Analysis of the Jarimatika Method on the Ability to Count on Multiplication Material at the Intan Baiduri Tutoring Studio, Selayang, Kuala Lumpur

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Abstract

During the learning process, obstacles often arise or appear to monitor students' self-developing numeracy skills, especially at the elementary school level. Researchers found that the level of numeracy knowledge of students at the Intan Baiduri Selayang tutoring studio, Kuala Lumpur in multiplication material was relatively low. This research aims to analyze the use of the Jarimatics method in the ability to calculate multiplication material at the Intan Baiduri Selayang tutoring studio, Kuala Lumpur. This research applies a qualitative approach. The data collection methods applied include interviews, observation and documentation. The results of the research indicate that the learning process that utilizes this is proven by the low numeracy skills, the Jarimatics method is effective so that students have a significant understanding of the multiplication material. This can be seen from the attitude of students who are more active, enthusiastic and enthusiastic when participating in learning using the Jarimatika method, rather than the usual lecture or textbook method.

Keywords: Mathematical Methods, Ability to Count, Multiplication

INTRODUCTION

Learning mathematics, specifically in elementary schools, often presents challenges in teaching arithmetic operations, especially multiplication calculations, most students experience obstacles in memorizing multiplication so this is often considered difficult and boring for students. So, this becomes one of the obstacles for a teacher in the teaching and learning process. Arithmetic operations is a way to determine values through mathematics with several aspects, namely addition, subtraction, division and multiplication (Iii, 2017). In efforts to overcome these problems, innovative learning methods are needed and attract students' interest so that it is easier for them to understand and master multiplication arithmetic operations. The tools that can be used in learning activities are (Jarimatics).

Numeracy skills are one of the skills that are important for students and need to continue to be honed and developed as a preparation for future life (Himmah et al., 2021). Every person has numeracy skills and aims to complete number calculations (Rahayu et al., 2022). In another sense, an attempt to understand mathematics learning is related to the characteristics and interrelationships of numbers which is actually accompanied by calculations, especially addition, subtraction, multiplication and division, which is usually called numeracy ability or skill. (Romlah et al., 2016). This ability is an ability to improve and perfect a measurement involving numbers. (Himmah et al., 2021) It can be said that every individual has the numeracy skills to complete number calculations.

Mathematics has an important role in everyday life, mathematics learning is material that must be available at every level of education, from formal education to university. Thus, mathematics teaching needs to be taught from an early age to familiarize students with calculations. Even though it can be said that learning is difficult to understand, mathematics is actually unique and has its own fun. However, through learning mathematics it is hoped that students' critical and logical reasoning abilities can improve. Success in learning mathematics is assessed based on the level of student mastery of mathematics learning material and concepts (Sumiati & Agustini, 2020).

METHOD

This research was carried out at the Intan Baiduri Selayang Kuala Lumpur Guidance Studio, which is located in the neighboring country (Malaysia). This investigation applies a qualitative approach with the aim of thoroughly understanding how the Jarimatics method is used to calculate skills in mining materials at the Selayang Kuala Lumpur guidance studio. A qualitative approach was chosen because it provides researchers with the opportunity to

understand in detail experiences and views as well as student responses to learning methods used. This research uses a case analysis design. Case analysis done for the reason that researchers want to thoroughly analyze how the Jarimatika method is accepted and influences children's numeracy skills in special education environments, namely at schools for the children of Indonesian migrant workers in Malaysia. The subjects in this research were all students from the upper classes, namely from classes IV-VI at the Intan Baiduri Selayang Guidance Studio, Kuala Lumpur, Malaysia, totaling 18 students. In collecting data, researchers applied several methods, including in-depth interviews, documentation and observation. For data analysis methods, researchers use several techniques including data analysis, collection, And processing data.

RESULTS AND DISCUSSION

This investigation stated that the use of the Jarimatics learning method had a positive impact on students' numeracy skills at Sanggar Guidance Selayang Kuala Lumpur, Malaysia. One of the skills that should be improved in young children is the skill of adding. Counting skills are crucial for students to master even though they are still in childhood, due to daily routines man can't miss starting with the numbers (Romlah, 2016).

The results of observation data show that students' numeracy skills in mathematics subjects have increased after using the Jarimatical learning method. Students are more enthusiastic, more active, and more enthusiastic when taking part in learning the Jarimamatics method, compared to lectures and regular textbooks.

According to Miftakhul et al., 2016) explains that the target of counting is "to utilize numbers that can be developed through mathematical methods". Therefore, learning counting methods can improve other abilities. Apart from that, the significance of numeracy skills can be studied starting from a child's early age, where in education there is material related to counting compared to other material.

Jarimatika is a mathematics learning method that relies on finger movements to help students understand the basic uses of mathematics such as subtraction, multiplication, addition and division. This method is very effective for students because it is practical and fun. The aim of applying this method is to increase students' interest in learning and numeracy skills in mathematics as well as makes it easier to understand basic operating concepts without dependence on other tools such as calculators or books.

Figure 2. Jarimatika method

The implementation steps for this method are 1). Basic Teaching: Introducing number symbols using the fingers, as well as teaching the basic rules for using the finger method. 2). Structured Practice: Provides practice in stages, from simple additions to tests. 3). Games and Simulations: Increase student interest by integrating the Jarimatical method into educational games. 4). Periodic Evaluation: Measure student understanding through quizzes or small tests.

Some aspects that need to be considered when studying the Jarimatics method are:
First: Study basic arithmetic, students must first understand symbols and numbers. Then, students must understand the idea of the process of carrying out operations (+), (-), (x) and (:). Lastly, study the symbols in mathematics

The advantage of the Jarimatika method is that it is more practical and simpler, does not require additional tools and increases self-confidence, students feel more confident because they can calculate quickly and interactively involving physical movements so it is more interesting for children. Meanwhile, the impact of this mathematics learning method on participant students, namely students show increased speed and accuracy in calculating and increase enthusiasm and enjoyment in studying

mathematics. Therefore, this method is very suitable to be applied at the Selayang Guidance Studio, Kuala Lumpur, Malaysia.

This studio of intan baiduri guidance in Kuala Lumpur, Malaysia is located on jalan plat intan baiduri, block 8 number 8-0-30 federal territory of Kuala Lumpur Malaysia. The intan baiduri Selayang guidance studio was established by Rukayah's mother, she has one goal, which is to provide knowledge and help children who immigrate without documentation, the Intan Baiduri Selayang Guidance Studio was founded in 2009. November 17, our program implementation activities were carried out on September 5 - October 2, 2024. Our working group consisted of 18 people with different study programs but had the same goal, namely to provide knowledge. and knowledge that is useful for immigrant children without documentation, their parents enthusiastically participate in sending their children to the Intan Baiduri Selayang guidance studio.

Picture 1. Intan Baiduri Diamond Guidance Workshop, Selayang

For the number of students in the Intan Baiduri Selayang guidance studio, there are 18 students for the upper classes 4-6, totaling 7 students, 5 boys and 2 girls, the characteristics of classes 4-6 are almost the same, namely they really show high levels of motivation. By participating in learning, they are very enthusiastic about memorizing, they are able to answer questions in class (the ability to use their memory). own interest, different feelings of joy and sorrow towards studying. Students' initial abilities are individual, which means that each student has a different level of initial abilities, so knowing them is also individual. for example: a class IV student is very enthusiastic about learning and is easy to memorize (intelligent), a class V student is not good at calculating math but he knows how to memorize multiplication 1-5, a class V student is very confused when learning mathematics, but remembers or memorize he can. There is also a male student in class IV who is good at remembering but it takes too long to write. We as teachers must be patient with students and for class VI there are 2, one girl and one boy, they are very enthusiastic in following their learning and easy to understand too. remembering learning.

The curriculum that is used at the Intan Baiduri Selayang Guidance Sanggar here is the K13 curriculum and also applies to the independent curriculum already by walking as It should be and partly for the upper classes and lower classes, the obstacles faced in implementing the independent curriculum are because the independent curriculum focuses less on the material but more on implementing or applying the material but it has been equally well implemented and the book too it's complete enough for you curriculum independent

The basic arithmetic method is a counting method designed and expanded by Septi Peni Wulandari, a professional person from Salatiga, Central Java. Why is this counting method called Jarimatika? Because it uses students' fingers as a counting tool. The basic arithmetic method has different advantages over other methods, namely:

1. Easy way to calculate
2. This technique makes learning fun
3. This tool is flexible when used
4. There is no confiscation of tools
5. This method is practical and efficient. (Sept, 2009:17).

Based on Puspita Sari in (Sitio, 2017), it is stated that helping the method of understanding counting is a basic arithmetic method so extra emphasis is placed on mastering the progress and fast methods, so that students can have in-depth skills. Apart from that, this method is presented in an entertaining way, because basic arithmetic provides simple

calculation solutions. Therefore, by reviewing children's limitations, the Jarimatics method is aimed at developing skills in the learning process.

In the process of multiplication and division, students cannot use their fingers to get the right results. This happens because students are still unfamiliar with how to calculate using their fingers.

The ability to calculate is one of the skills that is crucial in daily activities which include multiplication, addition, division and subtraction (Aisyah 2007). Process excavation is an operation of two variables so it produces the product of those numbers. The multiplication factor (the number being multiplied) is the product (the result of the multiplication operation). For example, in the multiplication problem 3 x 4 = 12. The numbers 3 and 4 are categorized as factors derived from multiplication, while the number 12 is stated as the result of multiplication (Yuniwati 2019).

CONCLUSION

Conclusions from this research can be found that the most important skill to prepare them to face life in the future is providing numeracy skills. Calculation is part of mathematics. Counting skills are very important to improve students' understanding of numbers, addition and subtraction. Apart from that, counting is also the foundation for the development of children's mathematical skills in order to continue their education to the next stage. The Jarimatika method is a simple way of counting that uses the ten fingers of the hand as a means of support quickly and easily for children. Lessons using the mathematical method make the learning process more enjoyable. Apart from studying, students are also invited to participate in order to practice their cognitive skills. Psychomotors use activity play that involves simple mathematical tools.

SUGGESTION

Some of the researchers' suggestions that can be considered are: 1) educators should also apply basic arithmetic methods, but also utilize a variety of methods so that students are very happy, in strengthening their learning talents. 2) In order to develop children's numeracy skills, teachers need to use learning methods and media that are appropriate to the development stages of early childhood. 3) In using basic arithmetic methods, educators guide numbers and basic calculation steps continuously.

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