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Development of Fine Motoric Training Program for Down Syndrome Tklb Children at Slb B-C Ypni Pameungpeuk

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Abstract

Down syndrome children have difficulty learning fine motor skills, but they can develop according to their abilities to live independently. One aspect that is trained is to optimize fine motor skills. Development of fine motor training programs for children with down syndrome. The research method used is descriptive method with qualitative research. The data collection techniques used are observation, interviews, documentation, FGD (Focus Group Discussion), and validation. The results obtained are a fine motor training program that refers to the current curriculum and is based on the research objectives carried out by teachers and researchers because the fine motor skills of children with down syndrome are less developed so fine motor training programs need to be held for children with down syndrome TKLB by providing media that support fine motor training using finger painting. Recommendations are addressed to teachers so that in the implementation of fine

motor training this also invites parents to participate in improving fine motor skills, both at home and at school, so that children's abilities will develop according to their age.

Keywords

development, exercise, fine motor skills, finger painting, children with down syndrome

A. Introduction

Children with special needs are those who have abnormalities both permanent and temporary and affect learning, so they need special education services. According to Sulthon (2021: 1) "Children with special needs are children who in their growth and development experience obstacles or deviations both physically, mentally, intellectually, socially, emotionally, and communication that are different from children in general or normal so that they need special education services". There are many categories of children included in special needs, one of which is children with down syndrome.

Down syndrome is a genetic disorder that causes children to have a low level of intelligence and typical physical abnormalities. According to Dewi (2010:13) that: "down syndrome is a form of chromosomal abnormality that has an impact on physical and mental developmental delays. Chromosomal abnormality due to the presence of an excessive number of 21st chromosomes which amount to 3 called trisomy, this makes the number 47 chromosomes."

Based on the above quote, it can be concluded that children with down syndrome are children who have obstacles and delays in almost all aspects of development caused by abnormalities in chromosomal development, causing children to have below-average intelligence levels and typical physical abnormalities. Children with down syndrome require special attention and support for learning and development.

Down syndrome children have obvious physical characteristics, such as relatively short height, small heads, and flat noses resembling Mongolians. Usually, the skin layer of the patient looks wrinkled even though he is still young. Smart, (2010) in Rina (2016:216) that: "Characteristics of children with down syndrome are usually less able to coordinate between gross and fine motor skills, they take a long time to practice". Meanwhile, according to Faridy (2021:114) one of the characteristics of down syndrome is having weak muscles or veins. So it can be concluded that down syndrome has fine motor skills that are inhibited and requires a learning program that can make down syndrome fine motor skills develop optimally.

According to Alton (2005:1), "down syndrome children who experience weakness in fine motor muscles can still be adequately developed and actively participate in daily life". Meanwhile, according to Michael & Cermak quoted by Chiu, Heidebrecht & Wehrmaan, (2008:2) that: "found 30-60% of activities in each schoolday requires the use of fine motor skills. This represents a significant challenge to students who experience difficulty with fine motor skills because of a developmental delay or other medical problems". From the above quote, it can be concluded that children with down syndrome

can perform tasks at school despite experiencing weakness in fine motor muscles, but the challenge of performing fine motor skill activities cannot be done independently.

Fine motor learning methods are very important for children with down syndrome because they can help them develop the motor skills needed to function independently in daily life. Therefore, it is necessary to intervene to help children with down syndrome improve their skills in performing school tasks and provide more support to them to help improve their skills in general.

The results of preliminary studies conducted by researchers at SLB B-C YPNI Pameungepuk found children with down syndrome who have not developed fine motor skills. Based on this, researchers are interested in conducting research on the development of fine motor training programs through finger painting for children with down syndrome TKLB in SLB B-C YPNI Pameungpeuk. Through the development of an exercise program, it is expected to help educators in training fine motor skills for children with down syndrome.

Several studies have been conducted in this program as researched by Zuhria, Irma (2018). About the Effect of Finger Painting Activities on Fine Motor Skills of Moderate Tunagrahita Children in SLB C Dharma Wanita Lebo Sidoarjo. stated that the results of his research showed that Finger Painting activities could have an effect on the fine motor skills of moderate tunagrahita children which eventually increased significantly in the aspect of holding objects, etc.

Evivani, Maria's research (2020) on Finger Painting Games to Develop Fine Motor Skills in Early Childhood. In her research, it is stated that Finger Painting games can develop children's fine motor skills.

Taiyeb's research, Hudayah (2016) on fine motor skills through finger painting techniques for children with down syndrome. In his research, it is stated that finger painting techniques can improve fine motor skills in children with down syndrome. The aspect of painting using all fingers and alternately shows an increase in the mean level from baseline A1 to baseline A2 in developing fine motor skills and also the coordination of eye and hand dexterity. Thus, the finger painting technique is a significant technology in the development of fine motor skills in children with down syndrome.

B. Research Methodology

This research refers to a qualitative research approach that presents directly the nature of the relationship between researchers and respondents to solve problems by the objectives to be achieved. Regarding the definition of qualitative research, it is stated by Moleong (2011:6) as follows:

Qualitative research is research that intends to examine phenomena about what the research subject experiences, for example, behavior, perceptions, motivations, actions, and others holistically and in a descriptive way in the form of words and language in a special natural context by utilizing scientific methods.

Meanwhile, Sugiono (2013:3) states that "qualitative methods are used to obtain in-depth data, data that contains a meaning". From this description, it can be concluded that a qualitative approach is a research approach used to examine and analyze research

objects naturally with the researcher as the key instrument in this study.

In this research, the method used is a descriptive method, which is a method aimed at solving problems in the present that are ongoing. Hidayat (2010:29) states that the "Descriptive method is a research method used to fulfill the widest possible knowledge of the object of research at a certain time". Meanwhile, according to Arifin (2012:54), descriptive research is "research used to describe and answer questions about a phenomenon or event that is happening now, either about a single variable phenomenon or a correlation and or comparison of several variables".

Based on the description above, the descriptive method is a research method used to analyze and present facts systematically and accurately from a social situation, and social symptoms, and serves to solve a problem faced in the factual present.

Through the use of this descriptive method, it is hoped that researchers can collect data, compile data and analyze data so that researchers get an in-depth, systematic, and precise picture. In this research, there are five types of data collection techniques, namely observation, interviews, documentation, FGDs, and validation.

This study conducted observations conducted before and during the study. According to Sukmadinata (2008:220), "Observation or observation is a technique or way of collecting data by observing ongoing activities". Based on these quotes, it can be concluded that observation is a way of collecting data by observing ongoing activities without affecting these activities. Researchers conducted observations to determine the ability to learn fine motor skills in children with down syndrome TKLB in SLB B-C YPNI Pameungpeuk.

While the interview data collection technique according to Esterberg in Sugiyono (2013:231) is: "an interview is a meeting of two people to exchange information and ideas through questions and answers, so that meaning can be constructed in a certain topic". Based on this quote, an interview is a meeting between two people to get information through questions and answers about the topic to be discussed. Interviews were conducted with class teachers to obtain data on the implementation of fine motor learning for children with down syndrome TKLB in SLB B-C YPNI Pameungpeuk.

The third data collection technique is documentation. According to Suharsaputra (2014:215), "documentation is a written or printed record of past events and can be in the form of anecdotal notes, letters, diaries, and documents". Based on this quote, documentation is the process of recording events or events in the past in writing or print. Documents that are the result of documentation are in the form of anecdotal notes, letters, diaries, and other documents. In this study, documentation studies were conducted to obtain data or documentation related to the form of fine motor learning programs for children with down syndrome TKLB in SLB B-C YPNI Pameungpeuk that exist today.

The fourth data collection technique is Focus Group Discussion (FGD). Sudaryono (2019:550) states that: "FGD is a directed discussion with a clear focus of the problem or topic to be discussed and discussed together". Based on this quote, Focused Group Discussion (FGD) is a group discussion to solve a clear problem focus and find solutions. In this study, Focused Group Discussion (FGD) was conducted to collect data and

information to develop a fine motor learning program through finger painting through discussions to equalize perceptions between researchers and teachers at SLB BC YPNI Pameungpeuk to develop a fine motor learning program finger painting for children with down syndrome TKLB at SLB BC YPNI Pameungpeuk.

The fifth data collection technique is validation. Sugiyono (2015:267) states that: "validation is the degree of speed between the data that occurs in the object of research and the power that can be reported by researchers". Based on this quote, validation is a measure that shows the level of validity of research, namely the degree of speed between the data that occurs on the object of research and the power that can be reported by researchers. Therefore, the validation carried out in this study is important in monitoring data quality and measuring the accuracy of the results of the implementation of fine motor learning programs through finger painting for children with down syndrome TKLB at SLB BC YPNI Pameungpeuk. This validation was carried out at SLB Rafaha Arjasari and SLB YPLAB Banjaran. In obtaining data accuracy, researchers use data analysis techniques such as reducing data, presenting data, and verifying data/conclusions to ensure accuracy. These steps help researchers to get quality and reliable research results.

The research subject is the party that is used as the source of data in the research, its position is very central because it is on the research subject that data about the variables studied and observed by the researcher. The subjects of this study consisted of 1 (one) teacher and 3 (three) children from SLB BC YPNI Pameungpeuk and 2 (two) validators, namely grade 2 teachers from SLB Rafaha Arjasari and SLB YPLAB Banjaran.

C. Research Results and Discussion

1. Research Results

Based on the results of research on fine motor skills owned by children with down syndrome TKLB aged 6 years, they can do fine motor exercises to make vertical, horizontal, wave, and curved lines. Children can trace when putting on shoes, making spiral lines, and folding but still need help.

In general, teachers carry out fine motor learning with several steps such as preparation, implementation, and follow-up. Before preparing the program, teachers first assess to find out the initial abilities of individuals based on the results of the assessment, a program is made which contains objectives, material, time, media, methods, and evaluation.

In making learning materials based on the aim to improve fine motor skills, the media used is finger painting. Tools that can support activities that are tailored to the material that has been given and adapted to the needs of children. Evaluation is carried out at the end of learning and during fine motor training activities.

During the initial activities of fine motor training, the teacher conditions the children by preparing relevant tools and giving initial tests to determine the child's ability, during core activities including the introduction of tools such as paint that is safe for children, practicing hand polishing, drawing according to the child's wishes using finger painting media in the final

activities of the implementation evaluating the child's ability. With follow-up efforts in fine motor training, teachers can formulate improvement and enrichment programs depending on the evaluation results. The form of fine motor training program for children with down syndrome refers to the applicable curriculum and there are fine motor learning outcomes in this school. The workshop activities between researchers and class teachers produced a form of fine motor program development with finger painting media such as drawing with patterns or with more interesting images, the method of implementation in addition to demonstration is also an exercise and assignment so that it is more varied.

While in the validation activities carried out on two different teachers, the school gave input so that the fine motor training media through finger painting needs to be developed according to the abilities and conditions of the children.

Form of Development of Fine Motor Exercise Program
for Children with Down Syndrome TKLB in SLB B-C YPNI Pameungpeuk
(FGD Results and Validation)

Competency Standards	Basic Competencies	Indicator	Material	Methods	Tools/Media	Time	Evaluation
1	2	3	4	5	6	7	8
Children can perform physical activities in a coordinated manner in preparation for writing such as flexibility and regularity of hand movements	Relaxing muscles by making lines	<ul style="list-style-type: none"> • Making a vertical line • Making a horizontal line • Making a slash • Making a curved lines • Making a wave line • Making a spiral lines • Making a circle (validator 1) 	Creating a line	Lecture Demonstration Exercise Assignment	<ul style="list-style-type: none"> • Pencil • Paper • Pictures of lines and circles • Watercolor 	6 x meeting 1 x meeting 30 minutes 6 weeks	Actions
	Relaxing muscles by tracing	<ul style="list-style-type: none"> • Tracing the shape picture • Tracing fruit pictures • Tracing animal pictures 	Tracing the picture	Lecture Demonstration Exercise Assignment	<ul style="list-style-type: none"> • Pictures of shapes, fruits, and animals • Color pencils • Crayons • Watercolor 	6 x meeting 1 x meeting 30 minutes 4 weeks	Actions
	Relaxing muscles with eye-hand coordination	<ul style="list-style-type: none"> • Folding a paper square • Folding to form a toy (Validator 1) • Pasting mosaic technique • Putting the puzzle together 	Folding Sticking Installing Drawing shapes	Lecture Demonstration Exercise Assignment Finger painting	<ul style="list-style-type: none"> • Paper • Glue • Puzzle • Duplex paper • Performer • Watercolor 	6 x meeting 1 x meeting 30 minutes 4 weeks	Actions

	Relaxing muscles by drawing freely through finger painting	<ul style="list-style-type: none"> • Make circles, rectangles, triangles • Constructing shape drawings into specific images using paint (Validator 2) • Coloring the picture (Validator 2) • Draw a house, tree, human 	Simple drawing	<ul style="list-style-type: none"> • Lecture Demonstration • Exercise Assignment • Finger painting 	<ul style="list-style-type: none"> • Pencils • Pens • Paper • Sample image 	<ul style="list-style-type: none"> • Pencil Color • Crayons • Paper Sample 	<ul style="list-style-type: none"> • 6 x meeting • 5 • 1 x meeting • 30 minutes • 4 weeks 	Actions
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Discussion

Down syndrome is caused by abnormalities in the arrangement of the 21st chromosome out of 23 chromosomes. In normal humans, 23 chromosomes are paired so the number is 46. In children with down syndrome the chromosomes are 47 because on chromosome 21 there are 3 (trisomy).

According to the Indonesian Ministry of Health (2019), "down syndrome produces copy 3 on chromosome 21, this causes the baby to have 47 chromosomes, unlike normal babies who have 46 chromosomes."

Balint (2019) "down syndrome also has psychomotor disorders characterized by personality imbalances such as agitation, easily distracted attention, lack of concentration and willpower, and difficulty in coordination of movements"

According to Irwanto (2019) "Muscles in down syndrome children can perform movements, but the movements are slower, weaker, and not well coordinated".

Education for children with down syndrome aims to develop their potential optimally so that they can live independently and can adjust to the environment where they are, and recognize children with down syndrome as stated. For children with down syndrome, muscle control of the hands, shoulders, and wrists when stopped will return to stiffness which will result in pressure when writing. The pressure can feel rough and hard so that the writing made is palpable and leaves traces on the back of the paper. This makes children lazy to write and often complain of fatigue. Fine motor training with Finger Painting in learning is a teacher's effort to activate the fine motor skills of down syndrome students.

Fine motor is a movement that involves only certain parts of the body and is carried out by small muscles and requires careful coordination, such as cutting to follow a line, opening and closing objects easily, pouring water into a glass without splashing, using brushes, crayons, and markers with precise control.

Finger Painting is a learning medium for students to train their fine motor skills. Down Syndrome children experience problems in fine motor skills, one of which is due to stiffness in the hands. With finger painting, it is hoped that children can develop their fine motor skills.

This media is prepared before learning by communicating with parents to make it. The method of making it is very practical, using cornstarch, water, and food coloring. After the flour and water are mixed, cooked, then divided into three, add food coloring, stirred, wait until it cools, and then use it.

D. Conclusions and Recommendations

Based on the results of the research conducted at SLB B Pamengpeuk, the researcher suggests the following conclusions:

1. Summary

Gross and fine motor skills that children have from an early age, the sequence and development are almost the same, fine motor skills involve movements that are finely regulated, and motor skills must be one of the very important parts for children to have, because many academic and cognitive abilities are based on success in the field of fine motor.

TKLB children who experience fine motor disorders will affect the learning process, requiring appropriate motor training with the development of a fine motor training program for children with down syndrome TKLB. Children can master basic skills in academic development. Learning aids need to be developed into tools that are prepared for each child per finger painting material that uses interesting pictures.

2. Recommendation

Based on the research results, suggestions and input can be taken into consideration, recommendations are addressed to:

a. For Teachers

Teachers are expected to always be able to innovate in developing programs and media for children with special needs to help sustain learning.

b. For the School Principal

The principal should be able to respond to the creativity and motivate teachers to develop a learning process that is effective and successful for children, providing opportunities for teachers to attend piece of training.

c. For Future Researchers

The problems faced by children with down syndrome are very many that have not been revealed, researchers hope that future researchers can discuss things that are more concrete and significant for the needs of children.

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