

## Case Study of Intelligent Children Through The Application of Bruner's Theory on The Operations addition and subtraction of Integers for the Students SMPKH YDKW Tangerang

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### **Abstract**

This study aims to find out how to add and subtract mentally retarded children through the application of Bruner's theory at a moderate level in mathematics learning, especially in addition and subtraction operations of integers through the application of Bruner's Theory. This type of research is a qualitative research with case study method. The research subjects were 4 mentally retarded children who were in class VII SMPKH YDKW 01 Tangerang. Based on the results of research and structured interviews, it shows that the operation of addition and subtraction on integers through symbolic means through the application of Bruner's theory shows that 25% meet the minimum completeness criteria of the predetermined criteria.

**Keywords:** case study, operations addition and subtraction, integers

### **INTRODUCTION**

Mathematics is important for human life, consciously or unconsciously, a person does not escape mathematics, when he wakes up, looks at the clock, someone unconsciously sees numbers and mathematical symbols (Novitasari, 2016). Mathematics is really important in everyday life, many things related to mathematics in life with mathematics we can recognize currency for shopping, with mathematics we can find out the number of items we want.

The difficulty of mathematics in learning can be felt by normal children, in general mathematics is considered a difficult and boring subject for most school children. Difficulties in learning mathematics in normal children are related to the inability of children to handle reading difficulties, imagining numbers and children have not been able to accommodate the knowledge they have acquired (Himeshima et al., 1983). However, unlike autistic children who have difficulty in everyday life, by learning mathematics, autistic children can train children's brain functions and develop children's creativity (Ulva & Amalia, 2020).

(Ballerina, 2017) The characteristics of mentally retarded children are the presence of barriers to attention span that have an impact on the learning process. Classification of autistic children based on intellectuality, namely 1) with an IQ <50 stated moderate and severe mental retardation, 2) with an IQ of 36-50 & 50-70, declared mentally retarded mild, and 3) with an IQ above 70 was declared mentally retarded experiencing mental disorders (Septia & Mauliani, 2016). Mentally retarded children are very difficult to adapt to their environment, therefore they are required to undergo special therapy to aim at building a better condition, the therapies needed by autistic children today are: 1) medical therapy, 2) speech therapy, 3) behavior therapy, 4) self-development therapy, and 5) occupational therapy (Septia & Mauliani, 2016). Or children with autism should study in special schools (SLB) or schools in special schools (SKH).

In this study, the mentally retarded children who were used as respondents were children with moderate mental retardation, in this study the mentally retarded children were being focused on addition and subtraction operations using Bruner's theory, as for the stages of Bruner's theory 1) enactive stage, this stage focuses on knowledge that is learned by children with concrete objects, 2) the iconic stage, the percentage stage of learning in the form of a picture of real activities, which is contained in the enactive stage, 3) the symbolic stage, studying in the form of symbols, ((Lestari, 2014).

Moderate mental retardation or capable of enthusiasm with IQ ranging from 36-50, students are barely able to practice self-control, but only a few students are able to be trained to control themselves, communicate easily and adapt to the environment (Maiti & Bidinger, 1981), mentally retarded children are in need of a fairly long process of time to adapt to the new environment, there are changes in reactions every day with the surrounding environment. (Hendra, 2012).

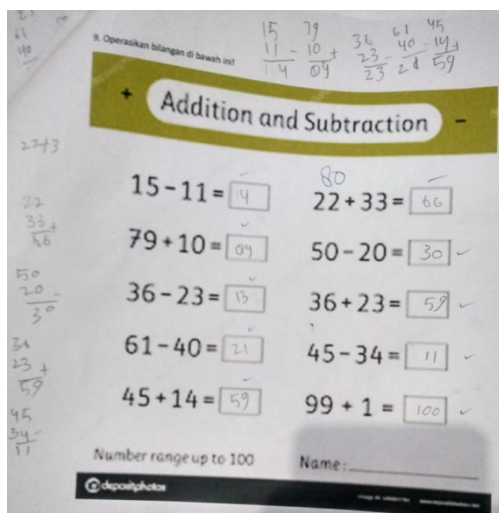
## **METHODS**

The research method used in this research is qualitative with case study method. This research was conducted at SKH YDKW 01 precisely in Tangerang in the even semester. The subjects of this study were 4 students of class VII children with moderate mental retardation. This data collection technique is in the form of a written (post test) in the form of an essay. The instrument was validated and used structured interviews with homeroom teachers (teachers). The criteria for using the KKM standard in schools are 75. Then an assessment is determined in order to determine the results of students with mental retardation being SMPKH YDKW class VII in addition and subtraction operations in learning mathematics.

## **RESULTS AND DISCUSSION**

Based on the results of the study showed that the average score of students was 70, the lowest score was 30 and the highest was 80 with a variance of 3.75. the median value shows 55. Of the number of children who complete as many as 3 out of 4 so that the percentage of completeness is 75%. Based on the results of interviews with researchers to research subjects, it shows that addition and subtraction operations in mathematics learning are still low, because they are influenced by several factors. The material for addition and subtraction operations has actually been studied before, but in reality in the field some mentally retarded children are having difficulty completing addition and subtraction operations, the results of the researcher's observations show that only 25% of mentally retarded children are declared complete in achieving minimum completeness criteria (KKM). ), post-test is held on Wednesday to Friday, June 2–June 4, 2021 offline using a post-test aimed at class VII moderate mental retardation with the subject of 4 students, of the 4 students, several mentally retarded children are representing the criteria in addition and operation operations. The reductions include, among others, 1 mentally retarded child is reaching the minimum completeness criteria (KKM), and 3 mentally retarded children are not achieving the minimum completeness criteria (KKM).

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Based on the analysis in working on the questions of one of the mentally retarded children while the child has a little difficulty in distinguishing the addition symbol and the subtraction symbol which results in wrong results in the work, there is a lack of focus in working on the problem which results in the child being wrong in working on the problem, seen from the explanation above the learning process is lacking. maximally affect the results of children's mastery, because in the application of Bruner's theory children are required to understand the concept through Bruner's theory, namely enactive, iconic, symbolic, but children do not understand the concept.

Inappropriate designs based on post-test questions are used by question researchers who require children to be able to recognize addition and subtraction symbols, but when in the field the children do not understand and the time is limited in working on the questions because the homeroom teacher is carrying out tests for children, so only a few children able to solve all the questions given by the researcher.

## CONCLUSIONS AND SUGGESTIONS

Based on the results of the research and discussion that has been carried out, it can be concluded that the application of Bruner's theory to addition and subtraction operations on round comparison shows that most mentally retarded children in grade VII SMPKH YDKW 01 Tangerang have not been completed based on the KKM criteria. This is influenced by several factors, one of which is the lack of focus on children's learning, so that children do not understand the symbols of addition and subtraction. Most of the children were not able to meet the minimum completeness criteria (KKM), only 1 child was able and 3 children were not able to achieve the minimum completeness criteria (KKM) because the children were not able to recognize the symbols of addition and subtraction in children with mental retardation in grade VII SMPKH YDKW 01 Tangerang.

In this research, the researcher conveys that further researchers can conduct researchers related to addition and subtraction operations through other theories so as to show this research collaboration on existing theories.

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