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Application of Number Head Together (NTH) Learning Method in Mathematical Learning in Inclusive Settings in Class IV SDN 100 Cipedes, Bandung City

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Abstract. Currently, inclusive education is a common spirit and studies will continue to focus on examining the mathematics learning process that aims to find out the abilities, obstacles, and needs of children who experience mathematical obstacles in Class IV SDN 100 Cipedes in inclusive settings. By aligning the existing curriculum the assessment process is carried out to look for data about the existence of mathematical learning abilities of students who experience mathematics learning barriers so that students who have difficulty learning mathematics are known to their obstacles, abilities, and needs. From the results of the cooperative learning model assessment model with the Number Head Together type selected in the process of learning mathematics in an inclusive setting because it is a cooperative learning activity with four stages of activity. First, students are grouped into several groups, each group member is given one number 1,2,3, and 4. Second, the teacher gives questions or questions to all groups. Third, students discuss and convince team members to understand the team's answers.

Keywords: Inclusive Education, assessment, number head together (NHT)

INTRODUCTION ~ Education is very important and central to human life. Therefore, discussing about Education also means discussing about human life. Education is generally held in order to develop all human potential in a positive direction. With education, humans are expected to develop their full potential, talents and abilities so that they become better, cultured and humane. In the world of education, having smart students is the desire of every teacher. This desire is in line with the desire to create a smarter generation. Talking about definite results begins with a process, where this is one of the first steps that determine the outcome at the end of the achievement target later. Some experts say that the learning process itself is an interaction between educators and students in learning. Broadly speaking, the learning process is an act of science transformation aimed at students who do not fully know a branch of science. It can be ascertained the teacher's role is very influential in the learning process that is associated with student output

Realizing education to students, teachers, and students will go through the learning process both in the classroom and outside the classroom. The learning process will take place well if the teacher and students can communicate well. But in the implementation of the learning process in schools, there are many obstacles that are influenced by several factors, one of which can be seen from students. One of the obstacles of the students can be seen from the academic aspects, namely in the fields of counting, writing and reading.

One of the subjects in school is mathematics. Mathematics according to Jonhson and Myklebust (1987), (Abdurahman, 2009,252) is a symbolic language whose practical function is to express quantitative relationships and spaces while the theoretical function is to facilitate thinking. The benefits of learning mathematics will be applied later in solving problems in daily life, increasing the ability to think logically, accuracy and spatial awareness. Many students think that mathematics is a subject that is considered difficult for them. It might be caused by their lack of understanding of concepts, skills, and problem-solving. Based on what is possible, teacher skills are needed to recognize difficulties and provide special treatment for children who have difficulties in learning, especially mathematics.

What is happening now in the spirit of Education For All Based on various studies, various things have been found to play a role in the implementation of inclusive programs. However, previous studies have agreed that teacher attitudes towards implementing inclusive programs are important in the success of inclusive education (Malinen, 2013). For more than 3 decades, researchers have continued to conduct research related to teacher attitudes and inclusive, where a conclusion has been found that teacher attitudes play an important role in the success of inclusive education (Avramidis& Norwich, 2002; Forlin, 2001; Harvey & Green, 1984; Sharma, Forlin, Loreman& Earle, 2006). To play an important role today many teachers in regular education do not yet know how to deal with children with special needs so that teachers experience difficulties and confusion.

Robert M. Smith (2002), (TjutjuSoendari), suggests the Assessment as a comprehensive assessment and involves team members to find out the weaknesses and strengths of children, where the results of their decisions can be used to determine the educational services needed by children as a basis for developing a learning plan ". Based on this information, the teacher will be able to arrange learning programs that are realistic in accordance with objective reality. After the assessment, various information about students' abilities, weaknesses and learning needs will be obtained. When a class has students with special needs, the learning settings will be different from classes without students with special needs, there will be many challenges faced by teachers when they have students with special needs. But it is also not impossible when there are students with special needs and the class is not conducive. Through proper handling, it is not a problem when there are students with special needs in class.

In learning with an inclusive setting the teacher is also required to be creative in choosing learning methods and learning methods Number Head Together can be an option in learning where students can learn with their peers and interactions between teachers and students, as well as

students and students. Because cooperative learning is also a student learning activity carried out in a group way. The model of group learning is the joy of learning done by students in groups to get a planned goal (Sanjaya 2006: 239). Tom V Savage (Rusman 2016) revealed that cooperative learning is cooperation in groups highly emphasized in cooperative learning.

METHOD

This research is conducted through interviews with class teachers and assessments that are aligned with the existing curriculum with several stages, namely identification, confirmation and afterward the assessment process so that students who have difficulty learning can be identified and what methods are appropriate in the learning process. In the identification stage, the assessment stage of identification is categorized into three categories namely independent level, instructional level, and frustration level. The division of these three categories is based on the level of success according to Soendari and Nani (2011) with the following calculation patterns:

$$\text{Assessment} = \frac{\text{the score obtained}}{\text{maximum score}} = 100$$

Information:
Independent level = 76% and above
Instructional level = 50% - 75%
Frustration level = 49% and below

At the identification stage, the first step taken is to analyze the curriculum that aims to find out what material is learned in mathematics learning in class IV semester 2. After identification is carried out so that students are at the independent level, instruction level, and Frustruction level. When there are students who are at the frustration level, lower the instrument from mathematics IV semester 2 to mathematics semester 1 and so on. If there are still students who are at the frustration level, continue to reduce it so that it is known which class the students are capable of. After identification and confirmation are carried out directly to the next stage, which is assessment so that students' profiles are formed. So that it can be harmonized with the learning model and method such as what is appropriate to be applied in learning mathematics in inclusive classes .

Class	Basic competencies	Achievement									
		A		D		Re		Ri		S	
		M	TM	M	TM	M	TM	M	TM	M	TM

2	3.1 Explain the meaning of chopped numbers and determine the symbol based on place value by using			√				√			

RESULTS

Identification and Confirmation Results

The first step to capture the ability of students in learning mathematics is identification followed by confirmation. After all the identification or confirmation processes or procedures have been carried out, the results of the identification and confirmation have been carried out as follows:

From the results of the identification of fourth-grade students, it is obtained data that there are 2 students in the independent level category, 16 students are identified students in the instructional level category and 14 students are categorized at the frustration level. The team then confirmed the identification to look deeper into the child's abilities, especially in the stages of instruction and frustration. In the confirmation stage of identification, it was found that 8 students were in the independent stage and 17 students were in the instruction stage and 5 people were in the frustration stage. From the confirmation results, 5 people were at the frustration level who proceeded to the assessment stage.

Assessment Results

The assessment is conducted in a separate class with other children. Children work on assessment questions that include class material 4 semesters 1, class 3 semesters 1 and 2, and class 2 semesters 1 and 2. Assessment is carried out 3 times in stages. In the assessment process found 5 children who experience obstacles in learning mathematics and the abilities experienced by the 5 children are different. The results of the assessment indicate that the ability of the first child with this pesky Ri is in class 2 semester 1, the results of the assessment indicate that ability A is in class 2 semester 2, the results of the assessment indicate that ability D is in class 2 semester 1, the results of the assessment indicate that the ability is in class 3 semester 2, and the results of the assessment indicate that S ability is in class 3 semester 1.

Class	**Basic competencies**	**Achievement**									
		A		**D**		**Re**		**Ri**		**S**	
		M	**TM**	**M**	**TM**	**M**	**TM**	**M**	**TM**	**M**	**TM**
	Concrete models and methods read it										
	3.2 Compare the two			√				√			

	chopped number										
	3.3 Explain and do the sums and reduction numbers that involve count numbers up with 99 deep everyday life and hooking up addition and subtraction				√				√		
	3.4 Explain multiplication and division which involves numbers count with the results up to 100 deep everyday life and hooking up multiplication and division				√				√		
	3.5 Explain the value and broken eye equality money			√				√			
	3.6 Explain and determine length(including distance), weight, and time in units				√				√		

Curriculum Analysis Results

Curriculum analysis is carried out to map the results of the subject's mathematical ability assessment with BC and the material in the curriculum. This curriculum analysis aims to determine which class curriculum lies in what abilities students currently have. The results of curriculum analysis are as follows:

Table 1. Curriculum Analysis

Class	**Basic competencies**	**Achievement**									
		A		**D**		**Re**		**Ri**		**S**	
		M	**TM**	**M**	**TM**	**M**	**TM**	**M**	**TM**	**M**	**TM**
	standard, relatedwith everyday life										
	3.7 Explain fractions 1/2, 1/3, and 1/4 using concrete objects insideeveryday life	√			√				√		
	3.8 Describe line segments using concrete models with flat shapes and geometry	√			√			√			
	3.9 Describes getting up flat and getting up space based on its characteristics	√			√			√			
3	3. 1 Explain the properties of count operations at	√		√				√		√	

	chopped number										
	3.2 Explains simple numbers and fractions (such as 1/2, 1/3, and 1/4) that are presented on a line number	√			√				√	√	
	3.3 Express a number as a sum,increment, yield, or		√		√				√	√	
	the quotient of two numberscount										
	3.4 Generalizing fraction ideas as part of the whole using objects concrete objects	√			√				√	√	
	3.5 Explain and do fraction addition and subtractionwith the same name		√		√				√		√
	3.6 Explain and determine the durationof an event take place	√			√			√		√	
	3.7 Describe and determine the relationship between the standard units for the length, weight, and time generally used in everyday life		√		√	√			√		√

	3.9 Explain folding symmetry and rotary symmetry on a flat figure using objects concrete	√			√	√		√		√	
	3.10 Explain and determine the circumference of a flat shape		√		√	√			√		√
	3.11 Describing angles, types of angles (right angles, acute angles, and obtuse angles), and units nonstandard measurements		√		√		√		√	√	
4	3.1 Explain the fractions of value with pictures and modelsconcrete	√			√	√			√		√
	3.2 Explain various forms of fractions (ordinary, mixed, decimal, and percent) and relations inamong them		√		√	√			√		√
	3.3 Explain and estimate the sum, the difference, the product, and the quotient for both numbers and numbers fractions and decimals		√		√		√		√		√
	3.4 Explain factors and multiples of numbers	√			√		√		√	√	
	3.5 Explain prime numbers		√		√		√		√		√
	3.6 Explain and determining factor alliance, factor biggest alliance(FPB), multiples partnership, and multiples of fellowship smallest (KPK) of the two related numbers with daily life day		√		√		√		√		√
	3.7 Explain and do rounding length measurement results and weight to the unit the closest		√		√		√		√	√	

	3.8 Analysing the nature of uniformity and not many regular	√			√	√			√		√

Note: M = Capable TM = Not Capable

Based on the level of student achievement in the 2013 curriculum basic competencies, it can be concluded that the abilities possessed by student A are in class 2 semester 2, the abilities possessed by students D and Ri are in class 3 semester 1 and the abilities possessed by students Re and S are in class 2 semester 1.

Recapitulation of abilities that are not yet owned by students is obtained from the results of curriculum analysis. Basic competencies that have not been achieved by students are put together aiming to find out the basic abilities students must possess. The following is a recapitulation of abilities that students do not yet have:

Table 2. Recapitulation of Abilities that students do not yet have

Class	Basic competencies	Indicator
2	3.3 Explain and carry out the addition and subtraction of numbers involving counts of up to 99 in everyday life and linking the sum and Subtraction	Addition and subtraction of count numbers subtraction and subtraction
	3.6 Explain and determine the length (including distance) of weight, and time in standard units, related to everyday life	Measuring standard units
	3.7 Explain fractions ½, 1/3, and ¼ using concrete objects in daily life	Determine the fractional value
	3.8 Explain line segments using concrete models flat and wake up space	Determine flat square line segments.
	3.9 Explain the shape of a flat and build a space-based on its characteristics	Determine flat wake
3	3.2 Explain simple numbers and fractions such as (1/2, 1/3, and	triangle according to its characteristics.

	3.3 States a number as the sum, the difference, the product or the quotient of two census numbers	Specifies a fraction on a number line
	3 .6 Explain and determine the common factor, the greatest common factor (FPB), the multiple of commonality, and the least common multiple (KPK) of two numbers related to life Daily	- Determine the KPK - Determine FPB
	3.7 Explain and round up the results of measurements of length and weight to the nearest unit	- Determine to round down - Determine to round to the top
	3.8 Analysing the properties of a lot of regular and many lots of irregular	- Draw many irregular shapes - Determine a lot of regularity - Draw lots of irregular rectangles - Determine many facets irregular

Alignment Program

The alignment program is a program that bridges the abilities of the child at present with the current curriculum or the material being studied at this time. This alignment program is based on the results of student assessments and the results of curriculum analysis that are aligned with the material being studied at this time. The alignment program that has been arranged as follows:

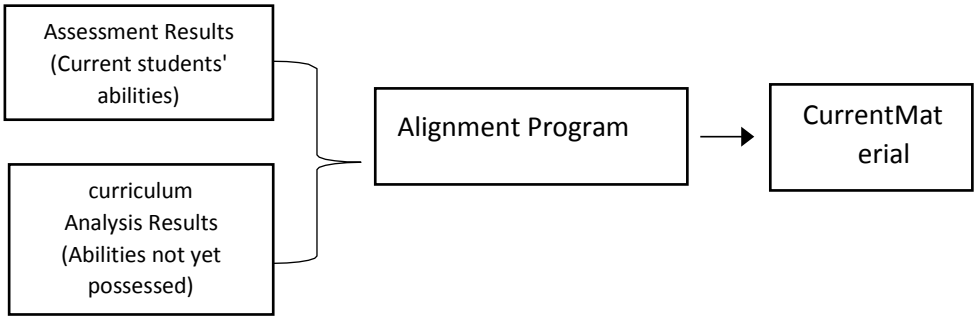

Table 3. Alignment Programs

BC	Indicator	Learning objectives	Learning approaches	Learning Media	Learning Resources
3.11. Explain students' self data and their environment presented in the form of bar charts. 4.11.Collecting students' data and The environment	**Subjek D dan Ri** 3. 11.1 Gathering data 4.11.1 Doing addition of numbers from the data results 4.11.2 Commitsubtraction of numbers from data results	1 Through practical activities measuring book-length, students can collect book-length data appropriately. 2 Through discussion activities, students can do the sum of the numbers from data results	- Scientific Approach, With the Number Head Together method.	- Ruler - Weigh t scales	- 2013 Mathematics Curriculum Package Book, - Surrounding environment
and presents in the form of bar charts.		3 Through discussion activities, students can reduce the numbers from the book length data appropriately			
	Subject A **3.11.1** Grouping Data	1. Through analyzing data, students can group data appropriately.			

	4.11.1 Determine the sum of the results of the two data in the frequency table 4.11.2 Determineth e difference between the results of the two data in the frequency table	2. Throughdiscussio n activities, students can determine the number of results from the two data in the frequency table appropriately 3. Through discussion activities, students can determine the difference between the results of the two data in the frequency table appropriately			

	Subjek S 1. Mention the standard unit ofmeasur emet 2. Choosing a measuring instrument by the object being measured 3. Collecting data **Subjek Re** 3.11.1 Sorting data 4.11.1 Determine prime numbers of data	1. Through observing various kinds of standard unit measurement tools, students can name 2 standard unit measurements appropriately 2. Through observing various kinds of standard unit measuring devices, students can choose the measuring instrument according to the object to be measured accurately 3. Through practical activities, students can collect group peer weight data appropriately. 1. Through analyzing data, students can sort shoes size data correctly 2. Through discussion activities, students can determine prime numbers from shoe size data appropriately			

Program Implementation Results

Based on the results of the assessment and alignment of curriculum curricula alignment. Learning is expected to bring up participation for all students, both students who experience obstacles in learning and other typical students, active and fun learning and by the subject matter that will be given. Then the Number Head Together learning method is group learning and there is a collaboration between students in learning. As explained by Abdulhak (2001: 19-20) "cooperative learning is carried out by the process of sharing between learning participants, the results of which embody shared understanding among the learning participants themselves". So that it will create learning in which wider interactions are established, broad interactions and communication are carried out between the teacher and students, and vice versa students and teachers.

in the implementation of the number head together method where students are divided into groups in which there are 1-4 people, each student is given a number on his head that is done to mark children with learning barriers from the results of the assessment. In the learning process, each group is given a question sheet, but in working with the problem of children with barriers to learning mathematics from the assessment results are given different tasks according to their needs, but in the same problem in groups. Hall was done so that the learning process was evenly felt by students but by students' abilities. The Number Head Together method provides a very fun different way where students can learn with their peers and communicate with each other. The number on the head is not a function to distinguish students with learning disabilities and not far from it the number on the head makes students cheerful and feel different learning sensations as usual.

Conclusions

The development of learning programs for students with numeracy difficulties in class IV SDN 100 Cipedes is carried out through several stages, namely stage I begins with the preparation of the initial data collection process, phase II namely the classical identification process then proceed with the confirmation process until the name of the incoming student is obtained. in the frustration level, then as a follow-up assessment is carried out individually to obtain more specific information including the abilities, obstacles, and needs of students that will be used as the basis for making the program. Next in stage III is the preparation of learning programs that refer to the results of the assessment analysis and the results of the curriculum analysis.

From the results of the curriculum assessment and analysis, the alignment program will then be prepared, in which the intended alignment program is a program that bridges the abilities of the current child with the current curriculum or the material being studied at this time.

Implementation of learning activities is done by first analyzing the learning activities carried out by the teacher so that the needs are known and can find alternative models/learning methods that will be applied. The team tried to apply one learning method in two times the application of learning activities. The method used is Number Head Together which is part of Cooperative Learning. Differences in the implementation of learning in the first and second learning based on the evaluation results that learning objectives have not been fully achieved, and the cooperative learning process is not so visible, the team decided to try to apply the same method in the second learning with some modifications including class settings and forms of sheet giving work. From the second learning, the results can run better, more effective, interactions between students, the interaction between students and teachers are more active, students are more participatory in the learning process, and learning and evaluation objectives can be implemented well.

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