

Fine Motor Skills Level of Educable Mental Retardation of Elementary Level Students in Sayidan II State Special School, Yogyakarta

Sri Winarni and Tri Ani Hastuti
Yogyakarta State University

Abstract

This research aims to know the fine motor skills level of educable mental retardation of elementary level students in Sayidan II State Special School, Yogyakarta. The research design was using descriptive quantitative with survey and test instrument was design to collected the data. Fine motor skills test used in this research was motion control test with 0.913 in validity and 0.800 in reliability. The research result showed that the fine motor skills level of educable mental retardation of elementary level students in Sayidan II State Special Scholl Yogyakarta was in underprivileged level.

Keywords: fine motor skills, educable mental retardation

Introduction

In general, children have the right and opportunity to develop according to its potential, especially in the field of education. However, there are still many children who have deficiencies in intellectual functioning significantly and along with it to impact the deficiencies in adaptive behavior. In terms of education, children are called mental retardation child (children experiencing barriers to flourish), is one part of special needs children or children late in their fine motor skills. Nowadays many people who had no knowledge of who the child was particularly children with special needs mental retardation educable?, What are the contributing factor?, How their characteristics?, And how their fine motor skills?. Between normal children and children there are remarkable similarities core, that they have desires, aspirations, needs for love, food and protection, and obtain fine motor ability of children is said to be late if at his age he should have been able to develop new skills , but he does not show progress. Especially when it comes to entering the school about 6 years of age, children may not be able to use stationery correctly. Children who experience delays in the development of fine motor difficulties to coordinate the movement of hands and fingers are flexible (<http://gifted-disinkroni.blogspot.com/gangguanmotorik-halusbukan.html>., June 28, 2008).

Children are children mental retardation mental retardation educable included in the group of children whose level of intelligence and adaptability are blocked, but has the ability to grow in academic, social adjustment and ability to work (Moh. Amin 1995: 22). Educable children mental retardation is one element which is also entitled to receive education. They need education in order to improve the quality of life for the better. For that, a special school for exceptional children provides specific teaching methods for them. One special school in Yogyakarta, namely Sayidan 2 public special school prioritize education for them as an effort to increase the primary motion, improving the condition of psychological and emotional problems, and repair capability to be able to socialize in the community. The exercises are focused on fine motor movements.

Fine motor training is given with the aim to train the fine motor coordination or relaxes muscles are stiff hand. Fine motor training is a training process in an effort to improve child mental retardation in relaxing their hand muscles. However, based on the writer's observation, until the current students in special schools mental retardation at Sayidan 2 public special school, particularly children in categories educable mental retardation base class unable yet to maximized their activities, there lack of ability in performing fine motor movements. It is influenced by, the less complete supporting facilities in conducting activities related to motor skills. Like, the condition of the narrow room, exercise equipment used for motor training was minimal. Activities undertaken by students either at school or at the time outside the school, whose time is far more, will also affect the development of motor skills of students, especially their fine motor skills. There are some students who like doing activities, there are also students who are lazy to do the activity.

Different activities, will bring a logical consequence of the development of fine motor ability level students concerned. Therefore, students should be given guidance and training related to fine motor continuously. Based on the background of the problem, identify several problems, and limiting the foregoing problems and to be more clear and focused again the problem, it would need to formulate the problems to be studied in this research. The formula as follows: “what level of fine motor skills of educable children with mental retardation in primary classes in Sayidan 2 public special school?”

Literature Review

1. Fine Motor Skills

According to Sukintaka (2001: 47), fine motor skills can be described as a child's ability to do activities related to motion control and ability to concentrate. The younger the age of the child, the longer time required to concentrate on activities related to fine motor skills. Fine motor control itself is a smaller muscle groups and can be used for grasping, writing, and use tools. Skilled movements unable to mastered before the child develops muscle mechanism. Children must learn the motor skills to be able to do something for themselves their own children (<http://www.Dokter Anakku.com>., September 3, 2008).

Fine motor skills are expected to appear at around the age of 3 years. Since the baby, parents can monitor the development of fine motor skills are. For example, open palms little as 3 months of age. A month later he was able to unite both hands, then at the age of 5 months can move objects between both hands and threw objects at the age of 9 months. Furthermore, at the age of 11 months have been to grabs with two fingers (pincer grasp) and even a year already can use a spoon. Then at age 2 years can open my own clothes, age 3 years unbuttoned shirt, age 5 years to install the shoelaces, and so forth. It is all a functions of everyday social life expected of a child's environment. The emergence of this capability through the development of sensory and motor (<http://www.tabloid-nakita.com>., June 28, 2008).

Anggraini Sudono (1995: 55) suggested that game tools used in training fine motor is string up beads, put a tennis ball into the basket, catch a tennis ball, put puzzles, climbing. Fine motor skills are child's ability to do activities related to motion control and ability to concentrate. The younger the age of the child, the longer time required to concentrate on activities related to fine motor skills. Intelligence fine motor skills of children vary. In terms of strength and accuracy, there are 4 year olds who are adept swimmer. There are also children who have not even 6 years old can eat neatly. Earlier girls have their dexterity of fine motor intelligence. While the boys are superior in step, throw, catch the ball, and climb

or down the stairs. While the girls showed a greater ability when on tiptoe, jump, and run fast. This difference is also influenced by the child's innate and acquired stimulation.

Environment, parents, have a greater influence in the fine motor intelligence of children. Environment can increase or decrease the level of intelligence of children, especially in the first period of his life. Each child is able to reach the stage of development of optimal fine motor home to get the right stimulation. In each phase, the child needs stimulation to develop mental abilities and fine motor. More and more children are seen and heard, the more he wanted to know. If not get a stimulus child will get bored. But that does not mean you should force the children. Pressure, competition, rewards, punishment, or fear may disrupt the effort try to be done. The ability of children based on their developmental stages as follows:

- a. Infant period (Age 0-1 Years), can imitate the voice, responded when asked to communicate, glad to see the images / objects, responding to stories and pictures with voice and pointed to the picture.
- b. Toddler/infants period (1-3 Years), can answer the questions at once recognize the object is from the book, mentions one by one family member's name correctly, pointing and name objects correctly, complete the sentence in the book are already familiar, know the name of the book and recognize it from the cover of the book, turning the pages of a book without help.
- c. First of pre-school period (Age 3 Years), to explore on their own books, listen to a story that was played at her book aloud, retelling the history of the family, say the alphabet with a clear and true, singing the alphabet with a smooth, write letters of the alphabet, mimicking graphics in the book.
- d. End of pre-school period (Age 4 Years), identifying marks or writings that are often encountered, recognize and write letters correctly, read and write their own name, began sounding the first letter of a word, able to match some letters and sounds, using some letters that have been known to then assembled into words.
- e. Kindergarten period (Age 5 Years), to match some spoken word with writing, understanding the rules of writing are mostly written from left to right and from top to bottom, write a few words and some numbers, recognize some sentences that are often heard, guessing The next story within a story.
- f. Elementary school first and second years period (Aged 6-7 Years), able to utter a word that has not / new unknown, use pictures or words to express the new sentence is known, use some punctuation and capitalization have been known in his writings, capable of correcting itself when there is an error in reading the book, demonstrate the ability to master the book by drawing (<http://DokterAnakku.com/>., November 6, 2009).

The purpose of fine motor development of children in public special school according to M. Yudha Saputra (2005: 3) purpose of motor development in children public special school

namely the development of rough and smooth motion. The purpose of the development of fine motor itself is as follows: 1) capable of functioning of the small muscles such as finger movements, 2) able to coordinate hand and eye velocity, 3) able to control emotions.

Fine motor function development of children in public special school according to M. Yudha Saputra (2005: 4) described as the development of fine motor function of special-educated children, namely: 1) as a tool to develop motor skills both hands, 2) as a tool to develop coordination of hand speed, 3) as a tool to train the use of emotions. The cause of the delay fine motor development . There are several factors behind the delays in the development of fine motor skills, including: 1) lack of opportunity to conduct exploration on the environment since the baby, 2) parenting parents who tend to be overprotective and less consistent in providing stimulation to learn, 3). do not get children to do their own activities so that children used to always be assisted to meet their needs, such as always fed so that the flexibility of hands and fingers less honed.

2. Educable Mental Retardation

Suparlan (1983:29) underlined the meaning of educable children mental retardation as a child whose the mental condition is lighter than children whose level of intelligence in imbisil level between 25 - 50. Educable mental retardation children have the intelligence level between 55 - 75. Usa Sutisna (1984: 31) described educable children mental retardation has higher level of intelligence comparing to trainable children mental retardation. While the notion of children mental retardation educable by AAMD (American Association On Mental Deficiency) and Regulation no. 72 of 1991 cited by Moh. Amin (1995: 22), are those included in the group of children whose level of intelligence and adaptability are blocked, but has the ability to grow in academic, social adjustment and ability to work. So, from a few expert opinions can be concluded, that the child mental retardation educable are those who belong to the child mental retardation with intelligence level between 50/55 - 70 / 75, still has the ability to grow in terms of education, social adjustment, and skills to work when get educated by using approaches and learning methods in particular.

Educable Mental Retardation Characteristics

SA. Branatata (1977: 53) stated that the characteristics of children mental retardation educable distinguished two symptoms, namely in the field of mental symptoms and the symptoms in the social field. Which includes mental field in general is a substandard way of thinking, lack the ability to analyze what events they faced, the fantasy is very weak, less able to control the feelings, can remember the term but unable to understand, less able to assess the element of moral and harmonious personality, while the symptoms in the social field is the lack of ability to stand on its own. Moh. Amin (1995: 37) also said that the characteristics of children mental retardation educable is fluent in speaking but not vocabulary words, reaching the equivalent intelligence of normal children aged 12 years. While opinions Usa Sutisna (1984: 53), further emphasizing the characteristics of children mental retardation educable in terms of mental and intellectual, of which even his physical condition similar to normal children but low capacity to think, less able to control herself, attention, thinking ability is weak and unable to learn on their own about everyday life. To review of some general opinion can be affirmed that the characteristics of children mental retardation educable are as follows: 1) low capacity to think so hard to work on tasks that include mental and intellectual functions, 2) fluent in speaking, although his vocabulary is less, 3) have weak memory, so have difficulty in solving problems, 4) less able to control himself.

Research Method

Design

The research design used in this research is descriptive research. The research method used is survey method, with data collection using the testing techniques.

Definition of Research Variable

Fine motor skills of educable children mental retardation is the ability to do activities related to the control muscle movement is smaller and the ability to focus on educable children mental retardation in primary classes at Sayidan 2 special schools as measured with

climbing test (balance training) by walking on the board, put a tennis ball into the basket, catch a tennis ball, string up beads, put a picture puzzle, and put the puzzle geometry.

Population and Sample

The population used in this study are all educable mental retardation students grades I - III at Sayidan 2 Yogyakarta special public Elementary School, which numbered 25 children (6 female and 19 male), with age, 13-15 years old. Sample used in this study were 25 educable children mental retardation at primary classes in special schools Sayidan 2 , Yogyakarta. This is a population research.

Instruments and Data Collection

The instrument used to retrieve data fine motor skill level is to perform tests related to motion control and ability to concentrate, that is; pursued (balance board), catch a tennis ball, put a tennis ball into the basket, string up beads, put puzzles picture, put a puzzle of geometry. Those instruments are assumed to represent measurement components fine motor skills of educable children mental retardation. Fine motor skills level tests are done with:

a. Pursued

Pursue a test conducted by walking him on a board with a length of 3 meters, a width of 20 cm and 30 cm high, each participant perform 3 replication. Pursue a test of balance and aims to train focus on the child mental retardation educable. Here is a system of assessment on tests of attention in educable children mental retardation pursued: 1) score of 3 if it can pursue as many as 3 times. 2) score 2 if it can pursue 2 times. 3) a score of 1 if it can pursue a 1 times. 4) the score 0 if unable to pursue.

b. Catching tennis ball

Test is conducted to train the finger dexterity and hand / eye coordination to catch a tennis ball the way as much as 5 times the catch at a distance of 2 meters. Participants perform tests only catch, a charge of throwing the ball done by testor. Here is a system of assessment on the test catch the ball. Score as follows: 1) The score 3 if it can catch the ball as much as 4-5 times the catch. 2) score of 2 if it can catch the ball as much as 2-3 times the catch. 3) score of 1 if it can catch the ball as much as 1 times the catch. 4) score of 0 if unable catch the ball.

- c. Put a tennis ball into the basket

Test is conducted to train the precision and concentration, by entering a tennis ball into the basket with a diameter of 30 cm by 5 times with a distance of 2 meters. Here is a test system of assessment on put the ball into the basket: 1) score 3 if the ball into a number of 4-5 times. 2) score 2 if the ball into a number of 2-3 times. 3) score of 1 if the ball into a number 1 time. 4) score of 0 if unable to enter the ball.

- d. Put puzzle picture

Test is conducted to train the accuracy, concentration, hand / eye coordination, by placing a picture puzzle with a given time. Here is a test system of assessment on put the puzzle picture: 1) score 3 if completed in less than 2:00 minutes. 2) score 2 if completed in time 02.01 - 03.00 minutes. 3) score of 1 if completed in time 03.01 - 04:00 minutes. 4) score of 0 if completed in time more than 4:00 minutes or not able to perform.

- e. Put a puzzle of geometry

Test is conducted to train the accuracy, concentration, hand / eye coordination, and train your memory by placing geometry puzzle with a given time. Here is a system of assessment on the test: 1) score 3 if completed in less than 2:00 minutes. 2) score 2 if completed in time 02.01 - 03.00 min. 3) score of 1 if completed in time 03.01 - 04:00 minutes. 4) score of 0 if completed in time more than 4:00 minutes or not.

Validation

Validity

To measure the validity of the instruments used techniques of Karl Person Product Moment with level of significance of 5% or 0.05 (5% degree of confidence, meaning an error rate of 5% and 95% level of truth.) After the trial data collected, then analyzed with computer assistance program series statistics (SPSS - 17). The result of experiments performed to produce the validity of 0.913. It can be concluded that the instrument measuring fine motor skills that are used to collect data declared valid.

Reliability

Alpha Cronbach is used to verify the reliability of the instrument because score on the instrument is graded score with the range 0 – 3.

Findings

1. Pursued

Children mental retardation this educable test in the form of climbing or walking the plank along the 3-meter, a width of 20 cm and 30 cm high for 3 times. The test results of children mental retardation educable primary classes in special school Sayidan 2, Yogyakarta, about the level of fine motor skills can pursue is in the form of the 25 respondents who used the sample for the test form of climbing. Based on the above test results, showed that the highest score achieved by only 4 children mental retardation (16%). The lowest score of 5 children mental retardation occupied (20%), who obtained a score of 1 is mental retardation 10 children (40%) and the gain score of 2 is 6 children mental retardation (24%). This shows that the tests conducted on children in the elementary classroom educable mental retardation at Sayidan 2 public special school, Yogyakarta, about the level of fine motor skills in the form of climbing, the results are not satisfy because there are some children who obtain low scores.

2. Catching Tennis Ball

Educable mental retardation test in the form of catch tennis balls as much as 5 times the catch thrown from a distance of 2 meters. Recapitulation of the test results of children mental retardation educable primary classes in special schools Sayidan Affairs II, Yogyakarta, about the level of fine motor skills in the form of a tennis ball is caught.of the 25 respondents who used the sample for the test form to catch the ball. Based on the above test results, showed that the highest score achieved by only 2 children mental retardation (8%). Occupied the lowest score mental retardation 7 children (28%), who obtained a score of 1 is mental retardation 10 children (40%) and who obtained a score of 2 is 6 children mental retardation (24%). This shows that the tests conducted on children in the elementary classroom educable mental retardation Sayidan 2 public special school Yogyakarta. Level of fine motor skills in the form of catch the ball, the results are not satisfy because there are some children who obtain low scores

3. Throwing Ball into Basket

Educable children mental retardation test in the form of throwing the ball into the basket as much as 5 times the throw with a throw distance of 2 meters. The test results of children mental retardation educable primary classes in public special school Sayidan 2, Yogyakarta shown the level of fine motor skills in the form of throwing the ball 25 respondents who used the sample for the test of throwing the ball into the basket. Based on the above test results, showed that the highest score achieved in 4 children mental retardation (16%). The lowest score of 4 children mental retardation occupied (16%), who obtained a score of 1 of 7 children mental retardation (28%) and 10 children who obtained a score 2 (40%). This shown that the tests conducted on children in the elementary classroom educable mental retardation in Sayidan 2 public special school was not satisfy.

4. String Up Beads

The research concludes that the ability of string up beads which is a part of fine motor skills of educable mental retardation in Sayidan 2 public special school was not satisfy because there are some children who obtain low scores with the highest frequency were only 14 children or 56% gained score 1. Lack of flair, precision, accuracy and emotions are few things affected the results.

5. Inserting Picture Puzzle

Educable mental retardation test in the form to set picture puzzles and the assessment criteria on the terms specified time standard. The test results of educable children mental retardation primary classes in special schools Sayidan 2, Yogyakarta were the level of fine motor skills in the form of a picture puzzle of the 25 respondents who used the sample for the test form set picture puzzle. Based on the above test results, showed that the highest score achieved as much as 5 children mental retardation (20%). The lowest score, there were no children mental retardation who won the lower or 0, which obtained a score of 1 as many as 12 children mental retardation (48%) and who obtained a score of 2 is 8 children mental retardation (32%). This shows that the tests conducted on children in the elementary classroom educable mental retardation are not satisfy.

6. Replacing Geometry Puzzle

There are 25 respondents were performed set geometry puzzle. Test results showed that the highest score achieved as much as 1 child mental retardation (4%). The lowest score of 3 children mental retardation occupied (12%). who obtained a score of 1 as many as 15 children mental retardation (60%) and who obtained a score of 2 is 6 children mental retardation (24%). This shows that the tests conducted on children in the elementary classroom educable mental retardation at Sayidan 2 Yogyakarta are not satisfy because there are some children who obtain low scores.

Discussion

This research is descriptive research that aims to know the description of the level of fine motor skills of children mental retardation educable primary classes in Sayidan 2 Yoyakarta public special school. From the description of the above data has been analyzed and found that the level of fine motor skills of children mental retardation educable primary classes in Sayidan 2 Yogyakarta public special schools on underprivileged categories. This is evidenced by the recapitulation of all the tests have been conducted with the highest frequency mental retardation educable 9 children or 36%, which is in the category of poor. Can also be seen with a large mean score, namely 8.32 (located on the class interval 7-9 with underprivileged category.) Discussion on fine motor skills of children mental retardation as follows:

1. Pursued

The research concludes that the ability to pursue which is a series of fine motor skills of children mental retardation educable primary classes in Sayidan 2 public special schools was not satisfy, because there are some children who obtain low scores with the highest frequency mental retardation 10 children or 40% get the score 1. This is because the emotional level is less controlled and hard to focused.

2. Catching Tennis Ball

The research concludes that the ability to catch the ball which is a series of fine motor skills of children mental retardation educable primary classes in Sayidan 2 public special schools was not satisfy because there are some children who obtain low scores with the

highest frequency mental retardation 10 children or 40% get the score 1. This is caused by a lack of accuracy in measuring the speed of the ball, the ball's position as it approached the body, and speed in catching the ball.

3. Throwing Ball into Basket

The research concludes that the ability to insert the ball into the basket which is a series of fine motor skills of educable children mental retardation primary classes in Sayidan 2 public special school was not satisfy because there are some children who obtain low scores with the highest frequency mental retardation 10 children or 40% get the score 2. This is due to a lack in concentration at the point of focus and measure how the speed and strength of the current hand will make the throw.

4. String Up Beads

The research concludes that the ability to string up beads which is a series of fine motor skills of educable children mental retardation primary classes in Sayidan 2 public special school was not satisfy because there are some children who obtain low scores with the highest frequency mental retardation 14 children or 56% get the score 1. Factors lack of flair, precision, accuracy, and emotions are things that affect less the maximum results obtained.

5. Inserting Picture Puzzle

The research concludes that the ability to put the picture puzzle not persuade good level. This is because the thinking ability is low, less able self control, have weak attention and weak to memorize.

6. Replacing Geometry Puzzle

The research concludes that the ability to put the puzzle of geometry which is a series of fine motor skills of children mental retardation of educable primary classes in Sayidan 2 public special schools not satisfying because there are some children who obtain low scores with the highest frequency mental retardation of 15 children or 60% only got the score 1. This is because the child's ability to think mental retardation educable mental retardation low so that children have difficulty doing tasks directly related to intellectual mental functions.

From the above discussion concludes that the child's fine motor skills educable mental retardation primary classes in Sayidan 2 Yogyakarta public special schools were at underprivileged category and the results of tests fine motor skills are still a lot of low scores. This is because the fine motor skills is a motor movement which is involves the activity of small muscles or smooth, motor movement is more guided eye and hand coordination and ability to control the motion of motion, which allows for accuracy and precision in motor movement. This ability to grow more slowly than gross motor skills because it demands in the fine motor activity is higher.

Conclusions

From the results of research and discussion above, it can be concluded that the level of fine motor skills of educable children mental retardation primary classes in Sayidan 2 Yogyakarta public special schools at underprivileged level.

Recommendations

1. Researchers, should consider to conduct further studies with larger location and population
2. Deeper and similar studies are needs with more comprehensive and complex variables in line with the fine motor skills

References

Abdoelah Arma. 1996. *Pendidikan Jasmani Adaptif*. Jakarta : Dirjen Dikti

Bucher, C.A., (1985): *Foundations of physical Education and Sport*, St.LOUIS: The CV. Mosby Company.

Blackhurst, A.Edward, (1981): *Introduction of Special Education*, Little Brown and Company, Boston, Toronto.

Branatata S.A. (1997) *Pendidikan Anak Tuna Mental*. Bandung: NV.Masa Baru

Crowe, W.C.; Auxter, D.; Pyfer, J., (1981): *Principles and methods of adapted physical education*, St. LOUIS: The C.V. Mosby Company.

Department of Health, Education and Welfare, (1977): *Education of handicapped children: Implementation of part B of the Education of Handicaped Act*, Federal Register, Washington, D.C.

Geraldine T. Scholl, (1986): *Foundation of Education for Blind and Visually Handicapped Children and Youth*, American Foundation for the Blind, Inc, New York.

<http://gifted-disinkroni.blogspot.com/gangguanmotorik-halusbukan.html>, 28 Juni 2008

<http://www.tabloid-nakita.com>, 28 Juni 2008

<http://DokterAnakku.com>, 6 Nov 2009

Moh Amin. (1995) *Ortopedagogik Anak Tuna Grahita*. Jakarta: Direktorat Jendral Pendidikan Tinggi

Sukintaka (2001) *Teori Pendidikan Jasmani*. Solo: Esa Grafika

Suparlan (1983) *Pengantar Pendidikan Anak Subnormalita Mental*. Yogyakarta: Pustaka Pengarang

Usa Sutisna. (1984) *Pendidikan Anak Terbelakang*. Jakarta: Depdikbud