(JIML) JOURNAL OF INNOVATIVE MATHEMATICS LEARNING
Volume 8, No. 1, March 2025
P-ISSN 2621-4733
E-ISSN 2621-4741
https://dx.doi.org/10.22460/jiml.v8i1.p22895

THE IMPLEMENTATION OF MULTIFUNCTIONAL BOARDS TO IMPROVE SELF-CONFIDENCE AND LEARNING OUTCOMES ON MATHEMATICS

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ARTICLE INFO

Article history:

Received May 07, 2024
Revised Jun 21, 2024
Accepted Jul 25, 2024

Keywords:

Self-Confidence
Learning Outcomes
Multifunctional Boards

ABSTRACT

Self-confidence is an important thing in learning life so that it can be consistent and encourage good learning outcomes However, this can be relatively low for students, especially those learning lowest common multiple and highest common factor mathematics The aim of this research is to examine the use of multifunctional blackboard media to influence students' self-confidence and learning outcomes. This research was conducted on class IV students at MIN 21 Jln Rawa Kuning, East Jakarta. The research method used is quasi-experimental research (Quasi-Experiment) with a Nonequivalent control group design The population of this study was 60 grade IV students at MIN 21 East Jakarta, data collection regarding learning outcomes in the form of a multiple choice objective test of 30 questions with four alternative answers which were previously tested to test the validity and reliability of the question items. The conclusion of this research is that learning using multifunctional board media which is used well as a medium for learning can influence students' self-confidence because they can learn mathematics in a fun way which ultimately can influence mathematics learning outcomes well on lowest common multiple and highest common factor material The conclusion of this research is that learning using multifunctional board media which is used well as a medium for learning can influence students' self-confidence because they can learn mathematics in a fun way which ultimately can influence mathematics learning outcomes well on Lowest Common Multiple and Highest Common Factor material. Hopefully this research can become a reference for other writers and can continue to develop knowledge in mathematics learning so that it can continue to improve the hard skills and soft skills of students.

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How to Cite:

Mugiawati, W., Kurniawan, R., Rohaeti, E. E. (2025). The Implementation of Multifunctional Boards to Improve Self-Confidence and Learning Outcomes on Mathematics. *JIML*, 8(1), 65-72.

INTRODUCTION

Self-confidence is the ability to be confident in the abilities we have or the ability to develop positive judgments both for ourselves and the environment around us (Fani, 2020). According

to Saelina, (2021) Being confident in oneself may become quite valuable in life, hence it is imperative that everyone has this quality. Self-Confidence is a character quality. someone who can grow and improve himself in any circumstance and who has faith in their own ability. According to Yulinawati & Nuraeni, (2021) People that are confident in themselves will be highly appreciative; even if their dreams come true, they will be able to accept it and get back up. Additionally, self-Confidence might boost the motivation that people need to conduct responsibly. Conversely, people with low self-esteem constantly believe they lack the necessary skills, believe they are unworthy, and struggle to complete their developmental assignments. Nonetheless, a number of poll findings indicate that student confidence isn't at its best (Islami et al., 2018). Not every student possesses the self-Confidence necessary to handle math problems. validated by Trends in International Mathematics and Science Studies, or TIMSS, results. demonstrates that, out of 49 countries, Indonesian students' confidence in their ability to learn mathematics is ranked 42nd. Just 23% of Indonesian students exhibit great taste and very strong self-confidence, whereas 24% of pupils lack confidence in their mathematical abilities (TIMSS, 2015). Self-confidence Students with low self-esteem may experience fewer than ideal learning experiences in the classroom (Fardani et al., 2021). Many people have the notion that mathematics is frightening, uninteresting, perplexing, irritating, and so forth. Many students experience fear and anxiety when asked to answer questions on the board or share their thoughts regarding a mathematical concept. Naturally, this reduces students' confidence to participate in any kind of learning activity (Solihah et al., 2021).

Especially in learning mathematics which is always considered difficult by every student at school, this has become a frightening specter for every individual at school, so that some of the students' abilities cannot be explored optimally, especially the concept of self-confidence. Many people believe that confidence in oneself is unwavering (Siti, 2024). which, despite improvements and increases in self-confidence, is unchangeable obtain from the outcomes of everyday instruction, the process of learning, and habituation to develop a fearless mindset. This is consistent. According to Nurul, (2022), self-confidence does not seem that manner Individuals, of course, have specific internal processes that allow A feeling of self-Confidence develops. According to Pangestu & Sutirna, (2021), self-confidence is the positive outlook that enables a person to form an optimistic appraisal of both themselves and their surroundings or circumstances. According to Ibrahim, (2018), self-confidence is essentially a person's character with self-affirming views so that he may take charge of his life and his ambitions.

The degree of self-confidence students possess when engaging in activities The acquisition of mathematical knowledge is a determinant of mathematical success. Students' desire and interest in studying mathematics will rise when they adopt this mindset (Andayani & Amir, 2019). In the meantime, pupils who lack confidence in their ability to understand mathematics will be unwilling and fearful to participate in class activities. Inactive teachers and low student confidence are the main causes of low class interaction. As a result of becoming passive listeners, pupils' self-confidence would decline (Aprillia & Lestari, 2022). This needs to be treated right away to avoid creating severe anxiety that could impair the effectiveness of the learning activities for the students. Consistent with Yates' view (Sagitarini et al., 2023) that self-confidence is critical for students to succeed in learning mathematics, since students will be motivated to study the subject more and more and will influence their own mathematical achievement.

Based on observations, it has been observed that a significant number of students lack confidence in their own abilities and instead place more faith in the ability of others. When responding to mathematical inquiries If given the option, a lot of students would rather copy the responses of their friends rather than writing their own. According to his own account, this results from a lack of self-confidence. If students are only faced with one arithmetic problem,

they become anxious about how they will be able to expand their understanding of the subject matter and develop their own mathematical expertise by trying to solve it. Students will find it challenging to come up with ideas or answers to problems if this occurs. This, the writer is drawn to this. specifically that we need pay attention to pupils' emotions as well as cognitive development. Due to the fact that aspect affective is equally crucial to the learning process. Students' cognitive aspects will also be impacted by inadequate optimum emotive aspects.

Using educational media effectively is crucial in the process. Education, since media use can better explain the material Education, and can enhance the learning process to become more easy. (Al Mawaddah et al., 2021), Early education is very important for children, especially for subjects like maths and Indonesian. Numbers taught in mathematics and language that is obviously used reading being one example are unquestionably necessary for every instruction. It is abundantly evident from this explanation how important it is for all children to receive an education in mathematics (Puspitasari et al., 2022). Positive kid behavior and thought patterns should be shaped by education. The science of mathematics Everyone believes that one way to improve abilities is through knowledge. Consequently, consciousness is the capacity for knowledge, and it is envisaged that pupils would have a growing grasp of mathematics from a young age. Mathematics studies abstract studies or objects Mathematics is an abstract object of thought, in this case, One interpretation is that mathematical objects are difficult to perceive and comprehend with the five senses. Therefore, it is not unexpected if some pupils find mathematics difficult to understand, particularly those in primary school (MI/SD). This is a result of the students' MI/SD ages. Students are typically still at the concrete operational stage, which means they are not yet ready for formal thought. Abstract notions are used in mathematics so that a person In order for pupils to absorb mathematical concepts in an easy and enjoyable way, teachers must be able to come up with new and unique ways to explain them. The same is true for The majority of (Fariana et al., 2022) remarks are accurate in that pupils struggle to comprehend Lowest Common Multiple and highest common factor content. The largest common factor is highest common factor. the lcm is the smallest common multiple of two or more numbers, whereas the highest common factor is the greatest common factor. Several factors, one of which is the learning situation. So far There are still many mathematics lessons that are verbal and in nature procedural. Based on the description of the background of the problem above, the author interested in conducting a research entitled ‘The Implementation Of Multifunctional Boards To Improve Self-Confidence And Learning Outcomes On Mathematics’

METHOD

This research was conducted on class IV students at MIN 21 Jln Rawa Kuning, East Jakarta. The research method used is quasi-experimental research (Quasi-Experiment) with a Nonequivalent control group design Sugiyono, in (Yuliani & Hartanto, 2019) , which is included in quantitative research to determine the difference in learning outcomes of the greatest common factor between the experimental class and the control class. This research design has two groups of students, each group is given an initial test and a final test and then given learning treatment using multifunctional board media and without using multifunctional board media. Quasi-experimental research is an experimental method that has treatment, outcome measures, experimental units, but does not use nonrandomized placement to create "differences or comparisons" in order to draw conclusions. changes caused by treatment. The population of this study was 60 grade IV students at MIN 21 East Jakarta, data collection regarding learning outcomes in the form of a multiple choice objective test of 30 questions with four alternative answers which were previously tested to test the validity and reliability of the question items. The learning outcomes are measured by scores through tests, including: (1) The initial test (pretest) is a test carried out before teaching and learning activities with a treatment

given. This test is used to determine the student's initial level of knowledge before the material or lesson is given and (2) The final test (posttest) is a test carried out after the teaching and learning process is complete, the aim is to find out the extent of the increase in student learning outcomes and self-confidence in the material that has been given (Ramadhani, 2016).

RESULTS AND DISCUSSION

Results

Musi board (multifunctional board) is a modified learning medium by educators containing a number ranging from 1 to 100. Numbers on The musi board is adjusted to the existing questions. This musi board is used by educators in minimizing students' difficulties in completing learning mathematics on FPB and KPK material. Because students always experience difficulties differentiate the solution of FPB and KPK material by using factor trees which is often taught by educators in general. In that way it is normal andwho understand only a few, educators must be able to be creative in such a way that. can make it easier for students to learn mathematics, as for making this multifunctional board, it uses the help of technological applications to make it easier to make and get good graphics and designs, after that the design is printed and put together with duplex.

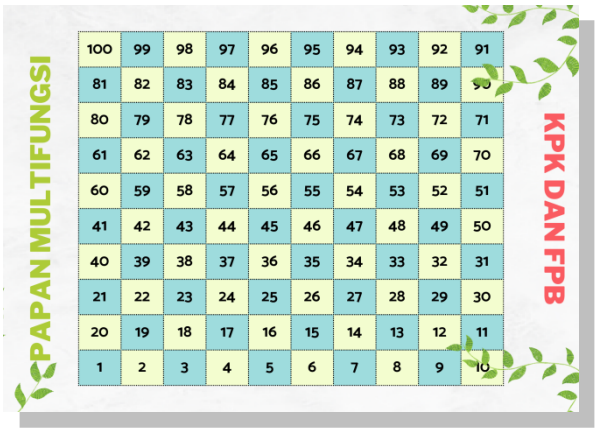

Figure 1. Multifunctional board design

As for the use of this multifunctional board, first the children are given questions about Lowest Common Multiple and Highest Common Factor, after which students are invited to answer these questions with the teacher who guides them in using the multifunctional board. because on the multifunction board there is a range of numbers from 1-100, this can create and help students in determining Lowest Common Multiple and Highest Common Factor. This quasi-experimental research has three stages, namely the first is a pretest activity for the two research sample classes which is carried out at the beginning of the lesson. Next, learning treatment was given using multifunctional board media for the experimental class and learning without multifunctional board media for the control class, and the third was a posttest for the two research sample classes which was carried out at the end of the lesson. After conducting research, data on student learning outcomes for the experimental and control classes were obtained which are presented in the following table:

Table 1. Recapitulation of Average Scores for the Experimental Class Group and the Control Class Group

Recapitulation of Results		Experimental Group	Control Group
Lowest Value	Pretest	30	45

	Posttest	70	65
	N-Gain	35	24
Hignets Value	Pretest	50	55
	Posttest	85	60
	N-Gain	75	70
Average value	Pretest	55	42
	Posttest	80	58
	N-Gain	75	62
Completeness of learning outcomes (%)		**82,4 %**	**64,8 %**

According to the description above, it can be concluded that the learning outcomes of Lowest Common Multiple And Highest Common Factor material using multifunctional board media are better than learning outcomes without using multifunctional board media. This is proven by the table and histogram data above which shows that there are differences in learning outcomes for Lowest Common Multiple and highest common factor material between class groups that use multifunctional board media and class groups that do not use multifunctional board media. The results of the analysis on the acquisition of self-confidence scores are as follows;

Table 2. Recapitulation Of The Results Of The Interpretation Of Students' Self-Confidence Scores

Indicators Self-Confidence	**Interpretation of Student Self-Confidence**	
	Experimental Group	**Control Group**
Believe in your own abilities	65 %	45 %
Act in making decisions	72 %	53 %
Have a positive feeling about yourself	68 %	65 %
Dare to express your opinion	69 %	54 %
happy and confident when learning mathematics	79 %	64 %
Average value	**71 %**	**56 %**

From the results of the data in the table above, it can be analyzed that the highest score for the self-confidence indicator in the experimental class is happy and confident when learning mathematics, while the lowest score is for the Believe in your own abilities indicator. This shows that learning using multifunctional board media can give a pleasant impression so that it can create self-confidence. students get better. while learning that does not use multifunctional board media shows recapitulation results of an average score of 56%, which is inversely different from classes whose learning uses multifunctional board media. Based on the results of the data analysis above,we can conclude that the media board multifunctional board learning capable increase student self-confidence. Matter This is partly because of the mediamultifunctional learning board is able to createa learning atmosphere that provides

spacefor students to learn activelyby constructing his understanding itself, learning begins with fun and simple in introducing the material with games, and in the learning process give students opportunities to each other interact in study groups. So students can find and communicate existing ideas his mind and is able to develop learning outcomes and beliefs himself.

Discussions

This multifunction board can be used for addition, subtraction, multiplication, division, and Lowest Common Multiple and Highest Common Factor calculations. Researchers in media use Musi board explain more before utilizing it. Students want to try using the Multifunction Board media right away after learning how to use it, and they are impatient participants (Hermawati, 2020). Following the use of Papan learning media Multifunction, the researcher additionally posted a different assignment on the board, which students are supposed to complete in turn. Using the media from the Musi Board on Students engage in active, enthusiastic, and motivated participation when completing tasks that involve Musi Board media (Rahmayanti et al., 2021).

Following the arrival of the media Musi Board, a number of students who had previously been content to simply sit in their chairs and not actively engage in the learning process were moved to actively participate in the process. Pupils swarm around eagerly to try because using this multipurpose board medium makes them joyful and engaged in the teaching and learning process (Utfiari, 2022). Students that participate are excited and want to attempt it again and again. The starting number on this multifunction board ranges from one to one hundred. The goal of using this multipurpose board is to reduce the amount of difficulty that students have finishing their math lessons using Lowest Common Multiple and Highest Common Factor materials. with interesting learning from the use of multifunctional board learning media, students can learn in a pleasant atmosphere and can grow their self-confidence. With implementation, they want to continue trying fun mathematics learning. Not only self-confidence, but student learning outcomes are also affected because learning using multifunctional board learning media can reconstruct mathematical concepts well, can easily present and train mathematical thinking concepts in Lowest Common Multiple and Highest Common Factor material well.

Use of Multi-Functional Musi Board Media Instructors can provide course content in more participatory ways by using Musi boards. They are able to write, sketch, create visuals, and work together with pupils by way of the Musi Board Media functionalities. Students are urged to actively participate in learning through a variety of means, including answering questions, doing tasks, and working with friends. This is done through the use of music board media. Because Musi Board Media (Multi Function) enables students to engage directly with the course material, it can boost student involvement. Students' attention will be drawn to learning more, which will boost their confidence in their ability to learn. Learning materials will have a clearer meaning, making it easier for students to grasp and accomplish learning objectives. Using a multifunctional board can help with this because, to put it simply, kids' self-confidence can develop from recognition in their surroundings. As a result, teachers should involve students more in the learning process in order to foster this kind of confidence in their pupils.

CONCLUSION

The conclusion of this research is that learning using multifunctional board media which is used well as a medium for learning can influence students' self-confidence because they can learn mathematics in a fun way which ultimately can influence mathematics learning outcomes well on Lowest Common Multiple and Highest Common Factor material. Hopefully this research can become a reference for other writers and can continue to develop knowledge in mathematics learning so that it can continue to improve the hard skills and soft skills of students in Indonesia.

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