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## ANALYZING THE NEEDS OF MATH REALISTIC INSTRUCTIONAL MEDIA FOR STUDENTS WITH SLOW LEARNER

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### Abstract

Slow learner students are children with under average intelligence, their thinking skills develop slower than average students. They have difficulty in understanding abstract learning, less motivated in studying, and need some repetitions and longer time to understand lesson, especially in Mathematics. This study aimed to determine the needs level of realistic mathematics media that related to the application of interactive multimedia games for slow-learners. This research used qualitative descriptive method. The data was collected by observations and interviews. The result of the study showed that there are still inclusive-elementary schools which have students with slow-learner who need realistic mathematics media, based on an interactive multimedia game to help increasing the result of mathematics skill.

**Keywords:** realistic mathematics, instructional media, slow-learner

### INTRODUCTION

Every citizen has the right to accept education services because education is very important for the future. As mandated in UUD 1945 pasal 31 ayat 1 stated that every citizen has the right to accept education services. The right about accepting education services is also for citizen with special needs such as children with visual impairment, hearing impairment, mental disability, physical disability, behavioral disorder, slow learner, autism, and other kind of disability. Education for children with special need has different strategic because every children has different characteristic & learning needs, especially for slow learner children. Slow learner children are children who have weakness in cognitive. According Dasaradhi and friends (2016) slow learners are children whose achievement is under class's average and they get low score in exam or even in IQ test.

Usually, slow learners are slower in understanding the learning material related with conceptual and abstract things. Slow learners also face difficulty when they learn math. As said by Hadi (2016) one of weakness in the slow learners's learning progress is math, they have low performance in this subject. Besides, slow learners often face difficulty in math because they think that math is very difficult and boring.

Slow learner student needs repetitions of the subject delivered by the teachers, but they still can catch up and participate in regular school with

intensive help and modification in certain subjects. Paul (2016) mentioned slow learner student's characteristics are having under average ability, under performance, doing all school tasks slowly, less able in mastering the skills, and only can learn straightly with subject that they face at the time and have to use instructional media.

As stated by Paul (2016) that slow learner students only can learn straightly with subject that they face at the time and have to use instructional media. In Math, they need instructional media which can help to understand math easier. It demands the teachers to be more creative in modifying learning method and more attentive about learning needs of slow learner students so learning atmosphere can be more active and fun.

Instructional media has an important role in teaching and learning progress. Instructional media helps to deliver lesson material to children, especially for children with slow learner. According to Arsyad (2013: 74) instructional media used by teachers must have good quality and can provide a good influence on student's learning outcomes. Choosing appropriate instructional media can make learning be more effective so the learning is not only teacher-centered but also student-centered.

The instructional media used by teachers have to use real things related to daily live or can be found in surrounding so it can be understood easier. The learning media that children with slow learner need is the real, gradual media from simple

things to more complex things, game-related, using easy-to-understand language, and children should be directly involved in learning. In this term, researcher would apply realistic math based on interactive multimedia game. Arshaythamby (2014) revealed the aim of realistic math is for introducing children about learning by constectual problem that consist of children's knowledge and experience in real life so math will be more interesting and meaningful.

Based on explanation above, researcher was interested to do the research entitled "Analyzing The Needs of Math Realistic Instructional Media for Students with Slow Learner". The aim of the study was to investigate the need level of using realistic math based on interactive multimedia game as instructional media for slow learner students.

## **RESEARCH METHOD**

Preliminary study in this research used qualitative descriptive method. According to Moleong (2014 : 6) qualitative research is a research to understand phenomenon experienced by research's subject in descriptive way and explained in words and language by using scientific methods. The aim of the study was to investigate the needs level of using realistic math based on interactive multimedia game as instructional media for slow learner students. The data were collected by observation and interview. The subject on the preliminary study was 4th grade students with slow learner in several inclusive school, they are SDN Bromantakan, SDN Pajang, SDN Manahan and SDN Kartodipuran. Researcher observed the slow learner students in lesson hour and interviewed the special guide teachers of the children.

## **RESULT AND DISCUSSION**

Based on UU nomor 20 tahun 2003 about National Education system pasal 45 ayat (1) stated that every formal or nonformal education unit provides tools and infrastuctures that can fulfil the education needs which is suitable with growth and development in physical potential, intelectual, social, emotional, and spritual intelligence of the pupils. Reffering on it, the research took place in 4 inclusive schools in Surakarta to investigate the needs level of using realistic math instructional media for slow learner students.

The study worked out in analyzing the need level of using realistic math based on interactive multimedia game as instructional media for slow learner students. The researcher studied about learning interest of the student with slow learner in studying math especially in multiplication and divison, the media used by the teacher in teaching

multiplication and division, the needs level of interesting instructional media, and the effect of interesting instructional media application in math lesson.

Result of observation and interview found that these inclusive schools : SDN Bromantakan, SDN Pajang 1, SDN Manahan, and SDN Kartodipuran still had slow learner students who face difficulty in multiplication and division. It was known by following result of the study :

### 1. Interest in learning math

Students on inclusive schools consist of regular students and special needs students. Every student had different learning characteristic. Even in learning math, they had different learning interest, some of them like math and some of them dislike it. So did the slow learner students. They were bored and not interested to learn math beacuse they already thought that math was very ddificult.

SDN Bromantakan, SDN Pajang 1, SDN Manahan, dan SDN Kartodipuran had several students with slow learner characteristic. Eventough they were included as slow learner but their capability was different. But generally, the slow learner student of those schools had less interest to math and their performance were under class's average. They often faced difficulty, felt bored, and not interested in learning math. Moreover, they ocasionally rejected to learn math. Their low interest also impacted on their low learning outcomes in math.

### 2. Media application

Instructional media was one thing that could help to support the learning progress. It could help students in understanding the lesson explained by teachers. Besides, instructional media aplication also could help the students to ease the student in understanding bstracts lesson properties, helped students to be more involved actively in learning progress, and gave learning experience to students.

SDN Bromantakan, SDN Pajang 1, SDN Manahan, and SDN Kartodipuran still used minimum instructional media in math. On multiplication and divison teacher were only using fingers and least media, the more number to mutiplicate or divide the more media was needed so the application of instructional method was not effective enough.

Math lessson in SDN Bromantakan, SDN Manahan, and SDN Pajang 1 for students with slow learner didn't use instructional media. The slow learner students learned about

multiplication and division only by using their fingers. Meanwhile, in SDN Kartodipuran the multiplication and division were only learned with least media. The school had interesting instructional media which was a game that can be played by 4 students. It was played by hitting the media as the answer of questions. But, the media were less effective because the questions were using too many number and too difficult to be understood by the slow learner students.

### 3. Media needs level

Instructional media were very needed for supporting lesson material taught by teachers, especially in math which needed real object as the instructional media. Regular students also needed media that support them in math, especially the slow learners students who faced difficulty in counting abstractly.

SDN Bromantakan, SDN Pajang 1, SDN Manahan, and SDN Kartodipuran needed instructional math media which is interesting for students with slow learner. Teachers need instructional media that can affect the cognitive, affective, and psychomotor aspects of slow-learner children. Teachers can use instructional media based on learning technologies such as the use of interactive multimedia games. It helps to improve the effectiveness of learning that involves slow learner children on it. Instructional media should be suitable with the purpose of learning and in the presentation must be completed with explanation. The application of instructional media should support the abilities and needs of children with slow learner in learning materials taught by teachers. Therefore, in the learning progress for slow-learner children, teachers need to use an interesting instructional media as an effort that needs to be designed.

### 4. The effect on media application

Slow learner students needed instructional media to help them learn math. The media used in SDN Kartodipuran were helpful enough for slow learner students to enliven class atmosphere in math, they can actively involved but they still faced difficulty because the questions were too hard.

SDN Bromantakan, SDN Manahan, and SDN Kartodipuran and SDN Pajang 1 the using of instructional media took effect in learning math. Instructional media could improve students with slow learner's performance. The use of appropriate learning media will be more easily accepted by children

with slow learner. They can also understand the learning materials better with the help of instructional media which already selected by the teacher. In addition, the use of appropriate learning media can improve the concentration and skills in children with slow learner. That's why instructional media was needed to help in calculating, not only for the regular student but also the students with slow learner.

## CONCLUSION AND SUGGESTION

Based on the result of the observation and interview of the preliminary study, it can be concluded that students with slow learner needs interesting instructional media in learning multiplication and division. They need instructional media that suitable with daily life. They need interesting media that can make them more active in learning progress. On the next study, researcher will develop realistic math based on interactive multimedia game as instructional media to increase learning outcomes in math and can improve the learning interest of students with slow learner in multiplication and division. By using the interesting instructional media, hopefully it can help to ease math learning progress, can make the student with slow learner to be more active, giving interesting learning experience, and can improve the performance.

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