



The Effect of Using Class V Square Root Board (PAKU) Props at SD Negeri Kuta

Najmah Hisan Kamila^{1*}, Nabilah Aulia², Anindita Oktaviani³, Utomo Utomo⁴

^{1,2,3,4} Elementary School Teacher Education, Nusa Putra University, Sukabumi, Indonesia
{najmah.kamila_sd20, nabilah.aulia_pgsd20, anin.dita_pgsd20, utomo}@nusaputra.ac.id

Abstract. Based on the results of observations that have been made, it has been found that in SD Negeri Kuta there is still a lack of understanding related to the basic material of the second power root in mathematics learning. This study used quantitative research methods with pre-experimental design research methods and used One Group Pre-test Post-test research design. The subjects of this study were grade 5 students of SDN Kuta with a population of 28 students. This can be seen when researchers are making observations as well as giving pretests, the results of which state that many students have not been able to solve the Second Power Root material. Similarly, in learning Mathematics in Class V there are several materials that require students to understand the second square root material, which may be related to everyday life. Purpose Making teaching aids for students can solve the problems they face related to square or square root material. Based on this, the compiler designed one of the props in accordance with the second power root material, namely the Square Root Board (PAKU). PAKU teaching aids are teaching aids that are designed simply but it is hoped that this tool can help teachers clarify the meaning of these second square root material and foster motivation for students in overcoming teacher and student problems. This study aims to see the effect of the use of nail props on student learning outcomes in the material square root.

Keywords: Mathematics Learning, Teaching Aids, Square Root Board

1. Introduction

Mathematics grows year after year according to the demands of the age that encourage people to be more creative in the development or application of mathematics. To offset such progress, learners are expected to be able to respond with critical, creative and innovative attitudes to understand that mathematics is essential to the needs of life. As in the aim of mathematical education in schools, emphasis is placed on coaching basic reasoning, attitude, and skill in the application of mathematics. The reality of today, however, is still widely viewed by many as a profoundly boring and intimidating subject.

Mathematics is a science that has many concepts and has an abstract nature, many students find it difficult when learning Mathematics. The results of Eva's research said in general students consider mathematics a difficult and scary science. Even if students perceive mathematics negatively, this of course has a negative impact on student learning processes and outcomes (Nisa, MZ, and Vebrianto, 2021). The effectiveness of learners absorb power about difficult learning comes with visual AIDS. Therefore, a bridge / intermediary is needed that can attract the desire of students to learn so that the material delivered by the teacher can be understood well by students, so the role of teaching aids is needed. Teaching aids are tools as a means of communication to convey concepts given by teachers to students. So that teaching aids can encourage students to understand the material so that activities Teaching and

learning will take place in a directed, effective, and not monotonous manner. This use of teaching aids will greatly affect the effectiveness of the learning process given to students (Yamomaha, 2020).

Educational aids or commonly referred to as teaching aids function in helping the teaching process and can explain something that has been explained to students. Teaching aids aim to provide real examples of the learning material being studied (Herdiana, 2022). To achieve abstract mathematical concepts, especially in the second power root material, the facts in the field state that students still have difficulty in determining the second power root. This can be seen when researchers are making observations as well as giving pretests, the results of which state that many students have not been able to solve the Second Power Root material. Likewise in the math class in the v class, there are some materials that require learners to understand the square root material, which may well relate to everyday life. Based on this, the compiler designed one of the props in accordance with the second power root material, namely PAKU (Square Board). The quartz board (nails) display is a beautifully designed but hopefully designed visual tool can help teachers in clarifying the square root material and growing to motivate learners in addressing teacher and student problems.

Based on the observations that have been made by the compiler, the results of the problem that in SD Negri Kuta there is still a lack of understanding related to the basic material of the second power root in mathematics learning which was strengthened by interviews by resource persons, namely grade 5 homeroom teachers at SD Negri Kuta. As a result of the background of the problems faced, the compiler will conduct a Research entitled "The Effect of Using Square Root Board Props (PAKU) on the Learning Outcomes of Class V Students at SD Negri KUTA".

2. Research Methods

This research is a Research using literature study methods or literature review. A literature review is a comprehensive review of research that has been done on a particular topic to show the reader what is known about the topic and what is unknown, to look for justification for research, research already done or ideas for future research. (Betty Ariani, Pungky Dharma, 2022). Literature review can be obtained by applying several ways such as reading, understanding, studying, or reviewing literature obtained from certain sources. By analyzing, summarizing, comparing previous research literature is an important thing that researchers can do to find the purpose and describe the research (Ridwan et al, 2021).

The literature study method can meet several objectives in research. For literature studies, it is carried out by taking valid references from various sources, both journals related to research, namely journals that refer to the influence of teaching aids on the results from learning, learners can also taken from books, documentation, internet and libraries. The type of writing used is a literature review study that focuses on writing results related to writing topics or variables.

The data used in this study came from the results of research that had been conducted and published in national online journals. In conducting this study, researchers searched research journals published on the internet using Scholar search with keywords: Education, Teaching Aids, Mathematics

3. Research Results and Discussion

Mathematically, it deals with the very same word, *matheion* or *mathenein*, which means to study. Which has meaning is the science gained by thinking (reasoning). Math can also be interpreted as the study of logic in shapes, sizes and related concepts is divided into several areas. Rank is part of a mathematical science that deals with rank and roots. The rank itself is the multiplication or repetition of a number. John Napier was a nobleman of the Augustinian, Scotland. He's the first person to find any number of rank or exponential. This exponential number is to be very useful in various areas of life, such as counting a formula or comparison (Eva Risdaniati 2021). As it is known, the mathematical object is abstract. This can potentially create learning difficulties, especially for lower - level learners who in general have not been able to think abstractly. That fact increases the need for learning media that can give learners a visual experience in interacting with abstract mathematical objects.

The learning media is a tool used by teachers and learners, in teaching learning activities that can create social interaction between teachers and learners, and therefore as teachers must be able to identify the appropriate media types to be used in learning activities. The general media type may be either the native objects in our neighborhood or the results of production (Batubara, 2020). Efforts to improve the effectiveness of learning media use are to increase teacher creativity and skill in using the learning media. So that teachers can help learners visualize the abstract concept into something tangible so that learners can easily understand it. It should be emphasized here that every concept of mathematics is easy to understand when presented to learners using a concrete learning medium (Handayani, 2020).

The educational or visual AIDS that are commonly called visuals serve in the teaching process and can explain something that has been explained to learners. Visuals are particularly important in math study, these are consistent with the use of visual AIDS in learning and can address problems in the classroom, such as abstract math materials, time constraints, and motivations of learners (Musa, 2018). Visual AIDS are vital in math study, which can be seen from the results of learning which means the ability children acquire after learning to achieve changes of behavior that tend to settle from the cognitive, affective, and psychopathic realm of learning that are done over a period of time is closely related to the instructional purpose planned by the teacher with the teaching purpose (Fauhah and Rosy, 2020).

The results of data collection or information during the research used by the author are in accordance with the problem using the following methods

1. *Literature Review Method*

For literature studies, it is carried out by taking valid references from several journals related to research, namely journals that refer to the influence of teaching aids on student learning outcomes.

2. *Observation Method*

This method is used to determine the application of the Square Board in Class V of SD Negeri Kuta Sukabumi Regency. As for this method, researchers use structured observation, which is an observation guideline that is arranged in a structured manner so that it resembles a check-list. Researchers only need to fill in v (verification) with the appropriate criteria. Observation sheets are filled in during the course of the activity or teaching and learning process.

3. Interview method

This study aims to find information related to student learning outcomes in mathematics learning Second Root material using Square Board Props (PAKU). Based on the results of interviews with class V homeroom teachers, it was stated that students still lack understanding related to the second power root material due to several factors, namely the lack of motivation to learn students in class V and the lack of teacher creativity in providing learning media during teaching and learning activities.

4. Test instrument method

In this study, the author used the Test research instrument. This test is in the form of a question instrument given to students in the first and second experiments in the form of description questions during research which aims to see the ability of class V students of SD NEGRI Kuta in learning Mathematics material Root Rank Two.

5. Documentation methods

The documentation taken in this study is Photos or Pictures, Audio during interviews with Guardian Teachers and Class V students of SD Negri Kuta Sukabumi Regency. As well as Videos when doing Teaching and Learning in Class V of SDNegri Kuta, Sukabumi Regency.

4. Conclusion

Based on the results of research, learning mathematics using teaching aids as a tool plays an important role in learning success. This is evidenced by the results of our study during observations and research at SDN Kutasirna and from the results of previous research Anis Umi Khoirotunnisa (2018) entitled "Second Power Root Board (PAPAD) as an Effort to Increase Understanding for Students of SDN Klepek, Sukosewu District, Bojonegoro Regency stated that during the research some students were able to understand the square root well, students who were able to answer the questions correctly the questions given quickly (Khoirotunnisa 2018). It can be interpreted that Quadratic Board Props (PAKU) can support students in digesting the material explained by the teacher so that this teaching aids is one of the factors that play an important role during the learning process. In addition, Square Root Board Props can also serve to arouse enthusiasm encouragement for learning motivation and the desire of learners, creating a meaningful and enjoyable learning environment. Visuals can help learners to understand the material so that teaching learning will be directed, effective, and monotonous. The purpose of making visual AIDS to learners can solve the problems they face related to the square root matter or the square.

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