Research Article

Analysis of the PBL model assisted by Kahoot media as an innovative learning approach on students' interest in elementary school

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KEYWORDS	ABSTRACT
Problem-Based Learning (PBL) model Kahoot media innovative learning elementary school	This study aims to analyze the effectiveness and impact of the Problem-Based Learning (PBL) Model supported by Kahoot media as an innovative learning approach on students' learning interest in elementary schools. A descriptive qualitative approach was used to collect data on the factors and implementation of the PBL Model supported by Kahoot media. The research participants were one class of fourth-grade elementary school students involved in learning using the PBL Model with Kahoot media. Data were collected through observation, interviews with teachers, and analysis of learning documents. The data were analyzed using the Milles and Huberman approach, with source and method triangulation to validate the results. The research findings indicate that the PBL Model supported by Kahoot media has a positive impact on increasing students' learning interest, as evidenced by increased student engagement, understanding of concepts, and learning motivation from questionnaire analysis with an average of 82%. Although there were some challenges, such as limited access to technology and teacher readiness, the use of the PBL Model supported by Kahoot media was considered effective in creating a fun and motivating learning environment. This approach can be considered an effective learning strategy for increasing students' learning interest in elementary schools, with adequate preparation and support from the school and teachers.

1. INTRODUCTION

Education is an important element in forming and advancing individuals and society as a whole. Education has a role in preparing individuals to face future challenges and increasing a person's potential intelligence and ability to achieve success. Education is closely related to teaching and learning, in accordance with Law no. 20 of 2003 concerning the National Education System "Education is a conscious and planned effort to create a learning environment and learning process so that students can actively develop their potential, including spiritual strength, religion, self-control, personality, intelligence and noble character, as well as skills necessary for the interests of themselves, society, nation and state".

In the midst of rapid technological advances and transformation in the world of education, it is important for teachers to continue to improve learning so that it becomes innovative and effective learning. Innovative learning can of course stimulate student interest and involvement in the learning process. One example of learning that can be said to be innovative is learning that has included certain learning models and media.

Interest is a strong inclination or attraction towards something. In the educational context, learning interest refers to students' interest in the subject matter or learning activities they participate in at school (Ama, 2020). Based on the results of initial observations and interviews, researchers obtained initial information regarding the development of students' interest in learning in class IV elementary school, where there were a number of students who showed a lack of interest in learning. This can be seen from the low level of participation when the teacher is teaching, lack of concentration when doing assignments, and reluctance to ask questions when there is material that is difficult to understand. Some students may seem more interested in activities outside of class, such as playing games or talking with their friends. Apart from that, there are also students who seem to feel frustrated or not confident when facing challenging assignments, so they tend to avoid these challenges. This condition raises concerns for teachers, because low interest in learning can hinder academic progress and the development of students' potential. Therefore, more intensive and creative efforts are needed to increase students' interest in learning in grade IV elementary schools.

From the problems above, it is known that there is a lack of student interest in the learning process in class. To answer this problem, we need to think about the importance of the strategies and approaches that will be used during the learning process as one solution to solve the problems that have occurred. One example is implementing innovative learning using learning models and media. One innovative learning approach that might be used is an approach using the PBL (Problem-Based Learning) model which is strengthened by the use of learning media. The Problem Based Learning (PBL) model is an innovation in learning where in problem-based learning students' thinking abilities are truly optimized through a systematic group or team work process, so that students can develop their thinking abilities continuously (Mayasari, Arifudin, & Juliawati, 2022). The application of the PBL model in the learning process is expected to be able to encourage students to be active in gaining knowledge and thinking critically about the problems presented. Based on this, it can be concluded that increasing students' interest in learning in the problem solving process is an important step to take during teaching and learning activities.

The PBL model emphasizes problem-based learning, where students are exposed to real-world situations that require collaborative and creative problem solving. The aim is to help students develop thinking abilities, problem solving and intellectual skills (Wardani, 2023). The PBL model is often applied in core activities in the teaching and learning process. The steps in the PBL model include: 1) Presenting the problem to students, 2) Organizing students to learn, 3) Guiding students in investigations both individually and in groups, 4) Presenting and explaining the findings, and 5) Evaluating the problem solving process (Firdaus, Asikin, Waluya, & Zaenuri, 2021). The learning process begins with preliminary activities and then applies the PBL model steps as an alternative to classroom learning. The advantages of using the PBL model include 1) providing students with an initial understanding regarding the problems presented, so that they can identify the problems they are facing, 2) providing opportunities for students to consider and examine the problems they are facing, 3) providing opportunities for students to independently state and express the problems faced, 4) provide opportunities for students to evaluate the problem solving process. The Problem-Based Learning (PBL) model is a learning model that emphasizes students' approaches to authentic problems, thereby encouraging students to develop their own understanding, hone higher thinking skills, and promote independence and increase self-confidence (Zubaidah, 2017).

Meanwhile, the use of learning media aims to strengthen the learning model and increase students' interest in learning because learning media itself aims to make it easier for teachers to convey the material and make it easier for students to understand the material. In line with the PBL model, one learning media that can be used is Kahoot. Kahoot is an educational game

platform designed to increase student interaction and learning motivation through various interactive games and quizzes (Widya Ayuningtyas & Zulfah, 2021). Kahoot is often used as a tool to check students' understanding of course material, test their knowledge, or as a fun introduction to learning. Apart from that, Kahoot can also be used as a tool to increase students' interest in learning, because its features are interactive and support collaboration between students (Islamiati & Nabar, 2023). The combination of the PBL model with Kahoot media offers the potential to create learning experiences that are interesting, student-centered, and in line with the needs of today's digital generation (Iskandar & et. al., 2023). The integration of the PBL model with Kahoot media enables a more interesting and interactive learning experience for students. Through PBL students will become aware of active involvement in problem solving and discussion, students tend to have a higher interest in learning. Thus, this approach not only increases students' interest in learning but also improves their critical and collaborative skills, for future success, through the PBL Model assisted by Kahoot media, it can create a dynamic and relevant learning environment, foster students' interests and advance their skills in learning (Purbarani, Dantes, & Adnyana, 2018).

This finding is in line with research conducted by Handayani et al., (2020) in their research entitled "Analysis of the PBL Model Assisted by Concrete Media on Learning Interest of Class III Students at SDN Karanganyar Gunung 02". This research shows that the use of the Problem Based Learning model obtains a good response from students, and the PBL model is able to have a positive impact on making students able to think critically in solving problems. Apart from that, this research also explains that the PBL model is one of the variations of learning models that is good for used so that the material can be easily understood, with the PBL model assisted by concrete media, it helps increase students' interest in learning

Based on this background, this research aims to analyze the PBL model assisted by Kahoot media as an innovative learning approach and its impact on students' interest in learning in elementary schools. Through a descriptive qualitative approach, this research will explore students' experiences in learning using the PBL model with Kahoot media and the implications of this approach for their learning interests. It is hoped that the results of this research can provide valuable insight for the development of more effective and interesting learning approaches at the elementary school level.

2. METHOD

The research method used in this research is a descriptive qualitative approach to collect as much data as possible regarding the factors and application of PBL assisted by Kahoot media as an innovative approach in increasing the interest of elementary school students. The research participants consisted of one class of fourth grade elementary school students totaling 18 students who were involved in learning using the PBL model with the help of Kahoot media. Data was collected through observation, interviews with teachers, and analysis of documents related to learning. During the implementation of learning, researchers carried out direct observations in the classroom to record interactions between students, teachers and learning media. Interviews were conducted with teachers to gain insight into preparation, experiences, and challenges in using the specified learning approach. Documents related to the curriculum, learning materials, and evaluations are also analyzed to gain a deeper understanding of the learning context. The collected data was analyzed qualitatively using the Milles and Huberman approach, involving data collection, data reduction, data display, drawing conclusions and data interpretation. The data validation method used was by applying source triangulation and method triangulation. Source triangulation combines data from a variety of different sources to test the consistency of findings. Meanwhile, method triangulation combines three different data collection techniques, namely observation, questionnaires and interviews, to strengthen the reliability and validity of research results. The data analysis procedure is presented in Figure 1.
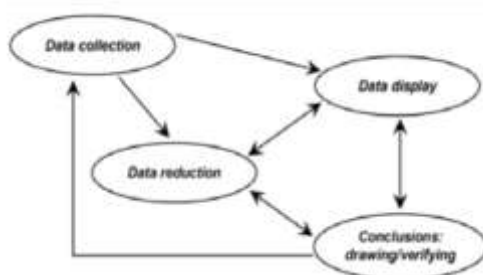
Figure 1. Milles and Huberman data analysis (Fadli, 2021)

3. RESULTS AND DISCUSSION

Analysis of the effectiveness and impact of the PBL Learning Model supported by Kahoot media as an innovative learning approach on students' learning interest, based on its application in the classroom, produces significant changes in learning interest. Researchers also obtained data through observations during the implementation of learning activities and conducting interviews with students after completion of learning activities. Apart from using observations and interviews, researchers also applied learning interest analysis through the use of questionnaires and coding respondent responses. The results of the analysis of learning interest based on the questionnaire sheet is presented in Table 2.

Table 1. The results of the analysis of learning interest based on the questionnaire sheet

No	Aspect		Indicator		Results Percentage
1	How do you feel after participating in learning activities?	a.	Sad	a.	0%
		b.	Bored	b.	20%
		c.	Happy	c.	80%
2	Do you feel enthusiastic when participating in learning activities in class?	a.	Lazy	a.	10%
		b.	Sleepy	b.	10%
		c.	Enthusiastic	c.	80%
3	Are you always involved in learning activities?	a.	Just stay quiet	a.	5%
		b.	Several times expressed opinions	b.	10%
		c.	Actively involved in expressing opinions	c.	85%
4.	Are you able to master the material in today's learning activities?	a.	Don't understand what is being studied	a.	10%
		b.	Understand a little	b.	15%
		c.	You already understand what you have learned	c.	75%
5	Would you like to study together again?	a.	No Way	a.	0%
		b.	Would	b.	10%
		c.	really want	c.	90%

The results of the questionnaire table prepared include aspects of indicators and percentages of the results. This questionnaire is designed with answer choices given to respondents to make it easier for them to determine the appropriate answer. Apart from that, respondents were also asked to explain the reasons for the choices they chose. Based on the results of the questionnaire obtained, a description can be presented detailing the findings of each aspect of the indicators studied, namely:

1. Aspects of feelings when participating in the learning process, with the happiness indicator showing a percentage of 80%
2. The enthusiastic aspect of participating in learning activities is 80%
3. The aspect of involvement in learning is with an active involvement indicator of 85%
4. Aspect of self-confidence with indicators that you understand what you have learned with a percentage of 75%
5. Motivational aspect with indicators of really wanting to take part in learning again with a percentage of 90%

Based on the results of the questionnaire that has been analyzed, it can be concluded that the majority of respondents showed a positive response to the learning process using the PBL Model assisted by Kahoot media. Thus, the results of the questionnaire show that the PBL Model assisted by Kahoot media is able to create a learning environment that is fun, motivating and actively involves students. in the learning process. This provides a positive picture of the effectiveness of this approach in increasing students' interest in learning.

The results of interviews with fourth grade students regarding research on the PBL Model assisted by Kahoot media as an innovative learning approach to their learning interests are as follows: Most students stated that they felt more interested and enthusiastic in the learning process using the PBL Model assisted by Kahoot media. They like approaches that involve problem solving and group discussions, as this makes them feel more active and involved in learning. Some students also expressed that they found learning material to be more interesting and easy to understand when presented through Kahoot, because of its interactive and fun format. However, some students also expressed some challenges in using this approach. They admitted that sometimes they found it difficult to solve the problems given, especially when the problems felt complex or difficult to understand. Apart from that, there are also some students who feel less confident in participating in group discussions, especially when they have to speak in front of their friends. Overall, the results of interviews with students show that the PBL Model approach assisted by Kahoot media has great potential in increasing students' interest in learning. Although there are some challenges faced, most students enjoy interactive learning experiences and benefit from this approach in understanding learning material. These findings confirm that the use of the PBL model with Kahoot media can be an effective learning strategy in increasing elementary school students' interest in learning. The integration of technology in learning provides an interesting and relevant experience for today's digital generation students. However, to maximize its effectiveness, there needs to be adequate preparation and support from schools and teachers in implementing this approach. Apart from that, developing learning content that is appropriate to student characteristics and the school curriculum is the key to successful implementation of the PBL Model using Kahoot media.

Based on the results of interviews and responses given by respondents in the questionnaire, the description of the PBL Model is as follows:

1. Implement the PBL model during learning

The teacher begins the implementation of learning by adapting the Problem Based Learning Model (PBL) and using Kahoot learning media for Citizenship Education subjects. Before starting the activity, the teacher asked initial questions about "The Influence of Globalization" and connected it with material about maintaining and preserving national culture. In implementing the PBL Model, the teacher plays an important role as a facilitator, guiding students when they experience difficulties in problem-based learning.

The steps for implementing the PBL Model are as follows:

a. The teacher introduces the problem to the students, which they then respond to. Teachers and students collaborate in strengthening the ideas expressed.

b. Students are grouped to solve the problems given, using worksheets prepared by the teacher. The teacher explains the work procedures so that students can complete the assignment well.

c. The teacher provides guidance to students in carrying out investigations, both individually and in groups. Students are guided in finding solutions related to maintaining and preserving national culture, while teachers provide assistance and facilitation.

d. Each group takes turns presenting the results of their problem solving to the class.

e. Students are also evaluated through Kahoot media to measure their understanding of the learning material and success in solving problems.

The implementation of the PBL model is considered successful because it can improve students' ability to think critically and be active in solving problems. The use of Kahoot media

also supports interactive and fun learning for students, thereby increasing their interest and involvement in the learning process.

2. The positive influence of implementing the PBL model assisted by Kahoot media

The results of interviews with teachers revealed the positive impact of implementing the PBL model assisted by Kahoot media in the learning process. Teachers observed a significant increase in student engagement, who became more active and enthusiastic in answering questions and participating in group discussions. In addition, teachers also noted an increase in students' understanding of concepts, which are easier to understand through problem-based learning and can be related to real-world situations. Students' collaboration skills also develop, as they learn to work together, listen to the opinions of fellow group members, and reach agreement in solving problems. Students' learning motivation has also increased, as can be seen from their enthusiasm for attending class, participating actively, and studying harder. Apart from that, learning becomes more fun for students because they are involved in interactive activities presented through Kahoot media. Overall, the implementation of the PBL Model assisted by Kahoot media has had a significant positive impact in improving the quality of learning and students' learning experiences in the classroom.

This is also supported by research conducted by Marwa, et al in 2023 regarding the Influence of the Problem Based Learning Model Assisted by Kahoot Digital Media on the Understanding of Mathematical Concepts of Class V Students at Mujahidin Elementary School Pontianak where based on the results of the effect size (ES) calculation, an ES value was obtained of 0.81 which indicates a high level of effect. Thus, it can be concluded that the use of a problem-based learning model with the support of Kahoot digital media has a positive influence on the understanding of mathematical concepts for class V students at Mujahidin Elementary School Pontianak (Marwa, Kresnadi, & Pranata, 2023). The second research is research conducted by Sugiarto and Pratiwi (Safitri, Wawan, Setiawan, & Darmayanti, 2023) where from this research, it can be concluded that there is a significant influence between the use of the problem-based learning model (PBL) with Kahoot support and direct learning on increasing student self-confidence and learning achievement. In addition, the PBL learning model supported by Kahoot shows better results in increasing student self-confidence compared to direct learning. Apart from that, the PBL model with Kahoot support also provides better learning results compared to direct learning. This shows that a problem-based learning approach using technology such as Kahoot has a significant positive impact in increasing students' self-confidence and learning achievement.

3. Inhibiting factors in implementing the PBL model assisted by Kahoot media

Several inhibiting factors in implementing the PBL model assisted by Kahoot media have been identified through interviews with teachers. First, limited access to technology is the main obstacle because not all students have the devices needed to use Kahoot media. Apart from that, teachers' readiness and skills in integrating technology into learning are also a challenge, especially for those who have less experience with technology. Preparation and implementation of learning also requires sufficient time, which can be an obstacle for teachers who have a busy workload. Students' skill level in using technology and their understanding of problem-based learning also influence the implementation of the PBL model. Lastly, effective classroom management is the key to success in using this model, however disruptions or obstacles in classroom management can hinder the learning process. By identifying and overcoming these inhibiting factors, teachers can increase the effectiveness of implementing the PBL model assisted by Kahoot media in learning.

4. CONCLUSION

The implementation of the Problem Based Learning (PBL) Model using Kahoot media shows a positive influence on students' interest in learning. The results showed significant improvements in student engagement, concept understanding, collaboration skills, and

learning motivation. The majority of students responded positively to learning with this approach, expressing high interest and enthusiasm. However, several inhibiting factors such as limited access to technology and teacher readiness need to be overcome. Overall, the PBL model assisted by Kahoot media offers great potential in increasing student interest in learning and the quality of learning in the classroom. Adequate support is needed from schools and teachers to maximize the effectiveness of its implementation. The integration of technology in learning provides an interesting and relevant experience for digital generation students. This approach is an effective learning strategy in increasing elementary school students' interest in learning and providing meaningful learning experiences.

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