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ANALYSIS OF LOGIC MATHEMATICS INTELLIGENCE IN CLASS V SDN BANYUAJUH 4 ON BUILDING SPACE MATERIALS

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ABSTRACT

Mathematical logic intelligence is intelligence that makes a person, quickly and accurately process numbers, think creatively, critically, and easily find solutions to every problem based on logical, systematic and rational thinking. The purpose of this study was to analyze the level of mathematical logic intelligence in the fifth grade students of SDN Banyuajuh 4 on the material of banging space. To analyze the level of students' mathematical logic intelligence, researchers observed student responses during learning, reviewed documentation, then correlated the results with information from various related references. The results of this study indicate that students do not show the characteristics of someone who has mathematical logic intelligence, for example students seem less interested in the material, students have not shown reason and creativity in solving math problems, and are less able to remember and use abstract symbols in mathematics. In addition, there is documentation of student learning outcomes on the material of building space which is also low. Therefore, it can be concluded that the level of mathematical logical intelligence of students in the class when viewed from the responses and student learning outcomes on the material of building space and learning outcomes are in the low category.

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A. Introduction

Education must always be prioritized, including in the current era of globalization. This is because education is the most effective effort in improving the quality of human resources (Nabighoh et al., 2022). One of the important meanings of education itself is to develop one's potential and intelligence (Rakhmawati, 2015). Intelligence itself is one of God's gifts that makes humans more perfect than other creatures (Amaliyah, 2017). By using his intelligence, a person can think and continue to learn in order to maintain and even improve the quality of his life, find solutions to problems, and create something that can be useful not only for himself, but for many people.

Every child has a different type of intelligence. According to Gardner's theory of intelligence, there are 9 types of intelligence including naturalist, existential, musical, intrapersonal, interpersonal, visual, kinesthetic, verbal linguistic intelligence, and mathematical logic intelligence (Attamimi & Umarela, 2019). Mathematical logic intelligence or mathematical-logical intelligence is a person's ability to solve problems related to mathematical needs, such as measuring, calculating and solving mathematical things (Triwinarni et al., 2017). The implications in everyday life, someone with this intelligence can understand and then solve a problem logically and precisely. In addition, someone with mathematical logic intelligence tends to be smart in mathematics.

Mathematics is a subject matter that must be taught at the elementary school level (Herawati et al., 2022). One of the main materials in elementary mathematics learning is the material of building space. The basic competencies in building materials include making nets of a shape and calculating the volume of the shape (Putri & Pujiastuti, 2021). This competency is very closely applied to problems that occur in everyday life. Therefore, this material is very important for students to understand.

The purpose of this study is to examine more deeply related to mathematical logic intelligence and what kind of influence mathematical logic intelligence has on learning outcomes and motivation of students at SDN Banyuajuh 4 in the material of spatial structure.

B. Method

The location of this research was conducted at SDN Banyuajuh 4 Kamal with the target respondents consisting of 12 grade 5 students and class teachers. The

method used in this research is a qualitative method with a literature study approach. Literature study is a series of activities related to the method of collecting library data, reading, and recording and processing research materials (Supriyadi, 2016). In conducting the analysis, the researcher observes, documents and collects information from references from scientific journals and other publications which can then be identified and presented descriptively.

C. Result and Discussion

Logical-Mathematics Intelligence

There are many theories that explain this type of intelligence. Mathematical logic intelligence is defined as a person's intelligence in terms of counting, thinking logically, systematically, and rationally (Irvaniyah & Akbar, 2014). Mathematical logic can also be interpreted as intelligence that makes a person, quickly and accurately process numbers, think creatively, critically, and easily find solutions to every problem based on logical, systematic and rational thinking. Someone with this intelligence is able to think rationally, analyze and formulate a problem systematically, and find causal patterns.

This intelligence is proven by many studies, it is often directly proportional to a person's learning outcomes in class. Therefore, in general, this type of intelligence is still the main measure of a person's level of intelligence and learning achievement (Roth et al., 2015). This is supported by (Mufarizuddin, 2017) who says that this intelligence has long been favored and is a strong indicator to judge someone is intelligent or not. This intelligence is always associated with a person's ability to solve math problems, so learning mathematics is considered as learning that is able to improve thinking skills, develop all intellectual potential, develop various disciplined attitudes, and is considered to be a core lesson that students must master to be successful in learning (Nur et al., 2018)

Each student has a personality that varies so that intelligence is different. There are several activities that can stimulate children's intelligence, especially children with logical-mathematical intelligence including: completing a puzzle and rubric, recognizing geometric shapes, exploring thoughts by discussing, recognizing numbers with rhythmic patterns or singing, experimenting in an open environment, interacting with mathematical concepts, and others.

There are several characteristics of someone who has this mathematical logic intelligence, including liking concepts that are quantity, time and causal

relationships, easy to remember abstract symbols, showing high ability, reason, and creativity to solve problems in a logical way, easy to understand something. certain formulas or patterns, proficient in mathematical skills such as estimating, calculating, drawing graphs, able to create a new formula or form of solution to solve problems, and interested in careers such as accounting, engineering, or other jobs related to the way of working that requires counting skills, structured, systematic (Khiyarusoleh, 2018).

Mathematical Material Build Space

Mathematics is a field of study that involves many concepts and is taught at all levels of education (Novitasari, 2016). Mathematics is also often interpreted as a field of study that is identical to counting, numbers, and patterns (Nurhidayah & Astari, 2019). There are also those from (Kamarullah, 2017) who have the view that mathematics is a study of science that is global in nature and always exists and is needed in various fields of scientific discipline and for various affairs or problems in everyday life. From some of these views, it can be concluded that mathematics is one of the fields of study which contains many concepts, counting activities, numbers, and patterns and is global in nature which is always there and needed in various fields of disciplines and to solve everyday problems.

From ancient times until now mathematics has been a subject that is not in demand and is considered difficult for students (Siregar, 2017). Several factors that cause learning difficulties in mathematics include the inability of teachers to present mathematics lessons that were previously abstract to become more concrete, mental factors of students who have a bad initial mindset towards mathematics, and the inability of students to understand basic mathematical theorems (Kholil & Sulfiani, 2020).

At the elementary school level, mathematics is divided into 3 scopes, namely numbers, geometry and measurement, and data processing (Hartatik et al., 2017). One of the mathematical material that is included in the geometry section is the material of building space. It is very important for students to understand this material because this material will be taught on an ongoing basis from elementary school, junior high school, and high school. In addition, there are many implications of knowledge about this spatial building material in everyday life, for example distinguishing the shape between the surrounding buildings, solving problems regarding volume, water discharge, and other applicable problems.

Analysis of Students' Mathematical Logical Intelligence in Building Materials

The results of the research on the level of mathematical logic intelligence of the fifth grade students of SDN Banyuajuh 4 Kamal, seen from the observation of the learning of building materials, showed that most of them were in the low category. There are several characteristics that appear in students that indicate the low intelligence of mathematical logic in building material, including most of the students seem less enthusiastic in listening to the learning of building material, many students have difficulty understanding the material of building space, the lack of students' ability to remember symbols. abstract in building material, as well as the lack of reasoning and creativity of students in finding solutions to story problems in building material. This is in accordance with the theory of (Khiyarusoleh, 2018), which says that a person with mathematical logic intelligence usually shows a happy reaction when listening to material related to counting activities, has high reasoning and creativity in solving a problem in math problems by using a method. logical and systematic, and able to understand and use abstract symbols that are usually used in mathematics

This is supported by the documentation of students' mathematics learning outcomes which are also still relatively low. This happens because the level of mathematical logic intelligence greatly affects student learning outcomes, especially in learning mathematics (Hasanah & Siswono, 2013). The higher the level of mathematical logic intelligence, the student's mathematics learning outcomes will be high, conversely, the lower the mathematical logic intelligence level, the lower the students' mathematics learning outcomes.

D. Conclusion

Mathematical logic intelligence is intelligence that makes a person, quickly and accurately process numbers, think creatively, critically, and easily find solutions to every problem based on logical, systematic and rational thinking. To analyze a person's mathematical logical intelligence level, it can be seen from the responses and learning outcomes in learning mathematics. Based on the results of research conducted on fifth grade students at SDN Banyuajuh 4 Kamal, it can be concluded that the level of mathematical logical intelligence of students in that class, when viewed from the responses and learning outcomes of students on the material of building space and learning outcomes, is in the low category. This can be seen from the observations of students who do not show the characteristics of

someone with mathematical logic intelligence. This is also supported by the results of the documentation of students' mathematics learning outcomes in the relatively low spatial material. This naturally happens because the level of mathematical logic intelligence is very influential and directly proportional to the understanding and learning outcomes of students in mathematics.

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