



## **USING KALBEK PRODUCTS (USED CALENDAR) TO IMPROVE STUDENT LEARNING OUTCOMES ON FPB AND KPK TOPICS IN CLASS IV SDN 3 TAROK**

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### **ABSTRACT**

This research aims to analyze the increase in student learning outcomes after using kalbek teaching aids on the topics of FPB and KPK in class IV SDN 3 Tarok. This research was classroom action research consisting of two cycles. Each cycle had four stages, namely: planning, implementation, observation, and reflection. The research was carried out at SDN 3 Tarok, Meukek District, and South Aceh Regency for 2 months in the 2023/2024 academic year. The subjects of this research were 14 fourth grade students consisting of 7 male students and 7 female students. The instruments used were formative tests and observation sheets. Data analysis used descriptive statistics based on the results of formative tests and observation sheets for each cycle. The results of the research showed that the use of kalbek teaching aids can improve student learning outcomes as indicated by an increase in the completeness of student learning outcomes from cycle I to cycle II, namely cycle I (64.29%) and cycle II (92.86%). Student activity in learning also increased from cycle I, 53.6% to 85.7% in cycle II.

**Keywords:** *kalbek products, student learning outcomes.*

### **INTRODUCTION**

Mathematics is a collection of abstract ideas, with a deductive structure, and plays an important role in the development of science and technology.

Mathematics uses numbers, symbols and reasoning as a communication medium that is closely related to everyday life (Oliviya & Amaliyah, 2022). Mathematics is very important for students to master, but students have difficulty learning it. The concepts contained in Mathematics are abstract while students' development stages are still at the concrete pre-operational stage (Khotimah, 2019). For this reason, teachers are responsible for facilitating learning that makes it easier for students to understand topics in Mathematics.

One way that can be done is by using teaching aids during learning. Teaching aids are a learning medium that can make it easier for students because students can see directly, observe and understand the actual process of events so that students better understand the concept of the material and improve student learning outcomes (An'nur et al., 2020).

Props are tools that represent a learning topic in real form, making it easier for students to understand a concept (Zahara, 2019). Teaching aids are learning media that make abstract material tangible so that it is easy for students to understand (Jagom et al., 2019).

However, not all schools have complete learning media so using used goods can be an alternative to use as teaching aids. Props from used materials are easy to obtain. Apart from reducing waste, making props from used materials allows students to be actively involved in making them (Kencono & Winarsih, 2021).

The advantages of props made from used materials are: 1) Props are easy to make using environmentally friendly materials; 2) students can make props as attractive as possible; 3) teaching aids can minimize the limitations of infrastructure in the learning process; 4) teaching aids can be felt directly by students; 5) teaching aids can maximize students based on learning styles (Gunawan et al., 2019).

Based on the description above, it is necessary to use teaching aids in Mathematics learning so that students understand the lesson more easily in order to improve student learning outcomes. Kalbek props were used for FPB and KPK topics in class IV at SDN 3 Tarok. This research describes the answer to the problem formulation, namely: can the use of kalbek teaching aids improve Mathematics learning outcomes on the topics of FPB and KPK for class IV students at SDN 3 Tarok?

## **METHODS**

This research was Classroom Action Research (PTK), namely research that aims to improve and overcome problems that occur in the classroom

(Rukminingsih et al., 2020). This research was carried out in 2 cycles based on the results of reflection and achievement of learning outcomes of at least 85%. The research was conducted at SDN 2 Tarok in the 2023/2024 academic year. The research took place from 10 September to 10 November 2023. The research subjects were 14 students consisting of 7 male students and 7 female students.

Research was conducted on the subject of FPB and KPK in Mathematics subjects. This research procedure used the action research model from Kemmis and Taggart which is described in Rukminingsih et al. (2020) which was carried out in 2 cycles. Each cycle includes planning, implementation, observation and reflection.

The research instruments were group work sheets, formative tests, and observation sheets. The data analysis technique used was descriptive statistics. The data processing steps were: 1) Recapitulate the test scores for each cycle; 2) calculate the average value or percentage of student learning outcomes after taking action in each cycle to determine whether there is an increase in learning outcomes; 3) calculate the percentage of student activity; 4) calculate the percentage of class learning completeness.

Indicators of success follow the criteria: 1) The learning outcomes of most students reach a score greater than 60; 2) classical learning completeness 85%; 3) student activity reaches 80% and above.

## RESULTS AND DISCUSSION

Before carrying out cycle I, a pre-cycle stage was carried out to see student learning outcomes before the kalbek teaching aids were applied. The recapitulation results of pre-cycle student learning outcomes tests can be seen in Table 1 below.

**Table 1.** Recapitulation of Pre-Cycle Student Learning Results Tests

<i>No.</i>	<i>Description</i>	<i>Pre Cycle Results</i>
1.	Average score of learning outcomes test	51,43
2.	Number of students who have completed their studies	5
3.	Number of students who have not completed their studies	9
4.	Percentage of learning completeness	35,71%

Based on Table 1 above, it can be seen that there were 9 students who had not achieved completion. The percentage of learning completeness was still low, namely 35.71%.

Next, cycle I was carried out using kalbek as a prop. After learning the teacher gives a formative test. The results of the recapitulation of student learning outcomes tests in cycle I can be seen in Table 2 as follows.

**Table 2.** Recapitulation of Cycle I Student Learning Results Tests

<i>No.</i>	<i>Description</i>	<i>Cycle I Results</i>
1.	Average score of learning outcomes test	60,71
2.	Number of students who have completed their studies	9
3.	Number of students who have not completed their studies	5
4.	Percentage of learning completeness	64,29%

Based on this data, it is known that by using the kalbek teaching aid, the average student learning outcome score was 60.71 with learning completeness of 64.29%. 9 students out of 14 students have finished studying. This shows that in cycle I they had not achieved classical learning completeness, because only 64.29% of students got a score > 60, which is smaller than the predetermined percentage of completeness, namely 85%.

The results of observations of teacher and student activities in cycle I can be seen in Table 3 as follows.

**Table 3.** Recapitulation of Teacher Ability to Manage Learning in Cycle I

<i>No.</i>	<i>Observed teacher activities</i>	<i>Score</i>
<i>No</i>		
1.	Convey goals and benefits	3
2.	Motivate students to follow lessons	2
3.	Deliver learning activity plans	3
4.	Guiding students in discovering concepts	2
5.	Guiding students in group discussions	3
6.	Using learning props	3
7.	Guiding students in making conclusions	2
8.	Provide a final explanation as reinforcement	3

9.	Time management	3
10.	Carry out an assessment	3
Amount		27
Average score (%)		67,5
Category		Enough

Based on this data, the average teacher's ability to manage learning is 67.5% in the sufficient category. After conducting discussions with the observing teacher, improvements need to be made, namely when motivating students to follow lessons, guiding students in discovering concepts, and in terms of guiding students to make conclusions.

The recapitulation of student activities in cycle I can be seen in Table 4 as follows.

**Table 4.** Recapitulation of Student Activities in Cycle I

<i>No</i>	<i>Observed student activities</i>	<i>Number of active students</i>	<i>Percentage</i>
1.	Listen/pay attention to the teacher's explanation	7	87,5
2.	Using kalbek props	7	87,5
3.	Discussion between students/between students and teachers	2	25
4.	Ask/respond to questions/ideas	3	37,5
5.	Finding concept	3	37,5
6.	Reporting the results of group work	4	50
7.	Summarize learning	4	50
Average percentage of student activity (%)			53,6

Based on this data, the average percentage of student activity is 53.6%, which is classified as low. Improvements made in cycle II were that teachers motivated students to increase their activity, increased the number of kalbek, and students were more directed at finding concepts.

Next, cycle II was carried out based on reflections from cycle I. The results of the recapitulation of student learning outcomes tests in cycle II can be seen in Table 5 as follows.

**Table 5.** Recapitulation of Cycle II Student Learning Results Tests

<i>No.</i>	<i>Description</i>	<i>Cycle II Results</i>
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1.	Average score of learning outcomes test	75
2.	Number of students who have completed their studies	13
3.	Number of students who have not completed their studies	1
4.	Percentage of learning completeness	92,86%

Based on this data, it is known that the use of kalbek can increase student learning outcomes to 75 with learning completeness of 92.86%. This shows that in cycle II the mastery of classical learning has increased and has achieved the specified indicators of success.

The results of the observation sheet on the teacher's ability to manage learning in cycle II can be seen in Table 6 as follows.

**Tabel 6.** Recapitulation of Teachers' Ability to Manage Learning in Cycle II

<i>No.</i>	<i>Observed teacher activities</i>	<i>Score</i>
<i>No</i>		
1.	Convey goals and benefits	4
2.	Motivate students to follow lessons	4
3.	Deliver learning activity plans	4
4.	Guiding students in discovering concepts	3
5.	Guiding students in group discussions	3
6.	Using learning props	4
7.	Guiding students in making conclusions	3
8.	Provide a final explanation as reinforcement	4
9.	Time management	3
10.	Carry out an assessment	3
Amount		35
Average score (%)		87,5
Category		Very Good

Based on the Table above, the percentage of teachers' ability to manage learning reached 87.5% with good criteria according to the specified indicators.

The results of the student activity observation sheet in cycle II can be seen in Table 7 as follows.

**Table 7.** Recapitulation of Student Activities in Cycle II

<i>No.</i>	<i>Observed student activities</i>	<i>Number of active students</i>	<i>Percentage</i>
1.	Listen/pay attention to the teacher's explanation	8	100
2.	Using kalbek props	7	87,5
3.	Discussion between students/between students and teachers	7	87,5
4.	Ask/respond to questions/ideas	6	75
5.	Finding concept	7	87,5
6.	Reporting the results of group work	6	75
7.	Summarize learning	7	87,5
Average percentage of student activity (%)			53,6

Based on the Table above, student activity increased from 53.6% in cycle I to 85.7% in cycle II. A large increase in the percentage of student activity occurred in the aspects of paying attention to teacher explanations, discussions between students/between students and teachers, discovering concepts and reporting the results of group work. This percentage is already at a good indicator, namely 80% and above as specified.

The use of kalbek teaching aids can improve learning outcomes and student activity. This finding is similar to research by Zahara (2019) which used the Rainbow Matrix Calendar on the topics of FPB and KPK. As a result, the Rainbow Matric Calendar can improve student learning outcomes.

According to Purwati et al. (2023), using used materials as props can attract students' interest because students can be involved in making their own props. Economically, turning used materials into teaching aids is more profitable because they are easy to obtain and students are very close to the materials (Widyasari et al., 2022). Using used goods can also reduce waste, stimulate creativity, be cheap and easy to obtain. The use of teaching aids allows students to gain direct and real experience, making it easier for students to discover the concepts being studied for themselves (Zahara, 2019).

The use of teaching aids can improve Mathematics learning outcomes which can be seen from increased student activity (Hermawan & Widiyaastuti, 2020). Teaching aids made from used materials have a significant effect on improving student learning outcomes. Apart from reducing waste, using used

materials allows students to have a meaningful learning experience because the tools used are close to their lives (Jagom et al., 2019).

Props provide a better and more real learning experience. Teaching aids can influence the effectiveness of learning. The effectiveness of learning can be seen from the suitability of the learning process with the learning objectives (An'nur et al., 2020). Teaching aids made from used materials can make students more active in learning and more concerned about the environment (Gunawan et al., 2019).

## CONCLUSION

The use of kalbek teaching aids can improve students' Mathematics learning outcomes on the topics of FPB and KPK. Student learning completion increased from 64.29% in cycle I to 92.86% in cycle II. Teachers' ability to manage learning increased from 67.5% in cycle I to 87.5% in cycle II. The percentage of student activity also increased, namely 53.6% in cycle I and 85.7% in cycle II. In determining the teaching aids used in learning, it is very important to adapt the teaching aids to the concept and learning objectives so that learning is more effective.

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