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The Influence of the Flat Shape Spin Wheel Learning Media on Mathematics Learning to Improve Conceptual Understanding of Phase B Students at Khaira Ummah Islamic Elementary School

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Abstract:

This study stems from the problem of low student engagement in the mathematics learning process, which is often considered a difficult subject due to the infrequent use of interesting and supportive learning media by educators. In general, educators only rely on images found in textbooks or drawn on the blackboard, which has an impact on students' low understanding of concepts in the learning process. To address this issue, this study aims to examine the extent to which the use of the ROTAR (rotating wheel) learning media for flat shapes affects the improvement of concept understanding among phase B students at SD Islam Khaira Ummah. This study employs a quantitative approach using a quasi-experimental method and a pretest-posttest control group design. The sample in this study was determined using cluster random sampling, involving two classes: class IVB as the experimental group using the rotar media, and class IVC as the control group using conventional learning media. Data analysis results showed a significant increase in conceptual understanding in the experimental group, with an average increase of 32.64 points, higher than the control group, which only experienced an increase of 20.30 points. The t-test results showed a significant value (one-tailed) of 0.000 (< 0.05), indicating that the use of rotar media significantly influences the improvement of students' mathematical concept understanding. This finding recommends that educators utilize varied learning media to create a more engaging and meaningful learning environment.

Keyword: *Learning Media, Spinning wheel, Conceptual Understanding*

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INTRODUCTION

Conceptual understanding is an essential aspect that serves as a fundamental basis for effective mathematics instruction (Safari & Nurhida, 2024). The ability to understand mathematical concepts is necessary for students to be able to solve

problems, connect knowledge to real life contexts, and develop various other skills. A strong conceptual grasp helps students give examples, compare, explain, draw conclusions, and enhance other cognitive abilities targeted in mathematics education (Radiusman, 2020). However, in reality, one of the main issues encountered in mathematics instruction is students' perception that mathematics is a difficult and intimidating subject. This negative perception often hinders their ability to comprehend concepts, resulting in difficulties in mastering fundamental mathematical concepts optimally.

Mastery of basic mathematical concepts is crucial and must be acquired by students from the early stages, before moving on to more complex materials. Solid conceptual understanding enables students to absorb and master advanced topics more effectively (Sumaryati & Hasanah, 2015). The importance of conceptual understanding is also reflected in the primary goals of mathematics education as stated in the Regulation of the Minister of National Education of the Republic of Indonesia Number 58 of 2014. These goals emphasize the importance of students mastering mathematical concepts, explaining relationships between concepts, and applying concepts and algorithms flexibly, accurately, precisely, and efficiently in solving problems (Ministry of Education and Culture of the Republic of Indonesia, 2014). In line with these goals, students are expected to understand mathematical concepts thoroughly through the learning process and apply them to various mathematical problem-solving situations.

Mathematics education requires special attention because it differs from other disciplines and demands specific learning abilities from students. The primary goal of mathematics education is to develop critical thinking and problem-solving skills while also considering the nature of mathematics and students' individual characteristics (Rahayuningsih & Kristiawan, 2018). Without taking these factors into account, learning objectives may not be achieved. Learning itself can be defined as a series of internal activities that result in changes in behavior, indicating that learning has occurred (Riyani, 2019).

According to Johnson, mathematics instruction should ideally be designed to actively engage students in both understanding concepts and discovering basic principles (Kurino, 2020). Therefore, mathematics should not merely be seen as content to be memorized, but as a subject that requires critical analysis and active problem-solving during the learning process (Irmawati & Pd, 2020). Mathematics is a subject taught from elementary school through high school, and even in higher education, it remains an integral part of the curriculum (Lestari & Bastari, 2024).

Although mathematics has many benefits, many students perceive it as difficult and uninteresting due to monotonous teaching approaches (Wulandari, 2020). Research findings support this perception, revealing that many students find

Print – ISSN: 2443-0021
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mathematics difficult, boring, and even frightening, as the subject heavily relies on formulas and numbers. This negative view is reinforced by overdependence on numbers and formulas, which makes mathematics appear tense and less applicable to real life (Fathani, 2020).

Numerous studies have highlighted these negative perceptions of mathematics. In fact, the success of mathematics learning requires the support of innovative media and teaching approaches to reshape these perceptions. However, in practice, teachers often rely solely on textbooks and chalkboards, resulting in monotonous instruction. In contrast, learning media play an essential role in achieving educational goals, as they facilitate effective communication between teachers and students while also stimulating thought, emotion, and motivation to enhance the learning process (Daniyati, Wijaya, & Setiawan, 2023).

To achieve learning objectives optimally and support students in understanding abstract mathematical concepts, the use of concrete media in delivering materials is essential. These objects serve as teaching aids or instructional media that support students' conceptual understanding. Media, by nature, are tools for conveying messages while stimulating students' thoughts, feelings, and motivation to encourage the learning process. The use of media is highly necessary in mathematics education, as it plays a strategic role in ensuring successful learning outcomes. Furthermore, instructional media help capture students' interest and attention, making them more engaged in learning mathematics.

Mathematics learning media consist of tools or concrete objects specifically designed to facilitate the understanding of mathematical concepts and principles. At the elementary level, media plays a crucial role in helping students grasp abstract topics, such as two-dimensional shapes. One innovative instructional medium is the Spin Wheel (ROTAR). This tool has been found effective in developing students' conceptual understanding through direct interaction and problem-solving activities (Nuzulia & Zain, 2020). The purpose of this study is to analyze the impact of using the ROTAR media on improving the conceptual understanding of two-dimensional shapes among Phase B students at Khaira Ummah Islamic Elementary School, as well as to evaluate its effectiveness as an alternative interactive learning medium. Based on this rationale, the researcher conducted a study entitled "The Influence of the Flat Shape Spin Wheel (ROTAR) Learning Media on Mathematics Learning to Improve Conceptual Understanding of Phase B Students at Khaira Ummah Islamic Elementary School.

METHOD

The research approach used in this study is a quasi-experimental design, involving the use of the ROTAR media over a period of four weeks (eight sessions, each lasting 35 minutes). This approach requires clearly measurable concepts and variables and typically involves both a control group and an experimental group. The research design applied is a pretest-posttest control group design, in which students were given tests before and after the treatment to observe any changes in outcomes.

The study was conducted at Khaira Ummah Islamic Elementary School, located on Simpang Pagai Street, Ikur Koto, Padang City, West Sumatra. The population consisted of all fourth-grade students, totaling 102 individuals. The research sample included two classes: Class IVB as the experimental group that received instruction using the Spin Wheel media, and Class IVC as the control group that did not use the media. The sampling method used was cluster random sampling, based on relatively balanced average scores across the classes. As a result, Class IVB (34 students) was selected as the experimental group and Class IVC (34 students) as the control group.

Data collection was conducted using pretests and posttests. The pretest was administered prior to the instructional intervention to assess students' initial abilities, while the posttest was given after the implementation of the two-dimensional shape spin wheel media. The research instrument consisted of tests (questionnaires) to evaluate students' perceptions of the use of the Spin Wheel (ROTAR) media. Before being used, the test instrument was first piloted in Class IVA (outside the sample classes). Item validity was analyzed using the Pearson Product-Moment correlation (with an r-value > 0.3).

Additionally, a student response questionnaire was administered to evaluate student perceptions of the learning media. The test data were analyzed using the paired samples t-test with a significance level of 0.05 to determine whether there was a significant difference between the pretest and posttest scores. An independent samples t-test was also conducted to compare posttest scores between the experimental group (which used ROTAR media) and the control group (which used conventional methods). The analysis was supported by prerequisite tests, including the normality test (Kolmogorov-Smirnov) and the homogeneity test (Levene's Test), to ensure that the data met the assumptions required for hypothesis testing.

RESULTS AND DISCUSSION

Based on the instead ofh conducted in the fourth grade of Khaira Ummah Islamic Elementary School, the study involved two classes as samples: Class IVB, consisting of 34 students, served as the experimental group and received instruction

Print – ISSN: 2443-0021
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using the Spin Wheel (ROTAR) media; and Class IVC, also consisting of 34 students, served as the control group and received instruction without the Spin Wheel media, instead using traditional teaching tools such as the whiteboard and textbook illustrations.

Students' conceptual understanding was measured using an objective test instrument consisting of 10 multiple-choice questions. Prior to the mathematics instruction on the topic of two-dimensional shapes, both groups were given a pretest to assess their initial understanding of the subject matter. The experimental group was taught using the Spin Wheel media, while the control group received instruction using conventional methods. After the instructional process with differing treatments for each group—was completed, both groups were given a posttest to evaluate the improvement in their conceptual understanding.

The test score results for both groups are presented and analyzed in the following section:

Table 1. Pretest Results of Conceptual Understanding in the Sample Classes

Class	Minimum	Maximum	Mean
Eksperiment	10	90	53,24
Control	20	80	56,76

Based on the data presented in Table 1, it can be seen that the mean scores of the experimental and control classes at the initial stage did not show a significant difference. The average score of the experimental class was 53.24, while the control class had an average score of 56.76.

Overview of the Conceptual Understanding Test Results of Fourth Grade Students at Khaira Ummah Islamic Elementary School Using the ROTAR Media

a) Pretest Data of the Experimental Class

To assess the initial ability of students in the experimental class (Class IVB) at Khaira Ummah Islamic Elementary School, a pretest consisting of 10 objective questions was administered. After collecting the pretest scores, the next step was to categorize the students' results. This process began by identifying the highest and lowest scores obtained. To determine the interval scale, the highest score was subtracted by the lowest score, then one was added to the result. The total was then divided by four to determine the range of each required scale.

To determine the frequency distribution of the pretest results in the experimental class (Class IVB), the data were presented in the form of a table. The percentage for each category was calculated by dividing the frequency in each interval class by the total number of students (N) and then multiplying the result by one hundred to obtain the percentage value.

Table 2. Frequency Distribution of Pretest Results on Conceptual Understanding – Experimental Class

Category	Interval	frequency	Percentage
Very High	74-94	2	5,88%
High	53-73	15	44,12%
Low	32-52	12	35,29%
Very Low	10-31	5	14,71%
Total		**34**	**100%**

Based on the data in Table 2, students in the experimental class (Class IVB) were categorized into several performance levels based on their pretest results: very high, high, low, and very low. The number of students who scored in the very high category was 2 students (5.88%), high category was 15 students (44.12%), low category was 12 students (35.29%), and very low category was 5 students (14.71%). The overall mean score from the pretest was 53.24. When classified, the pretest results for the mathematics subject in Class IVB at Khaira Ummah Islamic Elementary School fall into the high category, as the average score lies within the 53–73 interval. Thus, it can be concluded that in general, the pretest results of students in Class IVB were in the high category.

b) Posttest Data of the Experimental Class

To obtain an overview of the posttest results in the experimental class (Class IVB) at Khaira Ummah Islamic Elementary School, a posttest was administered to the students. The first step in classifying the learning outcomes was identifying the highest and lowest scores achieved by the students. Then, the difference between the highest and lowest scores was added by one, and the result was divided by four to determine the interval scale to be used in the classification.

To determine the frequency distribution of the posttest results in the experimental class, the data were presented in the form of a table. The percentage for each category was calculated by dividing the frequency in each category by the total number of students and then multiplying the result by one hundred to obtain the percentage value.

Table 3. Frequency Distribution of Posttest Results on Conceptual Understanding – Experimental Class

Category	Interval	Frequency	Percentage
Very High	93-100	**4**	11,76%
High	85-92	14	41,18%
Low	77-84	14	41,18%
Very Low	69-76	2	5,88%
Total		**34**	**100%**

Based on Table 3, students in the experimental class (Class IVB) were divided into several categories according to their posttest results: very high, high, low, and very low. The number of students in the very high category was 4 students

Print – ISSN: 2443-0021
Online - ISSN: 2716-4136

(11.76%), a high category 14 students (41.18%), a low category also 14 students (41.18%), and a very low category 2 students (5.88%). The overall mean score from the posttest was 85.88. When classified, the average posttest score of students in Class IVB falls into the high category, as it lies within the score range of 85–92. Therefore, it can be concluded that the average posttest result of the experimental class students in the mathematics subject at Khaira Ummah Islamic Elementary School is classified as high.

c) Students' Conceptual Understanding in Classes Using the ROTAR Media (N-Gain Test)

Table 4. N-Gain Test Results – Experimental Class

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_Score	34	.33	1.00	.8165	.22155
Ngain_persen	34	33.33	100.00	81.6502	22.15530
Valid N (listwise)	34				

From Table 4, the N-Gain test result for the experimental class shows a score of 0.8165, with a gain score in percentage form of 81.6502%. This indicates that the gain score is categorized as high and effective, as the gain score of 0.8165 is greater than 0.7, and the percentage gain score of 81.6502% exceeds 76%. Therefore, it can be concluded that there was a significant improvement from the pretest to the posttest in the experimental class.

Overview of the Conceptual Understanding Test Results of Fourth Grade Students at Khaira Ummah Islamic Elementary School Without Using ROTAR Media

Data on students' conceptual understanding in the topic of two-dimensional shapes were obtained after administering the posttest in both the experimental and control classes, using the same test instrument. The posttest consisted of 10 objective questions. Based on the test scores obtained, the detailed data are presented in the following section:

Table 5. Posttest Results of Conceptual Understanding – Sample Classes

Class	Minimum	Maximum	Mean
Eksperiment	70	100	85,88
Control	50	90	77,06

Based on Table 5, it is evident that the mean scores of the experimental and control classes showed a significant difference. The experimental class achieved an average score of 85.88, while the control class had an average score of 77.06.

a) Pretest Data of the Control Class

To obtain an overview of the pretest results in the control class (Class IVC) at Khaira Ummah Islamic Elementary School, a test was administered to the students. The first step in classifying students' conceptual understanding scores was identifying the highest and lowest scores from the pretest. Then, to determine the interval scale, the highest score was subtracted by the lowest score, the result was increased by one and then divided by four to obtain the required class interval range.

To determine the frequency distribution of the pretest results in the control class (Class IVC) at Khaira Ummah Islamic Elementary School, the data were presented in tabular form. The percentage for each category was calculated by dividing the frequency of each category by the total number of students (N) and then multiplying the result by one hundred to obtain the percentage value.

Table 6. Frequency Distribution of Pretest Results on Conceptual Understanding – Control Class

Category	Interval	Frequency	Percentage
Very High	71-86	1	2,94%
High	54-70	20	58,83%
Low	37-53	11	32,35%
Very Low	20-36	2	5,88%
Total		34	100%

Based on the data in Table 6, students in the control class (Class IVC) were categorized into several performance levels based on their pretest results: very high, high, low, and very low. One student (2.94%) fell into the very high category, 20 students (58.83%) were in the high category, 11 students (32.35%) in the low category, and 2 students (5.88%) in the very low category. The overall mean pretest score was 56.76. According to the classification scale, this average falls within the high category, as it lies in the score range of 54–70. Thus, it can be concluded that the average pretest score for Mathematics in Class IVC at Khaira Ummah Islamic Elementary School falls into the high-performance level.

b) Posttest Data of the Control Class

To provide an overview of the posttest results in the control class (Class IVC) at Khaira Ummah Islamic Elementary School, a test was administered to the students. The initial step in classifying the results involved identifying the highest and lowest scores obtained. The difference between the two scores was then increased by one, and the result was divided by four to determine the interval scale used for classification.

To determine the frequency distribution of the posttest results in the control class, the data were presented in tabular form. The percentage for each category was calculated by dividing the frequency of each category by the total number of

Print – ISSN: 2443-0021
Online - ISSN: 2716-4136

students (N) and then multiplying the result by one hundred to obtain the percentage value.

Table 7. Frequency Distribution of Posttest Results on Conceptual Understanding – Control Class

Category	Interval	Frequency	Percentage
Very High	83-93	**7**	20,59%
High	72-82	17	50%
Low	61-71	6	17,65%
Very Low	50-60	4	11,76%
Total		**34**	**100%**

Based on Table 7, students in the control class (Class IVC) were grouped into several categories based on their posttest results: very high, high, low, and very low. The number of students in the very high category was 7 students (20.59%), in the high category 17 students (50%), in the low category 6 students (17.65%), and in the very low category 4 students (11.76%). The total posttest scores yielded a mean of 77.06. According to the classification scale, this average falls within the high category, with a score range of 76–81. Therefore, it can be concluded that the average posttest result of Class IVC students in the mathematics subject at Khaira Ummah Islamic Elementary School falls into the high category.

c) Students' Conceptual Understanding in Classes Without Using ROTAR Media (N-Gain Test)

In this study, the N-Gain test was conducted using SPSS version 26, and the results are presented in the following table:

Table 8. N-Gain Test Results – Control Class

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Ngain_score	34	.20	1.00	.6361	.24089
Ngain_persen	34	20.00	100.00	63.6134	24.08944
Valid N (listwise)	34				

Based on Table 8, the N-Gain test results for the control class showed a gain score of 0.6361, which, when converted into a percentage, is 63.61%. This score falls into the moderate category and is considered fairly effective, as it meets the criteria of $0.3 < 0.6361 \leq 0.7$, and the percentage falls within the 56–75% range. Therefore, it can be concluded that there was an improvement in conceptual understanding from the pretest to the posttest in the control class.

Furthermore, a comparison of conceptual understanding between the experimental class and the control class after the implementation of the study shows

a clear difference in students' understanding of the material. Based on the frequency distribution tables of scores in both classes, it is evident that there were differences in students' conceptual understanding, as seen in the distribution across the performance categories: very good, good, fair, and poor.

The mean score of the experimental class was 85.88, falling within the 85–92 range, with 41.18% of students in the high category. Meanwhile, the control class had a mean score of 77.06, within the 72–82 range, with 50% of students also in the high category.

Table 9. Comparison of Pretest and Posttest Scores – Experimental Class and Control Class

No	Class	Mean Score		Improvement
		Pre Test	Post Test	
1.	Experiment	53,24	85,88	32,64
2.	Control	56,76	77,06	20,30

Based on Table 9, a comparison of pretest and posttest results between the experimental and control classes was obtained. In the experimental class, students' conceptual understanding improved by 32.64 points, while in the control class, the improvement was 20.30 points.

To draw conclusions from the learning outcome data of the two sample classes (Class IVB and Class IVC), statistical analysis was conducted. Prior to hypothesis testing, normality and homogeneity of variance tests were carried out. The hypothesis test was performed using a t-test, assisted by SPSS (Statistical Product and Service Solution) version 26.

In this test, if the significance value (1-tailed) < 0.05, then H_0 is rejected and H_a is accepted. Likewise, if the calculated t-value (t_h) is greater than the critical t-table value, then H_0 is rejected and H_a is accepted.

The results of the t-test analysis comparing the learning outcomes between the experimental class (IVB) and the control class (IVC) are presented in the following table:

Table 10. t-Test Analysis Results – Experimental and Control Classes

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	55.00	68	15.598	1.891
	posttest	81.47	68	10.547	1.279

Print – ISSN: 2443-0021
Online - ISSN: 2716-4136

Table 11. Paired Samples t-Test Results – Experimental and Control Classes

Paired Samples Test									
		Paired Differences					t	Df	Sig. (1-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest - posttest	-26.471	14.327	1.737	-29.939	-23.003	-7.618	66	.000

Based on the results of the t-test analysis conducted using IBM SPSS version 26, the average pretest score was 55.00, and the posttest score was 81.47. The calculation showed a t-value of 7.618, while the t-table value at degrees of freedom (df) = 66 was 1.668. Since t_h (7.618) > t_t (1.668), H_0 is rejected and H_a is accepted. Furthermore, the 1-tailed significance value (p) was 0.000, which meets the criterion of $p < 0.05$. This also confirms the rejection of the null hypothesis stating that there is no difference in conceptual understanding when using the ROTAR media. Thus, the alternative hypothesis is accepted, indicating that there is a significant difference in students' conceptual understanding between those who used the ROTAR media and those who did not.

It can be concluded that students' conceptual understanding was higher in the class using ROTAR media compared to those who only used conventional tools such as whiteboards and printed illustrations. This is because chalkboard and textbook-based instruction tend to be abstract and lacks sensorimotor engagement. Conventional media also have limitations in concretely presenting geometric concepts, facilitating independent student exploration, and providing immediate feedback (Nuzulia & Zain, 2020). According to (Desanti, Purwaningsih, & Damasiswara, 2023), the moderate improvement in the control class may be attributed to the dominance of lecture-based methods, limited variety in learning strategies, and an overreliance on procedural knowledge rather than conceptual understanding. Plane geometry materials often require visual-spatial approaches that are difficult to convey using only static textbook images. While the control class did show improvement—due to teacher explanations and the practice questions provided—these were still lacking in manipulatives and interactivity (Wulandari, 2020)

This quasi-experimental study confirms that the ROTAR media significantly enhances students' understanding of plane figures compared to conventional methods ($p < 0.05$), through three main mechanisms. First, the kinesthetic-tactile representation allows students to physically manipulate geometric shapes using the spinning wheel, activating motor memory (Ginnis, 2020) and internalizing

properties of shapes (such as sides, angles, and symmetry) in a multimodal way. Second, the dynamic visualization provided by ROTAR displays transformations of shapes in real-time (e.g., transforming a square into a parallelogram), facilitating a deeper understanding of similarity and congruence (Nuzulia & Zain, 2020), unlike static textbook diagrams. Third, the instant feedback from each spin offers direct visual confirmation of the correct answer, aligning with discovery learning theory. For example, when learning about perimeter, students spin the wheel until it lands on a rectangle, then measure the sides using a built-in ruler—this hands-on process reinforces both procedural and conceptual understanding. In contrast, the control class using only a whiteboard relied solely on 2D symbolic representations without interactivity, leading to partial and easily forgotten understanding (Wulandari, 2020), consistent with (Fathani, 2020)findings on the importance of manipulatives in foundational geometry.

Learning media are instructional tools, both physical and non-physical, intentionally used as a bridge between teachers and students to facilitate easier understanding of learning content, making the process more effective and efficient (Nurrita, 2018). With learning media, content can be delivered more comprehensively and engage students' interest in further study. In this research, a pretest was conducted for both sample classes before introducing different learning treatments. The pretest consisted of 10 multiple-choice questions designed to assess students' initial understanding of plane figures. The experimental class was taught using the ROTAR media, while the control class used traditional tools such as whiteboards and printed textbooks.

The pretest results showed that the average score for the experimental class was 53.24, while the control class had an average of 56.76. After instruction, a posttest was given to measure learning outcomes in both groups. The posttest average for the experimental class was 85.88, while the control class averaged 77.06. The highest score in the experimental class was 100, compared to 90 in the control class. The lowest score in the experimental class was 70, while in the control class it was 50. These results demonstrate a significant difference in conceptual understanding between the experimental and control classes.

The difference in outcomes can be attributed to the different teaching strategies used. Instruction with the ROTAR media in the experimental class proved to be more effective and engaging for students. This aligns with the view of (Maria & Yolanda, 2019), who state that learning media play a crucial role in improving the quality of education by increasing motivation, encouraging active participation, and helping focus attention on key concepts being studied. Learning media also act as facilitators of effective communication between teachers and students (Titin, 2023), helping to bridge gaps in educational delivery.

Print – ISSN: 2443-0021
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In contrast, the increase in scores in the control class from pretest to posttest was relatively modest. This is because instruction was limited to conventional tools like whiteboards and textbook illustrations, which were less engaging than ROTAR media in fostering student interest and involvement.

Using the ROTAR media in instruction helps students become more active and participatory, including during discussions. This is because instruction becomes student-centered, with the teacher acting as a facilitator who supports students in constructing their own understanding. Based on the comparison of pretest and posttest scores, the experimental class experienced a gain of 32.64 points, whereas the control class only showed a gain of 20.03 points. This suggests that the ROTAR spinning wheel media was effective in the learning process.

This is consistent with (Solichah, 2019) who found that spinning wheel media enhances students' problem-solving skills and positively impacts learning outcomes. Their research also indicates that similar manipulative tools in elementary education significantly improve student performance, particularly in mathematics, by helping them grasp abstract concepts more concretely and enjoyably.

At the elementary school level, students are typically in the concrete operational stage, meaning they prefer to play, move, collaborate, and engage in hands-on learning (Wibowo, 2022). In this study, students were encouraged to come to the front of the class and demonstrate the use of the ROTAR media. The tool proved effective in enhancing students' conceptual understanding. Its engaging and interactive nature made the learning process more enjoyable and helped students better understand mathematical concepts (Sudianto, 2021).

The class that used the ROTAR media showed better learning outcomes than the class using only traditional tools like whiteboards and textbooks. This is because the ROTAR media boosted motivation, promoted collaboration, created an interactive atmosphere, and reduced boredom during math instruction. Based on the findings, it can be concluded that the use of ROTAR media has a positive effect on improving the conceptual understanding of fourth-grade students at Khaira Ummah Islamic Elementary School. Moreover, this media can be considered a valuable alternative for future instructional strategies, helping to create a more enjoyable, creative, and engaging learning environment.

CONCLUSION

Based on the research conducted at SD Islam Khaira Ummah, the analysis of data and hypothesis testing revealed that the use of ROTAR media (spinning wheel) in teaching plane geometry had a significant impact on students' conceptual understanding in Mathematics. The t-test results using IBM SPSS version 26

showed a 1-tailed significance value of 0.000. Since this value is less than 0.05 ($0.000 < 0.05$), H_0 is rejected and H_a is accepted, indicating a statistically significant difference in conceptual understanding between students who used ROTAR media and those who used conventional media.

The average increase in scores from pretest to posttest in the experimental class was 32.64 points, while in the control class it was only 20.30 points. These results demonstrate that ROTAR media is effective in helping students better understand plane geometry concepts, making the learning process more engaging, interactive, and capable of enhancing students' motivation and active participation.

Based on these findings, it is recommended that teachers use this research as a reference to implement varied learning media, such as ROTAR, to create more meaningful learning experiences and to encourage greater student involvement, which can lead to improved learning outcomes. Future researchers are encouraged to expand this study by applying ROTAR media to a broader range of topics.

Students should also be encouraged to be more active during the learning process by providing recognition or rewards for every positive action they take. Furthermore, schools are expected to utilize these findings as a basis for instructional innovation aimed at enhancing the quality of teaching and learning to become more creative, interactive, and engaging.

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