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THE MATHEMATICAL CONNECTIONS OF *SLOW LEARNER* STUDENT: A CASE STUDY IN INCLUSION CLASS YBPK, KEDIRI

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ABSTRACT

The purpose of this research is to identify which aspect of the mathematics connection of inclusion class especially slow leaner student face. The subject of the research is 10 seventh grade slow learner in YBPK Junior High School, Kediri.. While the aspect mathematical connection that had been examined was ability of student in (1) stating relationship between facts, concepts, or mathematics principle; (2) developing a mathematical models of the daily life problems; (3) mentioning the consepts which underlying the solution from the given mathematical problems. The technique for data collection was taken from 3 times test, interview, and observation. Then, the researcher used technique triangulation. The data analysis was presented by reducing, pre, senting and concluding the data. Results shows that the slow learner students tends to weak in: (1) can't writing down the reasons; (2) using picture and illustration to show these problems; and (3) developing a mathematical model without right literation.

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INTRODUCTION

Education is a right that must be accepted by every citizen of Indonesia because the function of education is to train the ability to think and behave. No exception children with special needs (ABK) too. In fact, the educational paradigm of Children with special needs is much. In the process of learning, ABK should adjust to the learning process is implemented, not the learning adjust to them. Inclusive education itself is a teaching system whose the implementation consist of children with special needs with normal children and describes half or all of the

students' special needs in regular classes, where the school environment provides the freedom to support children with special needs (Zuroidah, 2015). The providers of inclusive education in the Kediri is SMP YBPK Kediri. In that, each individual has the uniqueness and power of mathematical connections that are different in the process of learning mathematics in Junior High School. To support the implementation of a good learning process, SMP YBPK Kediri provide professional teachers and facilities to complement the facilities and infrastructure in the learning activities in the inclusion class. But in the implementation itself there is a problem which is the power of the learners connections on different mathematics subjects. In the initial observations doing by researchers, the total student in class VII SMP YBPK Kediri are 38 student, 13 children with special needs and 25 other normal. Researchers find new things, when the student with special need with a variety of characters and different abilities that most are required to think mathematically and connect it into everyday problems. It gives the question how the ability of mathematical connection of ABK especially slow learner student type which is need teacher's help in process of learning. So this research aim to identify aspect of mathematics connection of student of inclusion class especially slow learner student at SMP YBPK Kediri in five catagories of material in the 2006 curriculum.

LITERATURE REVIEW

A. DISABILITIES STUDENTS

According to the Individuals with Disabilities Education Act (IDEA) in Zuroidah (2015), students with special needs have the right to receive necessary curricular adaptations. Adaptations include accommodations and modifications. Students who receive accommodations are held to the same academic expectations as their general ed classmates; on the other hand, modifications entail making changes that lower these expectations. Anandita (2015) said that a "slow learner" is not a diagnostic category, it is a term people use to describe a student who has the ability to learn necessary academic skills, but at rate and depth below average same age peers. In order to grasp new concepts, a slow learner needs more time, more repetition, and often more resources from teachers to be successful. Reasoning skills are typically delayed, which makes new concepts difficult to learn. A slow learner has traditionally been identified as anyone with a Full Scale IQ one standard deviation below the mean but not as low as two standard deviations below the mean. If a cognitive assessment (IQ test) has a mean (average) of 100, we expect most students will fall within one standard deviation of 100. That means that most students have an IQ of 85 to 115. Those who fall two standard deviations below the mean are often identified as having an Intellectual Disability (IQ below 70). A slow learner does not meet criteria for an Intellectual Disability (previously called mental retardation). However, she learns slower than average students and will need additional help to succeed

B. THE SKILL OF MATHEMATICAL CONECTION

The skill of mathematical conection is very important for student, especially slow learner student. When student able to conect mathematical ideas, their understanding more deeper and more lasting (NCTM, 2000). Mathematics conection capability allow student to see mathematics as a whole, not the part which separated from each other (NCTM, 2000). Therefore, mathematics programs should give some experiences for student to develop the ability to connect mathematically. In fact, according to NCTM "Instructional programs from prekindergarten through 12th grade should enable all students to: (1) recognizing and using conection among mathematical ideas; (2) understanding how mathematical ideas interconnect and built on one another to produce a coherent whole; (3) recognizing and applying mathematics in contexts outside mathematics" (NCTM, 2000). By adequate skill of mathematical conection, student will be able to see the usefulness of mathematics in other fields and everyday life.

Mathematics teacher are required to be able to help slow learner students to develop their ability of mathematics conection so that students can learn mathematics with fully understanding. Because the ability of mathematical conection is very important, NCTM includes mathematical conection as one of standard process is that " Student recognizes, use, and make connections between and among mathematical ideas and in context outside mathematics to built mathematics understanding" (NCTM, 2003).

Mousley 20040 said that the ability of mathematical connection is important for slow learner students, they need to solve mathematics problems. The more relationship that slow learner students know, the more they realized that mathematics is not a subject, with full formulas that need to be memorized. To be able to recognize and apply mathematics in the context outside mathematics, or in everyday life , they will believe mathematics has many advantages.

Specifically for this study, the ability of mathematical connections which is observed limited to the ability of written mathematics connections. Aspect which is observed includes the ability of slow learner students in: (1) stating the relationship between facts, consepts, or mathematical principles, (2) developing mathematical model from the daily problems, and (3) mentioning some concept underlying the solution of given mathematics.

METHODOLOGY

The type of this research is descriptive. The purpose of this research is to identify which aspects of communications skill and mathematical connections of slow learner students. The subjects of the research were 10 slow learner seventh grade students from 13 seventh grade ABK in YBPK, Kediri, Indonesia from March to May 2017. The technique of data collection was taken from 3 times of daily life problems test, there were 5 questions about connection functions and geometry in first week , rounded number and fraction in second week and algebra in third week, The second technique of data collection is observation. Then, the researcher used technique triangulation.

To identify the aspects of weaknesses of slow leraner students, the researcher prepared the assessment rubric for the mathematical connections. While for the ability of mathematical connections there are three aspects that were assessed, namely: (1) Correctness of statement of connections between facts, concepts, or principles of mathematics, (2) Correctness of mathematical model develop, and (3) Correctness of the mention of the concept underlying the solution of given mathematical problems. Score aspect is), 1, 2 or 3. Guidlines for the categorization of connection skill are in table 1 as follows

Table 1 Capabilities Categorization, Addapted from Sugiyono (2008)

Total Score Achieved (X)	Categor
X > Xi +	Very
Xi + 0.5Si < X Xi + 1.5Si	
Xi - 0.5Si < X Xi + 0.5Si	Mediu
Xi -1.5Si < X Xi – 0.5Si	Lo
X ≤ Xi - 1.5	Very

Xi = ½ (the possible maximum score + possible minimum score) and Si = 1/6 (the possible maximum score - possible minimum score)
(Source: author)

RESULTS AND DISCUSSION

Table 2 below represent the frequency distribution of scores achievement of mathematical connections skill of slow learner student .

Table 2 Frequecy Distribution of Score of Matematical Connections Skill, Assesment Rubric April 2017

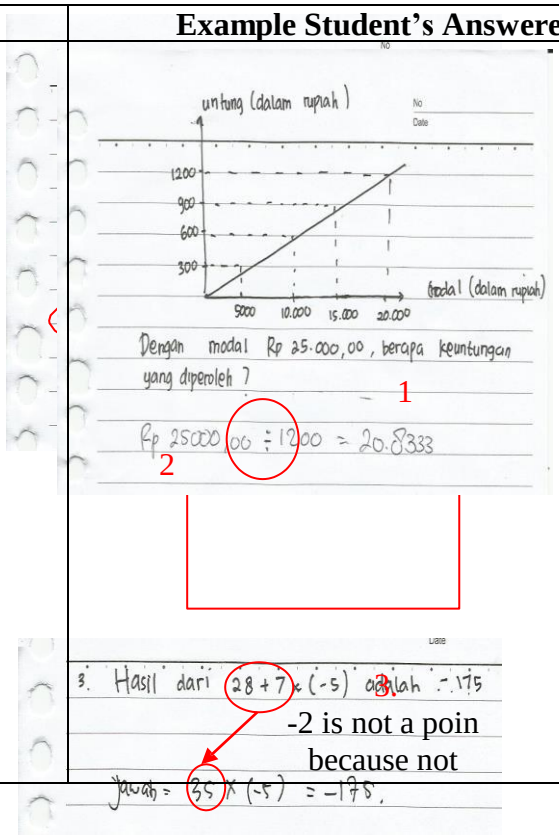
Question Number	Aspect	Score				Total
		0	1	2	3	
1 Geomet	1	5	5	0	0	5
	2	4	3	3	0	9
2 Functi	1	5	3	2	0	7
	2	6	2	1	1	7
3 Rounded	1	6	4	0	0	4
	2	6	3	1	0	5
4 Fracti	1	6	2	1	1	7
	2	8	2	0	0	2
5 Algeb	1	7	2	1	0	4
	2	6	2	0	1	5

From the data in Table 2, it was obtained total score of 10 slow learner students in 5 questions is 82 for the maximum possible total score of 450. The result

are included in the category of " very low".Total score the first aspect, namely "Correctness of statement of connections between facts, concepts, or principles of mathematics" is 27 from a possible maximum total score 150. The result are included in the category of " very low". Whereas for the second aspect namely "Correctness of mathematical model develop" is 28 from a possible maximum total score 150. The result are included in the category of " very low". And the last aspect namely "Correctness of the mention of the concept underlying the solution of given mathematical problems" is 27 from a possible maximum total score 150. The result are included in the category of " very low". It can be concluded that the connection skills of slow learner students who were subject of this research are included in " very low" category.

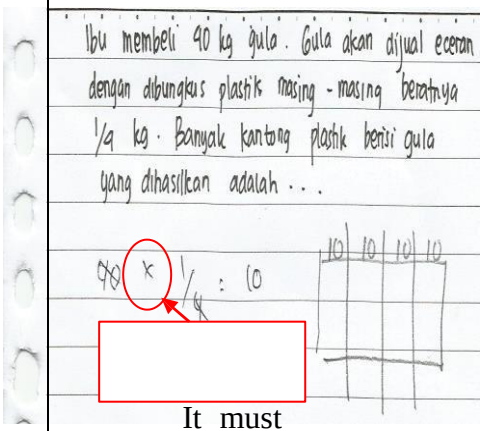
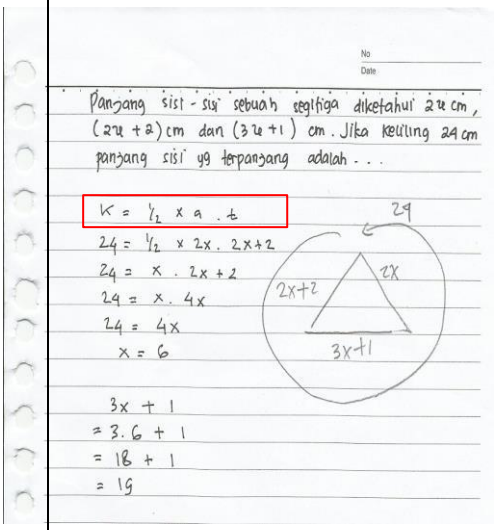
However, when observed in more detailed on slow learner student sheets, some trends can bee seen quite apprehensive, likes they can't writing down the reasons; they using picture and ilustration to show these problem and they developing a mathematical problem without right literation. One example of student answer is seen in table 3 as follows.

Table 3 Analysis of Student's Answered

Problem	Example Student's Answered	Description and Analyze
Geometry		*Descript ion* For this problem students problem must finded translational flip point. In this category students are required to be able to see the distance change between the origin poin and the point after being shifte d. In the student work result can be seen the student try to connect the abscond of point A with symbol *x* and ordinate point A with symbol *y*, but student can not connect between definition of flip

Function		*Descript* *ion* In the student work result, it can be seen that students can not understand the concept of function. Students directly divide the capital by the biggest profit. So students can not connect properly concept. *Analys* *is:* For this answered, there were three aspect of mathematical connection that were assessed, such as: (1) student not
Rounded Number	Problem: The result of 28 + 7 x (-5) equals ...	*Descript* *ion* Students can not solve the problem correctly. Student incorrectly connects integer operations. Students use a sum operation that students should use multiplication operations first *Analys*

Problem	**Example Student's Answered**	**Description and Analyze**
		underlying the solution because he can't understand the order concept of

Fraction	 It must devided operation	*Description* Students can not solve the problem correctly. Student incorrectly connects integer operations. Students use a multiplication operation that students should use devided operations first *Analysis:* For this answered, there were three aspect of mathematical connection that were assessed, such as: (1) student not understand the problem ,(2) student not correctness of
Algebra		*Description* Students can not correctly model problems. Students also can not understand the concept of the circumference of triangles. Students incorrectly associate formulas and operation used. *Analysis:* For this answered, there were three aspect of mathematical connection that were assessed, such as: (1) student not correctness of statement of connection between concept of

(Source: author)

From the analyze of the five categories of these questions and after triangulation proceess, so the reseacher conclude that mathematical connection of *slow learner student* are 1) they can not write down the reasons underlying the reason of the given answer, 2) Students also have not been able to understand the concept of the given problem. However, students tend to solve problems using pictures and illustrations to show the subject matter, and 3) In the development of the mathematical model itself, students tend not to develop with correct literacy.

CONCLUSION AND RECOMMENDATIONS

The result shows that the *slow learner* students tends to weak in: (1) can't writing down the reasons; (2) using picture and illustration to show these problems; and (3) developing a mathematical model without right literation. Their mathematical connection is classified " very low".

Based on the result, the recommend solution for improving mathematical connection of slow learner student is the use of collaborative problem based learning strategy and used to improvment media likes activity book for them. And the next study, based this research, researcher will improve analyze a mathematical connection of ABK in all categories. The high learner student, the middle learner student and the slow learner student in collaborative learning.

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