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INCREASING STUDENTS' LEARNING INTEREST AND ACHIEVEMENT USING THE PROBLEM-BASED LEARNING MODEL ASSISTED WITH TRAVEL MAP MEDIA

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ABSTRACT

The study aims to determine the increase in interest and achievement in learning through the problem-based learning learning model with the help of an online quiz, namely travel map. This study used a collaborative classroom action research approach. The subject of this study was a grade V student of SD Negeri 1 Dawuhan Kulon. The data collection techniques used in this study were tests in the form of online evaluation questions and non-tests in the form of documentation and observation. The results of the research findings prove that learning using the problem-based learning model using the travel map quiz can increase cognitive learning achievement and student learning interest. The value of learning evaluation before being subjected to class action results are still very poor, namely the class score of 61.4. The application of the Problem-based learning model using the Travel Map Quiz can improve student achievement. This is evident from the average result of cycle I of 70 and the average cycle II of 77.8. The results of interest in learning before learning are still less at 52%. After applying the problem-based learning model using the travel map quiz, it can increase student interest in learning, namely in the first cycle by 70%, including in the sufficient category. Cycle II, the average interest in learning students reached 70.6%, including the good category.
Keywords: Learning Achievement, Learning Interest, *Problem-based learning, Travel Map*.

INTRODUCTION

Learning media are tools and materials that can be used to help achieve educational goals. According to Arsyhar (2012) and Muhson (2010), media is a tool used to channel messages and information from message senders to message recipients. By using media and technology, the process of delivering messages and information between senders and recipients will be able to take place effectively (Pribadi, 2017). In today's digital era, technology-based learning media is needed and has an important urgency in the learning process (Widianto, 2021). Studying media may help students better grasp concepts by presenting engaging content or data and disseminating information. It can also increase students' motivation and interest in studying. The use of technological media in learning triggers increased student interest in learning due to interesting and not monotonous learning (Negara et al., 2019; Nursyam, 2019; Puspitarini & Hanif, 2019). Furthermore, according to Adam (2015), it can assist students in strengthening their comprehension, condensing information, presenting data in an engaging and trustworthy manner,

and encouraging data interpretation. In order to create a captivating learning experience for students, educators need to choose educational resources, role models, and media that align with the subject matter being taught. Therefore, especially when teaching science topics, instructors need to be able to select and provide a variety of media and learning models that align with the curriculum.

The problem-based learning (PBL) model is one that may be applied. In order to encourage students to learn, Wulandari and Surjono (2013) state that this particular learning paradigm presents students with contextual difficulties. The PBL paradigm can help students learn science by fostering critical and analytical thinking skills and exposing them to problem-solving activities that they can do alone or in groups. The PBL model not only hones cognitive skills related to content but can also help students in communication skills, collaboration, learning independence, and decision making (Wilder, 2015). In research Rotgan and Schmidt (2012) explained that a teacher using the PBL model may boost students' enthusiasm and interest in learning as long as they meet a number of requirements, such as conceptual capacity, social compatibility, and cognitive adaption. Furthermore, research conducted by Munawaroh et al. (2022) modified the electronic-based PBL model (E-PBL) which provides convenience for teachers in online learning and has an increasing impact on student interest and motivation.

Based on the findings of the researchers' preliminary observations, it was discovered that the majority of the teachers at SD Negeri 1 Dawuhan Kulon still employ traditional teaching techniques, such as lectures and homework. Student activities are also disrupted because textbooks are still the learning media most often used by teachers, making students less interested in learning. Apart from that, researchers also talked with teachers in open interviews about how students did not participate enough in the learning process, liked to tell their own stories, and paid less attention to the teacher during learning. This is proven by the results of students' daily tests which show that the majority of students get bad grades.

According to the data gathered, in order to improve the quality of learning and inspire student participation in the classroom while also fostering instructor innovation, an optimization method is required for learning activities influenced by media that is appropriate for teaching programs. One of the media that can be used in the Harmony in the Ecosystem material is the quiz whizzer media. In accordance with the times and technological developments that are increasingly fast and always innovating, in the learning process requires students to be more active, then computers or gadgets can be used as tools to help the learning process. Many ways are developed in learning that involve active students through computer-based media stimulus, one of which is using quiz whizzer. Based on the description above, researchers are interested in conducting research with the title of increasing student interest and achievement using the Problem-based learning model assisted by travel map media.

RESEARCH METHODS

This research is collaborative classroom action research (PTK-K). Collaborative classroom action research is research carried out by two or more researchers who initiate the proposal together, carry it out together, and prepare the report together (Arikunto, 2007). The subjects were

14 students consisting of 5 female students and 9 male students. The implementation of PTK-K starts from the preparation, implementation, analysis to report making stages starting from July 2023 to August 2023. This research was carried out in the 2023/2024 academic year, precisely in semester I. In this study, researchers planned to carry out 2 cycles of research.

Data from classroom action research can be obtained using data collection techniques. Accurate and precise data collection will make it easier for researchers to conduct research systematically. With data collection techniques, researchers can find out data that meets the established standards (Sugiyono. 2015). Test and non-test data collection methods were used in this research. According to Arifin (2016), the test is a tool used to carry out measurement exercises where students are required to complete a series of tasks or a series of questions to assess various aspects of their behavior. The form of the test used is a test or evaluation question that includes the material studied. The type of test that the digital quiz test will use. The test conducted in this study was to determine the increase in IPAS learning achievement of Harmony in the Ecosystem material through the problem-based learning (PBL) learning model using the travel map quiz.

Other techniques used by researchers to collect data are non-test techniques including observation and documentation. Using observation sheets, researchers make observations to ascertain student collaboration, instructor activities, and student activities. The observation sheet contains indicators in the form of statements that should be carried out in the learning process. The form of documents in research can be in the form of writing, images, and videos. The document approach involves the process of collecting and analyzing documents, such as student notes and learning-related images. Students' interest in the learning process was gauged in this study using a questionnaire.

The data collection tool used by the author is an observation sheet to observe the activities of teachers and students during learning. In this study, scores were obtained from observations. The tool used is an observation sheet of teachers and students. Observation sheets are used to measure the implementation of learning in accordance with learning steps based on learning implementation plans using the problem-based learning model. Observation sheets will be filled in by peers through observations of teachers and students during learning. Scoring is measured by the number of scores achieved in filling the instrument. In addition to using previous data as an overview before the cycle, the author also uses the average student learning outcomes taken from daily test scores as a reference in improving aspects of interest and achievement.

The data analysis used in this study was the result of tests and questionnaires. Changes for the better in the areas of instruction, learning environment, and instructors are what indicate the effectiveness of this research. This research data analysis technique uses quantitative and qualitative descriptive data analysis techniques.

Determine the category of assessment of teacher and student activities on a scale of 100. The assessment is divided into 5 categories depicted in Table 1:

Table 1. Teacher and Student Activity Categories

Range of Values	Category	Information

>80%-100%	A	Very Good
>60%-80%	B	Good
>40%-60%	C	Enough
>20%-40%	D	Less
0-20%	E	Very Less

The data displayed with quantitative analysis techniques is in the form of numbers. This data is in the form of the average learning interest of all students and the test scores of science learning outcomes obtained from each cycle by finding the average or mean. The mean formula according to Purwanto (2013) is:

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

The following Table 2 describes the average categories of learning interest:

Table 2. Student Learning Interest Categories

Range of Values	Category	Information
>85%-100%	A	Very Good
>70%-84%	B	Good
>55%-69%	C	Enough
>400%-54%	D	Less
0-40%	E	Very Less

The percentage of students whose scores have been completed (≥72) uses the formula proposed by Daryanto (2011) as follows.

$$Presentase = \frac{\sum students\ who\ have\ completed\ their\ studies}{\sum Students} x\ 100\%$$

PThis research is said to be successful if there is an increase in student interest and learning performance of at least 72% through the problem-based learning (PBL) learning model using a travel map with minimum completeness criteria (KKM) 72.

RESULTS AND DISCUSSION

The results of observations on the implementation of IPAS learning using the problem-based learning model with travel map quizzes in cycle I and cycle II can be seen in the following table.

Table 3. Analysis of Observation Results of Problem-based learning models Cycle I and Cycle II

Aspects		Cycle	
		I	II
Teacher	Presentase %	77,2%	86,36%
Students	Presentase %	78,57%	88,39%

Based on table 3, it is known that teacher activities in learning Balance in the Ecosystem material using problem-based learning have increased. The percentage of teacher activity was

77.27% (good) in cycle I. Student activity in learning travel map quizzes using problem-based learning also increased. The percentage of activity of first cycle students is 78.57% (good). This number has not met the criteria to be achieved so that the application of the Problem-based learning model in cycle I is reflected for later improvements to cycle II learning. This is due to things that still need to be improved and improved in teacher activities in the first cycle, among others, in terms of: a) teachers do not convey learning objectives, b) teachers do not conduct group checks to help organize their tasks, c) teachers do not set time for class discussions appropriately, d) teachers has not guided and motivated students to collect appropriate information, e) Ask students to conclude the results of the discussion that has been presented, f) Provide clarification on the problems that have been discussed.

In cycle II the percentage of teacher activity in applying the Problem-based learning model was 86.36% (very good). Teacher activity in the second cycle is included in the very good category with an average percentage of 86.36% (very good). Increased teacher activity in implementing PBL followed by increased student activity during learning using PBL. The percentage of student activity in the second cycle was 88.39% (very good). The impact of implementing PBL on teacher and student activities during learning includes: 1) Learning is no longer dominated by teachers; 2) Teachers can explore the initial abilities of students; 3) Students are actively involved in learning; 4) Students pay attention to the teacher's explanation calmly and enthusiastically 5) Students become active in discussing with friends to solve problems. The results of observations of teacher and student activities in addition to using tables can also be presented as well as an increase in teacher and student activities in the implementation of learning Harmony in the Ecosystem material using the problem-based learning model through the histogram in figure 1 below:

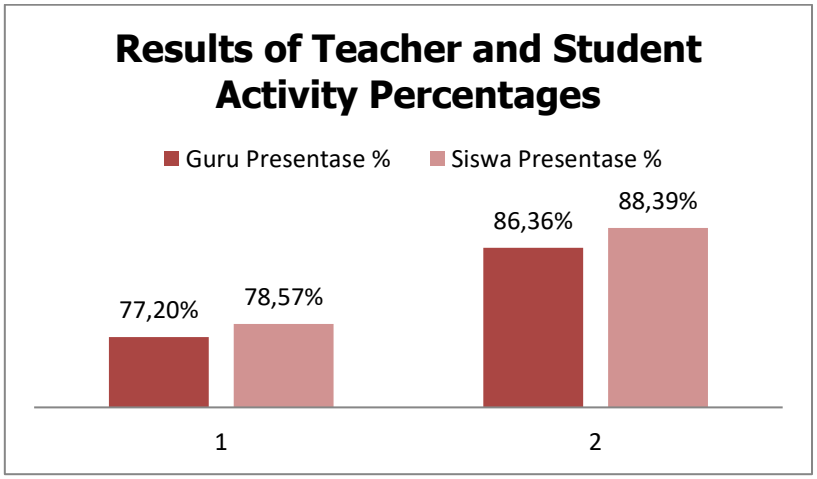

Figure 1. Recapitulation of Teacher and Student Activities

The results of observing learning interest in the implementation of IPAS learning using the problem-based learning model with travel map quizzes in cycle I and cycle II can be seen in the following diagram.

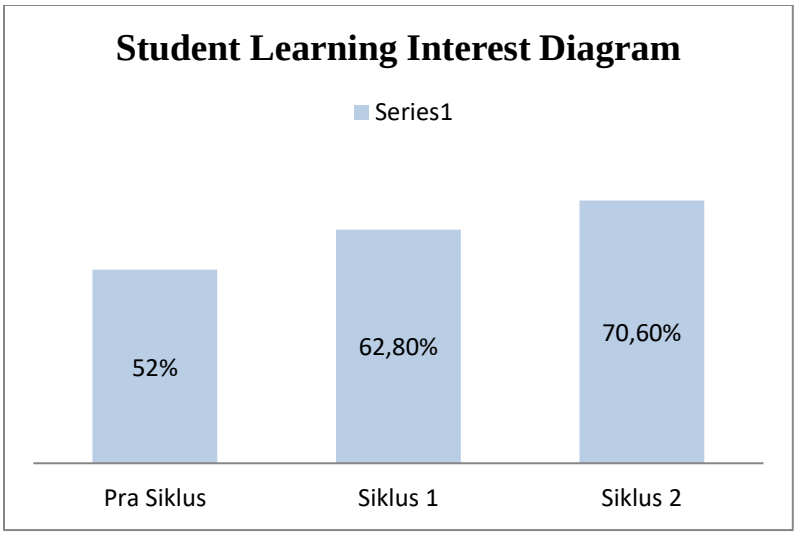

Figure 2. Student Learning Interest Diagram

According to figure 2, after the action in cycle 1, the results showed increased interest and learning achievement. It is proven that the results of interest in the pre-cycle amounted to 52% (less) compared to the first cycle which was 60.8% (sufficient) After the action was held in the second cycle, the results showed that students' interest in learning also increased to 70.6% (good). When compared between the average interest in learning pre-cycle, cycle I, cycle II, the average interest in learning students increased by 8.8% from pre-cycle to cycle I and increased from cycle I to cycle II by 9.8%. If totaled, the average increase in student learning interest from pre-cycle to end of the cycle reached 18.6%. This shows that the application of Problem-based learning assisted by travel map quizzes in science subjects increases student interest in learning. This result is in line with Sumarni (2023) explaining that social studies learning using problem-based learning is proven to increase student interest in learning with a differentiation approach. Other studies also support these results, one of which is by Suari (2018) explaining that the problem-based learning model can help students' learning motivation on science material well.

Figure 3 below is a display of data on student learning evaluation results from pre-cycle to cycle II completion.

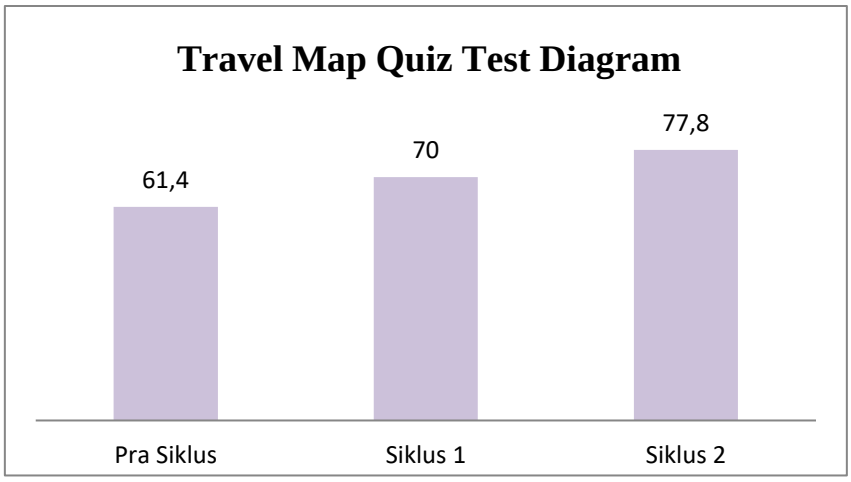

Figure 3. Travel Map Quiz Results

The data showed that the average hasul of the first cycle test score was 70. A total of 14 students 6 students or 50% were able to achieve KKM of 72, while the others were still below KKM 72. If the average evaluation value of cycle I compared to pre-cycle, the average evaluation value increases by 9. The result of the average evaluation value in cycle II is 77.8. If the average evaluation value in cycle II compared to cycle I also increased by 7.8. However, there is a 16.8 rise in the average evaluation value of cycle II as compared to pre-cycle. This shows that the application of the problem-based learning model using the travel map quiz can improve the learning achievement of grade V students of SD Negeri 1 Dawuhan Kulon. In line with research Puspitarini and Hanif (2019) explained that students tend to be bored learning only with books, it is more interesting to use technology-based learning media. This results in increased interest in learning and learning achievement. In addition, Dwijayani (2019) also explains the positive impact of using technology-based media, one of which is able to improve problem solving so that the learning outcomes obtained are in the good category and add variety to learning.

The application of the Problem-based learning model using the travel map quiz was carried out as many as 2 cycles. The results of this study prove that learning using the Problem-based learning model using the travel map quiz can improve cognitive learning achievement and student learning interest. The value of learning evaluation before being subjected to class action results are still very poor, namely the class score of 61.4. After being subjected to classroom action with the application of the Problem-based learning model using the travel map quiz can improve student achievement. This is evident from the average result of cycle I of 70 and the average cycle II of 77.8. While the results of interest in learning before being subjected to class action results are still very lacking, namely 52% included in the category of less. After carrying out class actions with the application of the problem-based learning model using the travel map quiz, it can increase student interest in learning, namely in the first cycle by 70%, including the sufficient category. While in the second cycle, the average interest in learning students reached 70.6%, including the good category.

CONCLUSION

The use of technology-based learning media provides interesting variations and shows compatibility with the digital era, one of which is a travel map. The combination of problem-based learning models assisted by travel map quiz media has a significant positive impact on student learning continuity. Based on the results of the research obtained, it can be concluded that the problem-based learning model assisted by travel map quiz can increase learning interest and learning achievement as evidenced by increasing success in each cycle carried out and achieving good categories in each achievement indicator and achieving the minimum completeness value of students in each cycle. This research motivates further researchers to develop other variations by collaborating interactive learning media such as geogebra to develop students' spatial abilities on geometry material.

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