders, allowing for a deeper understanding of the educational context and the specific needs of students. Iterative cycles allow for ongoing improvement in teacher-managed learning. CAR involves a collaborative effort among teachers, students, and school administrators, employing self-reflection to enhance various aspects of learning. There are two cycles in the model: the first cycle consists of planning, acting, observing, and reflecting (Chandra, Irfandi, and Yuhelman, 2023). This first cycle enables researchers to pinpoint issues, establish objectives, choose a course of action,

and gather data through observation. The second cycle involves implementing the revised action plan and observing the results (Abdillah et al., 2022).

Picture 1. Kemmis dan McTaggart

In the planning stage, the researcher prepared various learning tools, including a syllabus, lesson plans, and teaching materials; the teacher prepared a Kahoot! learning game media to design a comprehensive quiz with a mix of question types structured for self-paced learning and observation sheets (Mafatih, Hanif, and Dewi 2021). The implementation stage began with a pre-test on the first day, followed by Kahoot! learning game media and a discovery approach to teaching Islamic Education and Character material. At the end of learning, the researcher reviewed the material and administered a post-test to assess student abilities over a day. During the observation stage, the teacher observed the researcher, and the researcher monitored student progress to determine the success of the actions. The final reflection stage involved identifying areas for improvement to enhance the second cycle (Bicen & Kocakoyun, 2018).

This research was conducted in a 5th-grade class at a public elementary school in Sidoarjo Regency, consisting of 21 students, comprising 13 male students and eight female students. Data was collected through observation and testing. To analyze further, a post-test was conducted at the end of each cycle to obtain scores from each student.

The data analysis in this study is based on teacher activities, student activities, and understanding ability (Daryanes et al., 2023).

During a research study at SDN Kalitengah 1 Tanggulangin on October 11, 2023, researchers observed that students in Islamic Education classes were not very active, often chatting with friends during lessons. The researchers also interviewed a teacher, who mentioned that although not all classes use technology, the school has started incorporating technology into learning tailored to the existing learning materials (Kesuma et al., 2021). While the 5th-grade Islamic Education learning process is relatively good, there is still room for improvement, particularly in increasing student participation. Judging from the results of the fifth-grade daily test on Islamic Education and Character subjects, which have not yet reached the minimum passing grade set at 70% and the success indicator is 60%, where only a few students have reached the minimum passing grade. The dominant learning methods used are traditional lectures and question-and-answer sessions, with some attempts to introduce new techniques like cooperative learning. The learning media used are limited to essential tools such as Student Worksheets, whiteboards, and textbooks (Zou et al., 2024).

III. Result And Discussion

Classroom Action Research involves a two-cycle process. The initial cycle comprises three stages: planning, implementation, and observation (Darmadi et al., 2024). The second cycle builds upon the first, focusing on implementing the action plan and further observation. The results of the final tests for both cycles are presented in Table 1.

Table 1. Comparison of Score Students' Learning Results Between First Cycle and Second Cycle

No	Categories	First Cycle		Second Cycle	
		Total Students	Percentage	Total Students	Percentage
1	Completed	18	94,74%	21	100%
2	Incomplete	1	5,26%	0	0%

1. Cycle 1

Planning is the first step in implementing Cycle 1 of Classroom Action Research, during which a lesson plan (LP) is created in compliance with the syllabus. The setting up of the infrastructure and learning resources, including the worksheets (WS) and Kahoot! learning game media, for every meeting, comes next. Additionally, observation sheets are generated during the learning process to monitor the teaching and learning environment (Kuhlmann et al., 2024). The Kahoot! learning game media assesses understanding and enhances presentation by adding interactive elements and quizzes. Teaching integer operations takes up the first meeting. While the proposed actions are

being implemented, the researcher watches and notes any areas that could be used better. The findings of this observation assist in determining the advantages and disadvantages of the activities undertaken by teachers and students, as well as the imperfections in the learning process (Sari, Yusnan, and Matje, 2022).

a. Planning Phase

The strategy used to carry out the initial research cycle on applying Kahoot! learning game media for 5th grade in SDN Kalitengah 1 Tanggulangin on Islamic Education and Character involves several steps. First, a lesson plan outlines the learning objectives and activities. Next, a plan is established to ensure a smooth implementation of the research. After that, attendance is taken to record the participants involved. Following this, evaluation forms and questions are formulated to assess the effectiveness of the Kahoot! learning game media. Finally, preparations are made to get ready for the Kahoot! learning game media, ensuring that all necessary materials and equipment are in place.

b. Implementation Phase

On Wednesday, August 7, 2024, the first research cycle was implemented in Class 5 of Islamic Education and Character, which consisted of 19 pupils. The 45-minute lesson began at 07:30 and was structured into three main parts: introduction, learning process, and closing. The classroom was organized during the introduction, and the pupils prayed before starting the lesson. A Kahoot! learning game was used for the pre-test to assess their prior knowledge, and the material to be taught was introduced through reading.

In the learning process, the teacher presented the knowledge to the pupils, who were then asked to provide real-world examples or experiences of mutually respectful behavior. The instructor demonstrated how to use the Kahoot! learning game media, and a turnaround period was established, considering the learning hours. All students were encouraged to participate fully in the quiz session.

Finally, during the closing, the teacher assigned students to complete a self-evaluation, providing prompt feedback, reviewing their wrong responses, and encouraging self-reflection. The lesson concluded with the teacher reading Hamdalah and a prayer afterward.

c. Evaluation and Observation

During the first instruction cycle, the teacher was crucial in observing the students' activity and conducting an evaluation. This involved monitoring the students' engagement and participation throughout the lesson and assessing their understanding and knowledge retention through the Kahoot! learning game media. By doing so, the teacher could identify areas of strength and weakness and gather valuable insights to inform future instruction and improve the overall learning experience (Abou Hashish et al., 2024).

d. Reflection

To find out the percentage of students' learning results in the first cycle using the formula belong to:

$P = \frac{F}{N} \times 100$

P = Percentage of Students Learning Result

F = Score Total of Students Completed

N = Total of Students

$P = \frac{18}{19} \times 100$

P = 94,74

To calculate the average value of the learning result for students in the first cycle, researcher can use the formula:

$M = \frac{\sum x}{N}$

M = Average of Score

$\sum x$ = Score Total of Students

N = Total Students

$M = \frac{153538}{19}$

M = 8080,95

Table 2. Score of Students' Learning Results in the First Cycle

No	Name	Total Score (Points)	Correct Answers	Incorrect Answers	Type of Completion		Categories
					Completed	Incomplete	
1	A. N.	8628	9	1	√		Very Good
2	A. Z.	8700	9	1	√		Very Good
3	A.	6818	7	3	√		Good
4	A. A.	8492	9	1	√		Very Good
5	A. Q.	8464	9	1	√		Very Good
6	C. V.	8749	9	1	√		Very Good
7	D. D.	5790	6	4		√	Low
8	F. D.	8556	9	1	√		Very Good
9	J. B.	9687	10	0	√		Very Good
10	K. M.	9578	10	0	√		Very Good
11	K. N.	0	0	0			-
12	M. R.	6614	7	3	√		Good
13	M. R. P. R.	8585	9	1	√		Very Good
14	M. R. I.	6716	7	3	√		Good

15	M. S.	7751	8	2	√		Good
16	N. S.	7672	8	2	√		Good
17	R. P.	9649	10	0	√		Very Good
18	R. K.	6805	7	3	√		Good
19	R. M.	8669	9	1	√		Very Good
20	S. A.	7615	8	2	√		Good
21	U. N.	0	0	0			-
Total Score		153538					
Average Score Points		8080,95					
Total Students		19					
Completed		94,74%					
Incomplete		5,26%					

Following the implementation of the first cycle of the Islamic Education and Character lesson in Class 5 of SDN Kalitengah 1 Tanggulangin on Wednesday, August 7, 2024, an analysis of student activity revealed that 94,74% of students had completed the lesson, with one student failing to do so. The data suggests room for improvement, as the percentage of active students falls short of the desired criterion, and more students have not completed the lesson than those who have. The second cycle is expected to improve student engagement and learning results.

2. Cycle 2

The second cycle of implementation commenced with the planning stage, where the syllabus developed the lesson plan (LP). The necessary learning facilities and infrastructure, including the Kahoot! learning game media, were prepared. Additionally, worksheets (WS) were created for each meeting, and observation sheets were designed to monitor the teaching and learning conditions in the classroom during the learning process (Setiawati, Halimah, and Budiyanti, 2024). The second cycle consisted of three meetings, culminating in a post-test. During this cycle, students utilized The Kahoot! learning game media to assess understanding and enhance presentation by adding interactive elements and quizzes. The first meeting focused on integer operations. Throughout the observation stage, the researcher closely monitored the implementation of the actions, which provided valuable insights into the development and increase in teacher and student activities during the learning process, as well as identifying areas of improvement (Aisyah, 2024).

a. Planning Phase

The strategy employed to conduct the initial research cycle on Kahoot! learning game media application for 5th-grade students in SDN Kalitengah 1 Tanggulangin on Islamic Education and Character involved several key steps. Firstly, a lesson plan was created to outline the learning objectives and activities. Next, a detailed plan was established to guide the implementation of the research. The student's attendance was

then taken to ensure all participants were accounted for. Then, evaluation forms and questions were formulated to assess student learning outcomes. Finally, the necessary preparations were made to utilize the Kahoot! learning game media, the primary tool for delivering the lesson.

b. Implementation Phase

After completing the first cycle, researchers identified that the poor or below-average scores were primarily due to the pupils' lack of activity. Therefore, the second-cycle implementation was hoped to be maximized even further. The second cycle was implemented on Saturday, August 10, 2024, with Class 5 of Islamic Education and Character, comprising 21 students. It lasted 45 minutes from 07:30. The lesson was structured into three main stages: introduction, learning process, and closing.

During the learning process, several activities took place, including organizing the classroom, praying before the lesson, administering a pre-test using the Kahoot! learning game, and reading the material to be taught. The teacher then presented the knowledge to the pupils, who were encouraged to share real-world examples or experiences of mutually respectful behavior. The instructor also demonstrated how to use the Kahoot! learning game media, established a turnaround period, and ensured all students participated fully in the quiz session.

Finally, during the closing stage, teachers assigned students to complete a self-evaluation, provided prompt feedback, reviewed their wrong responses, and encouraged self-reflection before concluding the class with a reading of Hamdalah and a prayer.

c. Evaluation and Observation

In the second cycle of instruction, the teacher closely observed the students' activity and conducted an evaluation to assess their engagement and learning results (Zakirman et al., 2020). This observation and evaluation aimed to identify areas of improvement and provide insights into the effectiveness of the Kahoot! learning game media in enhancing student participation and understanding of the Islamic Education and Character lesson.

d. Reflection

To find out the percentage of students' learning results in the first cycle using the formula belong to:

$$P = \frac{F}{N} \times 100$$

P = Percentage of Students Learning Result

F = Score Total of Students Completed

N = Total of Students

$P = \frac{21}{21} \times 100$

$P = 100$

To calculate the average value of the learning result for students in the first cycle, researcher can use the formula:

$M = \frac{\sum x}{N}$

M = Average of Score

$\sum x$ = Score Total of Students

N = Total Students

$M = \frac{190526}{21}$

M = 9072,67

Table 3. Score of Students' Learning Results in the Second Cycle

No	Name	Total Score (Points)	Correct Answers	Incorrect Answers	Type of Completion		Categories
					Completed	Incomplete	
1	A. N.	9619	10	0	√		Very Good
2	A. Z.	8740	9	1	√		Very Good
3	A.	8771	9	1	√		Very Good
4	A. A.	8806	9	1	√		Very Good
5	A. Q.	9588	10	0	√		Very Good
6	C. V.	9728	10	0	√		Very Good
7	D. D.	8734	9	1	√		Very Good
8	F. D.	8609	9	1	√		Very Good
9	J. B.	8690	9	1	√		Very Good
10	K. M.	8743	9	1	√		Very Good
11	K. N.	9580	10	0	√		Very Good
12	M. R.	9717	10	0	√		Very Good
13	M. R. P. R.	8762	10	0	√		Very Good
14	M. R. I.	9798	10	0	√		Very Good
15	M. S.	9676	10	0	√		Very Good
16	N. S.	9668	10	0	√		Very Good
17	R. P.	9625	10	0	√		Very Good
18	R. K.	8790	9	1	√		Very Good
19	R. M.	8358	9	1	√		Very Good
20	S. A.	9626	10	0	√		Very Good
21	U. N.	6898	7	3	√		Good
Total Score		190526					
Average Score		9072,67					

Points	
Total Students	21
Completed	100%
Incomplete	0%

Following the implementation of the second cycle of the Islamic Education and Character lesson on Saturday, August 10, 2024, at Class 5 of SDN Kalitengah 1 Tanggulangin, the student learning results showed that all 21 students had completed the lesson, achieving an impressive average score of 100%. These results suggest that the second cycle has dramatically enhanced student engagement and learning results.

A. Discussion of Results

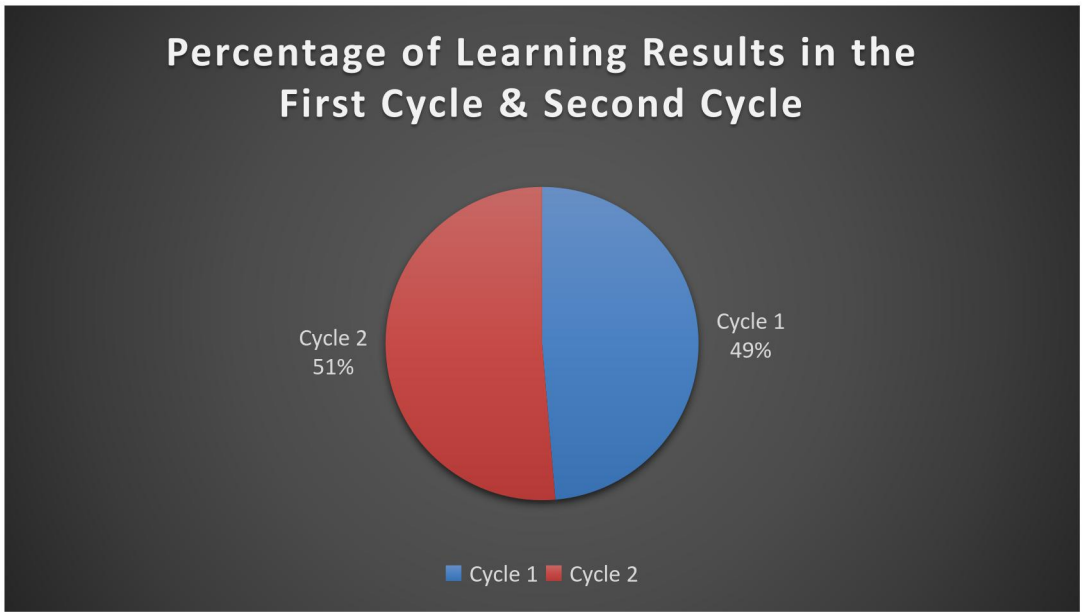
There has been a notable improvement in student performance from the first cycle to the second cycle in the 2024–2025 academic year at SDN Kalitengah 1 Tanggulangin due to the incorporation of Kahoot! Learning Game Media in Islamic Education and Character lessons. First, with a score of 94.74% in the first cycle, every one of the 21 students who took part received the Minimum Passing Grade. However, in the second cycle, the study team included more innovations and learning tactics since they wanted to keep improving the quality of instruction. This significantly improved the class average score, and they eventually achieved a spotless 100% score.

However, the study team's desire to continually raise the standard of instruction motivated them to conduct a second round, employing additional innovations and learning strategies. The results of the second cycle were even more impressive, with a perfect score of 100%. This substantial improvement demonstrates the effectiveness of the improvement efforts and highlights the potential of Kahoot! Learning Game Media in enhancing student learning results.

Several factors likely contributed to the significant improvement in student performance from the first cycle to the second cycle. Firstly, Kahoot! Learning Game Media may have played a crucial role in engaging students and making the learning experience more enjoyable and interactive. Additionally, the study team's commitment to continually raising the standard of instruction and their willingness to experiment with innovations and learning strategies likely helped to identify and address any knowledge gaps or areas for improvement.

The results of this study have significant implications for future instruction in Islamic Education and Character lessons. Kahoot! Learning Game Media and other innovative approaches can help create a more engaging and effective learning environment, improving student results. Furthermore, the study team's commitment to continually raising the standard of instruction serves as a model for other educators,

highlighting the importance of ongoing professional development and a growth mindset in teaching.



Picture 2. Percentage of Learning Results in the First Cycle & Second Cycle

IV. Conclusion

The integration of Kahoot! Learning Game Media into Islamic Education and Character lessons has yielded a significant improvement in students' learning results. Notably, the class average score increased from 94.74% in the first cycle to 100% in the second cycle, with all 21 students participating in the 2024-2025 academic year meeting the Minimum Completeness Criteria. The study team's commitment to continuous improvement led to implementing innovative strategies and learning approaches in the second cycle, substantially enhancing student learning results. The findings of this study demonstrate the effectiveness of Kahoot! Learning Game Media in enhancing student engagement and learning results in Islamic Education and Character lessons.

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