The difficulties of teacher in teaching geometry for mental retardation students

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Abstract. The purpose of this research is to find out the problems faced by teachers in teaching materials on mental retardation students. It focused on the difficulties faced by the teacher in teaching geometry. A qualitative method with field study approach used in this study. The subjects in this research are the teacher and mild mental retardation students. There are six teachers and six students involve as the subject which is chosen by purposive sampling. The data of this research is the observation and interview against teachers and mental retardation students. The data was analyzed qualitatively with Miles and Huberman steps. The results of this research show that mental retardation students have less attention to the materials, less special books or learning media props, difficult in the set the students, and the difficulty in choosing the material that suits the student needs and the condition of mental retardation students. There's not much pay attention to the children with special need, particularly mental retardation student. Thus, this study can help analyze the difficulties teachers so that learning math for mental retardation students more optimal.

1. Introduction

Later, special education expanded rapidly. The grant support is one way that's done by the Government and the community to advance the special education, primarily for mental retardation student. Often a mentally retarded child develops fair skills and abilities and becomes a useful citizen of the state but in order to do this, the mentally retarded child must his/her chance [1]. One container of student education mental retardation is the inclusion school. Inclusion school is a great idea and become the global trend of giving access to all students [2-3].

Inclusion school has many advantages for students in need of special or regular students [4]. For example, children with disabilities display less isolated play and fewer inappropriate behaviours when included with their typical peers [5], improved skills in language, cognitive ability, and the development of the motion is as good as the ability to play [6], and established positive outcomes for development and attitudes. Furthermore, increase communication and social interaction, the suitability of the age with the habits and skills, actively participate in the community school, and opportunities to build a network of friends and other social relationships [7].

Mathematics is one of the subjects of the inclusion school and became the core content has direct benefits for further education and employment for all students [8]. Although mathematics education is important, the math portion for mental retardation is much less than regular students.
In addition to the material that is flexible, there are other important components of inclusion school, namely teachers and paraprofessionals or educational assistants [9]. Paraprofessionals are those who work under the supervision of the teachers or other professional staff who have the ultimate responsibility for the design, implementation, and evaluation of instructional programs and students' progress [10].

In real classroom situations, teachers do experience significant difficulties when students with special needs are included in their classrooms [11]. In fact, the teacher may treat students’ mental retardation based on their perception implies that their attitudes towards inclusion should be explored more [12]. These include perceptions of the difficulties faced by teachers.

2. Methods

This research is descriptive analysis research using a qualitative method with case study strategy. Qualitative research was a research aimed to understand phenomena regarding subject’s experience holistically through the description in the form of word and language. This qualitative research with case study strategy is a research aimed to investigate and understand in deep and holistically contextual phenomena experienced by the subject. In this research, the contextual phenomena are difficulties teacher in teaching geometry for mental retardation student.

This research was held at SMA in Sukaharjo, Indonesia since March until May 2017. The subject in this research involves 5 teachers of paraprofessional and math teacher chosen by purposive sampling. The use of these sampling based on needs, namely to know about mental retardation student. Data on this research are interview result of teachers. Interview sheet validated by experts. Validation of data uses triangulation of source method. Data were analyzed with Miles and Huberman steps of analyzing involve data reduction, data display, and verification [13].

3. Result and Discussion

Based on the results of the interview obtained data that teachers have difficulties in teaching material of geometry because the student has difficulty concentration. It is influenced by several factors. First, problems in concentration is a characteristic of mental retardation students so that the necessary repetitions in explaining the material geometry [14]. Second, the material geometry to be learned by the student too much. It is not in accordance with the conditions of the students are weak in mental retardation cognitive ability [15-16]. In addition, too much material takes a lot. In fact, the share of learning math should be shared with the share of learning life skills.

![Figure 1. Student lose concentration.](image)

Figure 1 shows that mental retardation students are easy to lose concentration, so teachers should focus on mental retardation students. This situation will make teachers difficult to teach math when in the classroom (many students). The Paraprofessional's tasks required under the current conditions. There are several basic tasks of paraprofessional, IE (1) assisting students to complete directions given...
by the teacher, (2) adapting lessons under the teacher's guidance, (3) providing assistance for personal care and other physical needs, and (4) leading small group instruction designed by the teacher [6].

How teachers in teaching geometry for students with mental retardation is certainly different from regular students due to his intelligence. One of the ways to teach geometry for students’ mental retardation is using props. Props make mental retardation students easy to understand and imagine forms in geometry [17]. In addition, the media can make learning more fun [16]. Witaharahap & Surya stated that each subject using visual media of learning that has been there before like objects with the form of patterns of triangles, rectangles, circles, ruler, puzzle boards, books, pictures, as well as markers that have been quite helpful in the process learning [18]. It demands the support of several parties especially Government in paying attention to the education of mental retardation students. Mental retardation student needs to get a special media which can support the education of mental retardation student in learning geometry. Media that can be used in the form of a math book or props, specific to the mental retardation student. In addition, among educators is also not much developed on media for mental retardation students learn geometry.

Figure 2. Another student disturbs when students are learning

Based on the interview results, the environment around class is also a problem experienced by teachers in teaching geometry to mental retardation students. The condition of the rooms often is not conducive as there are students in need and other special which is not in the condition of learning, thus disturbing other students who are learning. In Figure 2 it appears students learn when mental retardation in a special room with several students in need. A lot of people passed away make mental retardation students more interested in paying attention to the people who pass by rather than the material. The limitations of the place have also become a problem because place the less adequate would disrupt the activities of students in learning.

Based on the results of the interview obtained data that paraprofessional has difficulty in determining the limitations of material geometry taught to mental retardation students. Teaching material of geometry for mental retardation students is certainly not easy. Teachers should choose a material limitation of geometry to suit the needs and capabilities of mental retardation students. Mental retardation students at the HIGH SCHOOL level have the capability that is equivalent to the students of class 5/6. Aslan & Arnas stated that children at this level think about shapes based on their properties such as the number of sides and angle measure [19]. However, it could just be the condition of mental retardation students to each other can be different. So, the teacher should discuss with mathematics teacher and psychologist about the limitations of material geometry for each mental retardation student. The material must be suited to the needs and the capability of mental retardation student.
4. Conclusion
The results of this research show that mental retardation students have less attention to the materials, less special books or learning media props, difficult in the set of the students, and the difficulty in choosing the material that suits the student's needs and the condition of mental retardation. The difficulties encountered by teachers has several factors. The factors of the difficulty of teachers, among others, interruption of concentration which is characteristic of students' mental retardation, the material too much but less time, less special books or learning media props, and the condition of the environment while learning. By knowing the factors that create difficulties in teaching, teachers are expected to reduce the difficulties faced by teachers in teaching geometry.

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