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INCREASING MATHEMATICS LEARNING OUTCOMES THROUGH THE APPLICATION OF THE PLANE GEOMETRY EXPLORATION METHOD IN MIND CLASS CHILDREN AT SLB-IT YTPA KALISAT

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Abstrak ,

one group of mentally retarded children whose level of intelligence is still mild and still has the ability to learn mathematics has the possibility of obtaining academic education up to elementary grades four or five and can learn simple skills that discuss improving mathematical results through the application of the Plane Geometry Exploration Method in mentally retarded children Mild Class V at SLB-IT YTPA Kalisat Jember, this classroom action research aims to describe the improvement in learning outcomes in mathematics through the application of the plane geometry exploration method to mild mentally retarded children of class V at SLB-IT YTPA Kalisat. The research subjects were children with mild mental retardation class V at SLB-IT YTPA Kalisat District. Jember, totaling 10 students. To facilitate data collection in this study the method used is the science subject test method. Data The data analysis technique used in this PTK is a quantitative descriptive analysis technique. The results of classroom action research in order to improve the quality of learning in mild mental retardation can be discussed. First, in general, the increasing learning outcomes of students in the above categories from cycle to cycle indicate the criteria for improving the quality of learning in this classroom action research. Second, improving the quality of learning geometric shapes, which in this case is characterized by an increase in student learning outcomes and student participation in class; began to become visible from before cycle to cycle I, and the improvement in the quality of learning from cycle I to cycle II was even more evident. Where in cycle II the acquisition of student learning outcomes all reached the criteria. Thus it can be concluded, that there was an increase in learning outcomes with the plane geometry exploration method in mathematics .

Keywords: Mathematics, Plene Geometry Exploration, Mild mental retardation

Introduction

In the empirical context, many students with mild mental retardation do not master the learning material for geometric shapes. The teachers also had difficulties in teaching geometric shapes material, especially in Group A, due to limited learning media, teaching experience, lack of student activity, and so on. So the quality of learning geometric shapes is not optimal.

Suydan and Khusni (1999) explained that geometry is part of mathematics that studies visual patterns, which will connect mathematics with the real world. Geometry can also be viewed as a mathematical system that presents phenomena that are abstract (not real). Even if geometric objects are abstract, they are a fact that geometry is very important and plays a role in life. Geometry is material that you want to know fundamentally and fundamentally for the development of mathematics itself and the development of human thinking skills logically.

Suydan and Khusni (1999) stated that one of the aims of teaching Geometry in schools is to develop the ability to think logically, so that students can further analyze the world in which they live and provide from an early age a foundation in the form of concepts and terminology needed at the next level of education. Suydan and Khusni Until now, learning geometric shapes at SLB-IT YTPA Kalisat, especially class V, is still not interesting for students. Empirical data from observations shows that out of a total of 21 children (students), it turns out that the scores obtained for learning Geometry Shapes are: a) a score of 1 : 0 children; score 2: 5 children; score 3: 16 children; score 4 : 0 children; and a score of 5: 0 children.

The percentage of score obtained is still far from expectations. Even though there were no students who got a score of 1, there were also no students who got a score of 4, let alone a score of 5. Meanwhile, those who got a score of 2 were 23.80%: (5 children), and a score of 3 was 76.20% (16 children) .

Likewise, children's behavior in the learning process is also not optimal. Students' concentration in participating in learning, enthusiasm, responsibility, activeness in asking questions, courage to answer questions and courage to respond, are still minimal. Seeing this reality, the author considers it necessary to take various steps to improve the quality of learning geometric shapes, so as to obtain optimal learning results

Mildly mentally retarded children are a group of mentally retarded children whose level of intelligence is still mild and still have the ability to be educated simply. This is in accordance with the opinion expressed by Munzayanah (2002:22), Children with Mental Disabilities, who stated that: "Children with mild intellectual disabilities or children who are able to learn are those who still have the ability to obtain education in the fields of reading, writing and calculating at a certain level in special school. Usually this group can reach a certain level, equivalent to grade IV elementary school and can learn simple skills.

The above opinion is in line with the opinion of S.A. Bratata (1997:5) Education for Underdeveloped Children, which states that "Mild mentally retarded children are children who still have the possibility of obtaining academic education up to four or five elementary grades and can learn simple skills".

According to the American of Mental Deficiency (AAMD) and PP no. 72 of 1991 concerning Children with Special Needs quoted by Moh. Amin (1995:2) states that "Mild mentally retarded children are those who have an IQ between 50-70 so that they experience obstacles in their intelligence and social adaptation, but they have the ability to develop in the fields of academic studies, social adjustment, and ability to work".

Emi Dasiemi (1997) gives a definition of mild or debilitated mentally retarded children, namely children who have an IQ between 50/55 – 70/75, are less able to make a living for themselves, but are still able to receive education and training, although limited.

The mentally retarded children referred to in this research are children who have an intelligence level of 52 – 68. Each child has different abilities. Even though when presenting subjects, methods, time are used together, differences in ability will occur due to differences in the intelligence of each that is not the same. However, it can still be developed, such as skills for functional purposes and social adjustment.

Mild mentally retarded children can be educated to become workers such as laundry workers, agriculture, animal husbandry, household work, even if properly trained and guided mild mentally retarded children can work in factories with little supervision.

However, mildly mentally retarded children are unable to make individual social adjustments. He will spend his money carelessly, not plan for the future, and even make mistakes.

In general, children with mild mental retardation do not experience physical disorders. They physically look like normal children in general. Therefore, it is quite difficult to physically differentiate between mildly mentally retarded children and normal children. As with teaching the concept of space right and left, front to back, up and down is done through games which are also adapted to one's own mental development.

Characteristics of Mildly Mentally Impaired Children

Physically, mild mentally retarded children are no different from normal children in general, but psychologically they are different. According to Tamsil and E. Tejoningsih

(1998) Basics of Special Education, dividing the characteristics or characteristics of mild mentally retarded children into three parts, namely:

1) Physical characteristics include the following: head, eyes, nose and other body shapes are no different from normal children.
2) While spiritual characteristics include the ability to think low so that it is difficult to solve problems even though they are very simple, attention and memory are weak, so they cannot pay attention to things seriously.
3) The social characteristics of children with mild mental retardation and observable children include lack of self-control, unable to live up to the social norms that apply in society, so they cannot consider good and bad, permissible and not permissible.

According to Moh. Amin (1995) characteristics of mildly mentally retarded children include the following;

1) Many speak fluently but lack vocabulary.
2) Having difficulty thinking abstractly.
3) Can follow academic lessons in ordinary schools and in special schools.

In general, only 16 year olds can reach the same intelligence age as 12 year old children. Based on some of the opinions that have been stated above, it can be concluded that in general mild mentally retarded children have the following characteristics:

1) The physical condition of mild mentally retarded children includes the shape of the head, eyes, nose, and body shape not much different from normal children in general.
2) The physical condition of children with mild mental retardation includes: low thinking ability, weak attention and memory so they have difficulty carrying out tasks that require mental and intellectual functions, lack of vocabulary, and are less able to think abstractly.
3) The social condition of mild mentally retarded children cannot or is not able to socialize properly in their environment.

Factors Causing Mild Mental Mental Disability

There are several factors that can cause a person to become mentally retarded. Experts from various sciences have tried to divide these causal factors into several groups.

Strauss (Moh. Amin, 1995) grouped these factors into two things, namely:

Endogenous or originating from hereditary cells. Exogenous, such as viruses that attack the brain, exposure to radiation

Research methods

This research is included in classroom action research (PTK). This Classroom Action Research is structured in two cycles, each cycle consisting of two meetings. Participants in this research were all students of SLB-IT YTPA KALISAT Jember, East Java. A total of three students were used in this research. In this research, the test method is the data collection strategy applied. The test was carried out twice, first as a pre-test and second as a post-test. The first test measures students' prior knowledge, while the second test determines students' learning success after researchers treat them. Tests are intended to assess how well students have learned certain concepts. This test is known as an achievement test, and is used to evaluate a person's development after they learn something new (Arikunto, 2015)

Data analysis techniques in this study used a comparative descriptive test. This means that this comparative descriptive test technique uses the help of graphs and diagrams.

Research result

The results of classroom action research can be seen in the following table which shows the development and progress of students' abilities in learning, increasing student learning outcomes from before cycle to after cycle I and cycle II, can be seen in the data on learning outcomes between cycles in the following table.

No.	Category	Skor	Pra Siklus		Siklus I		Siklus II	
			Jml	Percentage (%)	Jml	Percentage (%)	Jml	Percentage (%)
1.	Very Good	5	0	0	2	28.57	6	52.38
2.	good	4	0	0	2	58.57	4	47.62
3.	Enough	3	8	76.20	6	42.86	0	0
4.	deficient	2	2	23.80	0	0	0	0
5.	No Enough	1	0	0	0	0	0	0
	Amount		10	100	10	100		10

Results of classroom action research in order to improve the quality of learning for mild intellectual disability class V at SLB-IT YTPA Kalisat Kab. Jember, East Java, through exploring geometric shapes with various learning media, you can The discussion is carried out as follows :

In general, the increasing student learning outcomes in the above categories from cycle to cycle shows the criteria for improving the quality of learning in this classroom action research. And the increase in student participation from cycle to cycle shows an increase in positive attitudes both in terms of quality and quantity as an indicator of positive learning improvement.

Second, improving the quality of learning geometric shapes, which in this case is characterized by an increase in student learning outcomes and student participation in class; began to become visible from before cycle to cycle I, and the improvement in the quality of learning from cycle I to cycle II was even more evident. Where in cycle II the students' learning outcomes all reached the good and very good criteria, and this was followed by an increase in student participation, all of which also reached the good and very good criteria. Third, the quality of learning as a student activity in an effort to acquire knowledge, skills and positive values by utilizing various sources to learn effectively.

Learning quality is an effective learning process (Rudi Susilana and Cepi Riyana, 2007). Meanwhile Badru Zaman, et al. Confirms that one of the functions of learning media is to improve the quality of the learning process (Badru Zaman, et al., 2008). So by applying various learning media, in this case applying still/still image media, graphic media, model media, and 4 reality media in learning geometric shapes in class V mild intellectual disabilities at SLB-IT YTPA Kalisat Kab. Jember turned out to be truly proven. This means that various learning media as an effective learning source really function to improve the quality of learning.

This is also in accordance with Suydan and Khusni's opinion, that geometric objects are abstract, but they are a fact that geometry is a very important aspect of mathematics and plays a role in life. Geometry is material that you want to know fundamentally and fundamentally for the development of mathematics itself and the development of human ability to think logically. One of the goals of teaching geometry at school is to develop the ability to think logically. The basic aim is to give students the opportunity to further analyze the world in which they live and provide from an early age a foundation in the

form of concepts and terminology needed at the next level of education (Suydan and Khusni (1999).

Thus it can be concluded that there is an increase in learning outcomes in mathematics through the application of the plane geometry exploration method to mild mentally retarded children of class V at SLB-IT YTPA Kalisat

Conclusion

This classroom action research concluded that there was an increase in learning outcomes in mathematics subjects through the application of the plane geometry exploration method for mildly mentally retarded children in class V at SLB-IT YTPA Kalisat for the 2017/2018 academic year. This is indicated by an increase in the percentage of student learning outcomes that obtain good (score 4) and very good (score 5) criteria, namely from 0% (good) and 0% (very good) before the cycle, to 28.57% (good) and 28.57% (very good) in cycle I, and increased to 47.62% (good) and 52.38% (very good) in cycle II

References

Agung. Mohammad Amin, 2005. Ortopedagogik Anak Tuna Grahita. Bandung: Depdikbud.

Amirul Mukminin. 2011. *Evaluasi Pembelajaran PAUD* : Universitas Negeri Semarang.

Badru Zaman, Asep Hery Hernawan, Cucu Eliyawati. 2008. *Media dan Sumber Belajar TK*. Jakarta : Universitas Terbuka

Direktorat Pendidikan TK dan SD. 2005. *Kurikulum 2004 Standar Kompetensi Taman Kanak-kanak dan Raudhatul Athfal*. Jakarta : Dirjen Manajemen Dikdasmen Departemen Pendidikan Nasional.

Gene L. Wilkinson. 1984. *Media dalam Pembelajaran; Penelitian Selama 60 Tahun*. Jakarta: CV Rajawali.

Mohammad Efendi, 2006. Pengantar Psikopedagogik Anak Berkelainan. Jakarta: Bumi Aksara.

Muh. Bandi, 1997. Psikologi Anak Luar Biasa/Berkelainan. Surakarta: FKIP UNS.

Munzayanah, 1997. Anak Tuna Grahita. Surakarta: FKIP UNS.

Mulyono Abdurahman. 2003. *Pendidikan Bagi Anak Berkesulitan Belajar*. Jakarta: Dirjen Dikti.

Munawir Yusuf, dkk. 2003. *Pendidikan Bagi Anak Dengan Problema Belajar*. Poerwadarminta, W.J.S. 1986. *Kamus Umum Bahasa Indonesia*. Jakarta : PN Balai Pustaka.

Rudi Susilana, M.Si dan Cepi Riyana, M.Pd. 2007. *Media Pembelajaran, Hakikat, Pengembangan, Pemanfaatan, dan Penilaian***,** *Seri Pembelajaran Efektif.* Jakarta:

Raja Grafindo Persada.

Soewardi. 1984. *Melukis Bentuk Geometri*. Jakarta : PT Gramedia.

Suharsimi Arikunto, Prof. Dr. 2006. *Prosedur Penelitian Suatu Pendekatan Praktek.* Jakarta : Rineka Cipta.

Wina Sanjaya, DR., M.Pd., 2008. *Perencanaan dan Desain Sistem Pembelajaran*.Jakarta. Kencana Prenada Media Group.

Mulyono Abdurahman. 2003. *Pendidikan Bagi Anak Berkesulitan Belajar*.Jakarta: Dirjen Dikti.

Munawir Yusuf, dkk. 2003. *Pendidikan Bagi Anak Dengan Problema Belajar*. Surakarta: Tiga Serangkai