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Implementation of Smart Board Multiplication Learning Media in Mathematics Learning for Grade III at UPTD SDI Malamude

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ABSTRACT

Children's learning outcomes can be enhanced through the use of appropriate media that stimulate thinking skills, motivation, and engagement. At UPTD SDI Malamude, many third-grade students were observed to struggle with mathematics, particularly in multiplication. This study aimed to examine the effectiveness of smartboards as a learning medium to improve students' understanding of multiplication. The research applied a qualitative method with a descriptive approach. Data were gathered through observation, interviews, and documentation, involving third-grade students at UPTD SDI Malamude. The analysis used descriptive qualitative techniques to interpret and explain the findings. Results indicate that smartboards significantly contributed to improving student motivation and mastery of multiplication. Of the 19 students involved, 16 (84%) successfully achieved learning mastery, while 3 students (16%) still experienced difficulties. The integration of smartboards provided an interactive and enjoyable classroom atmosphere, making mathematical concepts easier to comprehend and more engaging for students. The study concludes that smartboards are an effective instructional medium for teaching multiplication. Their use not only enhances students' numeracy skills but also helps teachers create dynamic, fun, and student-centered learning environments. Therefore, the application of smartboard-based learning in mathematics can serve as a valuable strategy to improve both student understanding and overall learning outcomes.

Keywords: *Learning Media; Smart Board; Mathematics*

INTRODUCTION

One way Indonesia strives to improve education is by ensuring students learn better and become their best selves. Education helps people discover what they are good at and what they can do. According to the 2003 law, everyone has special talents and strengths, even if they are not always aware of them. The law states that students should strive to use all they have to learn and develop. Learning is crucial because it is where students and teachers work together to understand new things. The goal of learning is to acquire knowledge and skills, develop good feelings and ways of thinking, and become capable of doing things well. One of the subjects students study is mathematics, which is taught at all levels of school.

Mathematics is an important subject to learn because it helps children think carefully, logically, and step-by-step. When students study mathematics, they learn to understand ideas that aren't always readily apparent and apply that knowledge in everyday life. Mathematics is about numbers, shapes, and space, and it helps us understand how things relate to each other. Mathematics is the same everywhere in the world and helps us become better thinkers. The way mathematics is taught is very organized, and the different parts of mathematics are well-connected, making it easier to learn. Schools say mathematics is a compulsory subject because it connects with many other subjects and helps us think more clearly, creatively, and solve problems. Although mathematics is very useful, many children find it difficult or even intimidating. But mathematics isn't just about counting; it also helps us be more creative, think logically, and analyze situations carefully.

According to Setiowati (2023), teachers often use homemade media for common occurrences in schools where mathematics is taught, rather than media or teaching aids with creative and innovative components. This, of course, results in a lack of student enthusiasm for the learning process. An interview with the homeroom teacher of the Malamude Elementary School (UPTD SDI Malamude) revealed that the conflict experienced by third-grade students at that time was related to calculation, such as multiplication. Based on the information obtained, teachers only used media available in their classrooms, which led to students' lack of enthusiasm for learning. The lack of engaging learning media is a root cause of students' lack of interest in learning. One way to increase students' interest in mathematics is through the use of learning media. One technique or instrument used in the teaching and learning process is learning media. This is done to encourage learning patterns and support the teaching and learning process so that teaching and learning activities can run smoothly and achieve the desired goals (Hendi et al., 2020). Anything chosen by educators for use in the classroom that attempts to arouse students' interest and feelings so that they are motivated to participate in the learning process is considered a medium. Learning materials are intended to support and enhance teacher teaching, not replace it (Sutrisno, 2021).

Another way for teachers to help students understand mathematical ideas and concepts is through the use of media in the classroom. A "Smart Board" is one teaching and learning aid that can be utilized (Valentina, A., & Wulandari, M, 2022). Smart boards are made of cork or other materials that are designed to be as attractive as possible. These smart boards utilize the principles of multiplication. One strategy to help third-grade students at the Malamude Elementary School (UPTD SDI Malamude) who are struggling with mathematics is to use smart boards. This media resource is specifically designed to support third-grade students at Malamude Elementary School in improving their multiplication skills. The program introduces a modern and interactive learning tool known as a smart board, which serves as an effective way to make math lessons more engaging and accessible. Alongside the smart board are colorful origami boxes. These boxes are numbered from 1 to 8 and have additional space where students can write multiplication problems and solutions. The

vibrant decorations and colorful materials are carefully selected to attract students' attention and create an active learning environment, making counting and multiplying numbers more engaging and enjoyable. One of the program's key features is the smart calculator board, which offers several important benefits for young learners. It provides a visual platform where students can clearly see mathematical concepts and easily manipulate information. Smartboards also allow for quick erasing and rewriting, allowing students to experiment with various problems without difficulty. Furthermore, the question-and-answer session encourages active participation, as students can test their understanding and receive immediate feedback. This interactive approach significantly increases their enthusiasm and motivation to learn. Initially, students are introduced to smartboards through guided lessons that demonstrate how to use them effectively for multiplication. For example, they might be asked to solve problems like multiplying by 5, using the smartboard's features to visualize and record their answers. This hands-on approach helps build confidence and reinforces their understanding of multiplication concepts in a fun and stimulating way. Of course, there's a difference between the media teachers use in the classroom and smartboards, which allow children to experience things firsthand. Children actively engage and apply the numeracy principles taught using smartboards, allowing them to practice numeracy on their own.

Based on the findings of Aziz et al. (2022) and Amreta et al. (2023), which showed that multiplication and counting boards significantly improved students' understanding and engagement in mathematics, a new study was conducted at the Malamude Elementary School (UPTD SDI Malamude). This study aimed to determine whether third-grade students could improve their motivation to learn mathematics through the use of these educational tools. The researchers observed that when students used multiplication and counting boards during lessons, their interest and enthusiasm for mathematics increased significantly. The practical nature of these tools allowed students to better visualize and understand mathematical concepts, making learning more enjoyable and less intimidating. Furthermore, the study found that students who regularly used these boards showed greater confidence and willingness to participate in classroom activities. The results suggest that integrating these tools into the curriculum can be an effective strategy for fostering motivation and improving mathematical understanding among young learners, supporting ongoing efforts to make mathematics education more engaging and accessible.

METHOD

This research is qualitative. Nineteen third-grade students from the Malamude Elementary School Education Unit (UPTD SDI Malamude) became the research subjects. Documentation, interviews, and observations were used to collect data. The observational approach aimed to directly observe how third-grade students from Malamude Elementary School use multiplication learning resources on smartboards. A questionnaire about the use of multiplication smartboards in mathematics learning activities was sent to the third-grade homeroom teachers at Malamude Elementary

School as part of the interview process. Documentation was then created. The participation of third-grade students in the numeracy learning activities of the Malamude Elementary School Education Unit (UPTD SDI Malamude) became the research documentation. The data in this study were analyzed using the Milles and Huberman data analysis paradigm, which includes 1) data collection, 2) data reduction, 3) data presentation, and 4) drawing conclusions, as shown in the attached figure. The findings of a comprehensive and methodical qualitative data analysis on the use of multiplication smartboards to improve learning motivation of third-grade students at the Malamude Elementary School Education Unit (UPTD SDI Malamude). Miles and Huberman data analysis chart (Sugiyono, 2015)

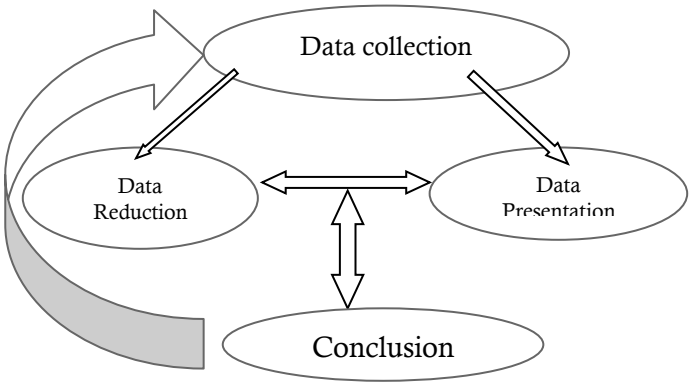

Figure 1. Data Analysis Chart of Milles and Huberman Model (Sugiyono, 2015)

FINDINGS AND DISCUSSION

FINDINGS

An educational game tool (APE) consisting of a board made of sticks, origami paper, and cork is known as a Smart Board. This tool is used in mathematics learning, particularly for multiplication practice. Research shows that using a smart board in multiplication learning is effective in increasing student motivation. Students become more enthusiastic and active during the learning process and demonstrate an increased understanding of multiplication concepts. With a smart board, students can see and interact with multiplication material visually and interactively, making learning more enjoyable and easier to understand. This multiplication smart board has eight paper cup pockets that can be attached to a long piece of cork or another appropriately sized object. Origami paper can be used to cover the cup area. As a counting aid, we can also prepare as many sticks or skewers as we can fit into each cup pocket. Students will grasp information more quickly if presented in an engaging way. Materials to prepare for making a multiplication smart board learning tool include a long piece of cork, origami paper, glue, scissors, and as many sticks as possible.

To create a multiplication smartboard, prepare a long piece of cork as the base or main material for the multiplication smartboard. Then, prepare origami paper that has

been folded into cup pockets, and don't forget to write a number on each cup pocket. Attach the cup pockets to the long piece of cork using any type of glue. Finally, store the stick sticks in a cup pocket specifically made for storing sticks. Here's how to use the multiplication smartboard.

Table 1 How to Use Smart Board Multiplication Learning Media

Number	Stage	Teacher Activities
1	First	The teacher begins by introducing the multiplication subject that will be studied.
2	Second	The teacher demonstrates how to use learning resources on the multiplication smart board.
3	Third	The teacher gives a series of example multiplication problems to work on.
4	Fourth	Teachers assign homework to students and enable them to better understand the lesson through the use of multiplication smart boards.

After students have completed the multiplication example using the multiplication smart board, they then re-evaluate the basic concepts of multiplication by asking questions. Then, the students begin to re-work the multiplication problems given using the multiplication smart board. During the process, observations were made of each child working on the multiplication problems. Based on the results of observations in grade III at the Malamude Elementary School UPTD, researchers found that several students were not very good at multiplication. In general, children can only memorize multiplication when asked together with their peers, but when asked individually, most of these students were unable to memorize and did not know how to work on each multiplication problem given.

During the mathematics learning process, the researcher tried implementing a smartboard learning tool with students. Before implementing the smartboard, I first explained how to use it. Then, I gave each student simple examples of problems and let them work on their own. As they worked on multiplication problems, the students gradually began to understand and grasp how to easily solve multiplication problems using the smartboard. After using the smartboard learning tool, the interviewed

teachers noted improved student math performance, particularly in multiplication. The evaluation results are shown in the table below.

Table 2: Achievements in Multiplication Material Before Implementing Smart Board Multiplication Learning Media

Number of Students	Information	Percentage
8	Complete	43 %
11	Not Completed	57 %

The following table presents the learning outcomes for multiplication after the implementation of the multiplication smartboard. Meanwhile, Table 2 above shows that 8 students, or 43% of the total students, had completed the multiplication before the use of the multiplication smartboard, while 11 students, or 57% of the total students, had not.

Table 3. Learning Outcomes in Multiplication Material After Implementing the Multiplication Smart Board Media

Number of Students	Information	Percentage
16	Complete	84%
3	No Completed	16%

The data above shows that as many as 16 students or 84% of students have completed learning the multiplication material after using the multiplication smart board media, while as many as 3 students or 16% of students have not completed it.

DISCUSSION

Students can learn more effectively and understand what they learn more easily if they use the right learning resources. Teachers can create new teaching strategies by using materials on the multiplication smart board. Teachers arouse students' curiosity, increase their enthusiasm, and make learning more fun and productive. Based on the results of interviews with third-grade teachers at the UPTD SDI Malamude regarding the implementation of multiplication smart board learning media, the results showed that there was an increase in mathematics learning outcomes in multiplication material after implementing the multiplication smart board media. This can be seen from the percentage of classical completeness of 19 students, there were 16 students who completed or 84%, while 3 students who did not complete or 16%. Thus, it can be concluded that the implementation of multiplication smart board learning media can improve student learning outcomes in multiplication material.

Besides being creative and not just focusing on visual aids or writing numbers on the board, teachers also need to understand the various types of learning resources

available for use in mathematics classes. Teachers play a crucial role in developing or compiling learning materials because media can be used as a tool to stimulate all aspects of child development (Laksana et al., 2023). Educational media is important because it helps students feel happy and excited, rekindles their enthusiasm, helps them remember information, and makes teaching more relevant (Maflikha, 2020).

Media has a greater impact on children's development than simply providing engaging content. Furthermore, media can promote human rights campaigns in a variety of ways. By engaging students' minds and attention, educators use educational media to convey knowledge that will help them achieve their learning objectives (Hadiyanti, 2022).

The equipment or materials to make a multiplication smartboard media can be easily found, such as long corks covered with origami paper, glue, and scissors are used to make a multiplication smartboard. Numbers can be displayed on the smartboard as easy calculation problems with solutions to attract children's interest and help their learning. Children can improve their numeracy skills, increase productivity, and enjoy learning more by using this multiplication smartboard. According to research, learning through games improves understanding, adds fun to the learning process, and prevents children from losing interest in learning, especially in mathematics. Children can also concentrate more on thinking while learning multiplication with the help of multiplication smartboard learning tools. Children can also learn to respect the opinions and responses of their friends by using this multiplication smartboard teaching tool.

Children need interactive training using engaging and fun teaching tactics, according to the results of a study on smartboard learning materials for numeracy. Children are more enthusiastic and interested in participating in the educational process because the media provides an interesting and fun learning environment. As a result, children may become more enthusiastic and enthusiastic about arithmetic. Using smartboard media for numeracy teaching can be a useful alternative to more conventional approaches when teaching numeracy concepts to young children in Nagerawe Village, aged 6-7 years. Additional research conducted by Azizah, M., et al. (2022) entitled "The Role of Multiplication Board Media on Mathematics Learning Outcomes in Grade V Elementary School Multiplication Material" found that students were more engaged and motivated to understand the concepts of the material being taught when using multiplication board media. Thus, learning can be carried out with this smartboard.

CONCLUSION

According to research results, one strategy to improve student learning outcomes and motivation to master multiplication concepts is through the use of smartboard teaching resources. This is evidenced by the completion rate of 19 students: 16 students completed the multiplication, or 84%, while 3 students did not complete it, or 16%.

Teachers can better teach multiplication and help students develop their numeracy skills by using this medium to create an engaging and interactive learning environment. Thus, it can be said that the use of smartboard multiplication teaching materials can improve students' understanding of the material.

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