The Effect of TEACCH Method towards Self-Help Ability on Wearing Clothes for Children with Down Syndrome

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Abstract: Children with Down syndrome have intellectual delay in their coginitive development. One of the characteristics is the low ability of self-development. The aim of this research is to describe the effect of the TEACCH method towards the ability of self-help on wearing clothes for down syndrome students. The research was arranged based on the Single Subject Research (SSR) experimental method with the A-B-A design. The conclusion of this research is that the intervention using the TEACCH method can establish the ability to wear clothes of Down syndrome students.

Keywords: TEACCH Method, Self-help Ability to Wear Clothes, Syndrome Down

INTRODUCTION

The most basic skills in the special needs called Activity Daily Living (ADL). Everyone needs certain skills to just go through the day. Skills relating to ADL children with special needs can be described through the term self-help. Widati (2013) explains that the spectrum of self-help for special need children (ABK/ Anak Berkebutuhan Khusus) covers a broad range of learning that is that each child with special needs requires a different ADL. The difference is related to the obstacles of each child who needs a variety of ways, tools, or methods that can be used by each child with special needs in practice. Shenai and Dinaz (2014) explains that self-help skills are an integral component of a child's global development. One of the skills in self-help that is wearing clothes. Tuteja, Nigam, & Birla (2017) explain that dressing activity gives children the opportunity to practice their independence and ability limits within the scope of ADL. Clothing can be considered as one of the minor environmental problems for children with disabilities with all its limitations.

Children with down syndrome are one of the persons with disabilities who have physical and mental development barriers marked by chromosomal abnormalities. The developmental abnormality of chromosome 21 that does not manage to separate itself during division, resulting in an individual with 47 chromosomes (Meinapuri, 2013). Down syndrome is a disorder that is also classified as a condition that arises from birth such as mental retardation, certain physical differences such as the shape of the face that is slightly flat and increases the risk of medical conditions including liver disorders, intestinal obstruction and damage to vision and hearing. Children with Down syndrome have IQs below the average and difficulty in

accepting learning because they require a long time, the ADL skills taught require self-help learning methods that can be adapted to the conditions. Arranged in such a way according to the needs, characteristics, and obstacles of children and benefit the children in the future.

According to Barta, & Salinas (2014) explains the characteristic facts about down syndrome, as follows: a) Down syndrome is the most common chromosomal abnormality in humans, b) Down syndrome occurs in every 600-800 live birth rates and is not related to race, nationality, religion, or socioeconomic status, c) although maternal age can be a contributing factor, 80% of children with Down syndrome are born by mothers under the age of 35, with an average age of 26 years, d) Down syndrome occurs in men or women equally, e) not because of things done or not done by a mother who causes Down syndrome.

Gunarhadi (2005) states that children with mild Down syndrome are those who are likely to receive education in independence, writing and arithmetic at a certain level in special schools. Down syndrome also affects a child's ability to think, reason, understand, and socialize. Children with Down syndrome often need more time to reach important goals. Some also have problems with behavior, they might not pay attention well, or they can be obsessive about some things. That's because it's more difficult for them to control their impulses, connect with others, and manage their feelings when they feel frustrated.

Based on observations, it was found that there are students with Down syndrome who have difficulty in wearing clothes independently. One of the abilities that can be taught to children with Down syndrome is the ability to develop themselves through various learning programs that are fun and easily understood

by students with the use of appropriate methods. Therefore the use of a variety of appropriate teaching methods will bring the appropriate positive impact in improving the self-help skills of students with Down syndrome. Appropriate teaching methods are methods that are able to influence the achievement of students in their daily activities.

The TEACCH (Treatment and Education of Autistic and Realted Communication-handicapped Children) method aims to promote learning and development in children with special needs. The key idea is to teach children in ways that utilize strengths and overcome weaknesses of children with special needs. NasoudiGharehBolagh & VosoughiIlkhchi (2013) explain that the TEACCH method uses structured teaching to train children in the areas of social skills, life skills, specific field skills and communication skills.

Basically, TEACCH structured teaching is aimed at children with autism but it also needs to be investigated whether the method can be applied to children with Down syndrome. According to Handojo (2009), one of the structured approaches is the ABA method that breaks skills into small things that can be done and then builds those skills, so that, the children will learn how to learn in their environment. The ABA method is a strict nonviolent method that is good for children with other behavioral disorders than autism. A small proportion of children with Down syndrome are also diagnosed with a developmental condition called autism spectrum disorder, which affects communication and social interaction. So, the same with the TEACCH method which also uses a structured approach can be used for children with other behavioral disorders namely Down syndrome. The TEACCH method fosters children's strengths and interests, and develops appropriate structures that promote children's independent work skills as well as developing children's communication and social skills. It was stated that the purpose of structured teaching was to increase children's independence, improve skills and prevent behavioral problems.

TEACCH is centered on 4 basic principles. Mesibov & Shea (2010) suggested that the principles of the TEACCH method include: a) environmental management, b) visual information, c) special interests as reinforcement, d) meaningful communication.

According to Mesibov & Shea (2010), environmental structuring which includes: (1) Physical structure refers to the actual layout or environment of students, such as classrooms and homes. The purpose of the physical structure is the main environmental arrangement as a separation between the place used for learning and resting, (2) Schedule is part of the learning structure needed by students. The purpose of scheduling is that the teacher has a framework for effectively teaching students. (3) The work system is concerned with the material of the assignment given to tell the child what is expected of him during an activity, how much should be achieved, and what happens after the activity is completed. The aim is to teach students to work independently.

Visual information can help providing structure to routines, encourage independence, increase understanding, and providing opportunities to interact with others.

A special interest as an amplifier is an object or activity that students like and are interested in, which can be provided after the achievement of a behavior is carried out, to increase the frequency of that behavior in the future.

Meaningful communication uses meaningful language in structured teaching which means it is not equivalent to just learning to say words during practice. Structured teaching assumes that receptive understanding is the basis for the use of expressive communication.

METHOD

The method applied is an experimental method. Based on the problems studied, it is used a type of experimental research in the form of Single Subject Research (SSR). This single-subject research method aims to obtain the necessary data by knowing the presence or absence of the influence of the independent variables used as interventions on the dependent variable. This study will look at whether or not the influence of the TEACCH method to shape the self-help behavior of wearing clothes on Down syndrome students. The research design that the researchers applied in this study was A-B-A 'design.

Baseline-1 (A1) is a symbol of the baseline data. The baseline-1 (A1) phase is a condition when measuring target behavior carried out at the initial condition before being given an intervention. Student ability is measured without any intervention in this phase. Measurements applied for this phase are three sessions with a duration of time that is adjusted to the needs. Intervention (B) is a description of the conditions regarding the ability of students during given interventions repeatedly through observing the results during the application of the intervention. The intervention phase (B) is a condition that indicates an intervention has been given and the target behavior is measured based on that condition. In this phase, students are treated using the TEACCH method repeatedly until stable data is obtained. The intervention was carried out in four sessions. Interventions were given by training students' ability to wear clothes using the TEACCH method. Baseline-2 (A2) is a repetition condition of the baseline-1 phase without providing intervention, which is intended as a control for the intervention phase, so that, it can draw conclusions about the functional relationship between the independent variable and the dependent variable.

Table 1 Accumulation Data Measurement Result of Ability to Wear Clothes

Session	Condition	Value (%)
1	*Baseline*-1 (A1)	47
2		56
3		58
4		61
5		61
6		61
1	Intervention	81
2		72
3		86
4		92
5		89
6		89
1	*Baseline*-2 (A2)	78
2		81
3		86

Figure 1. Accumulated Data Measurement Results of Ability to Wear Clothes
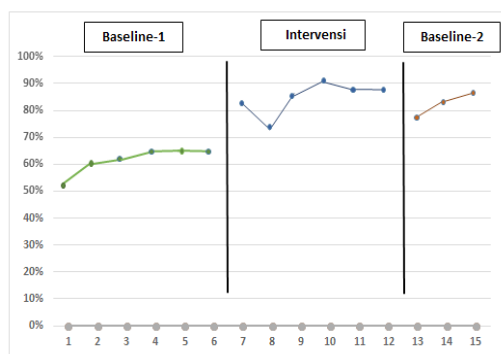
In this phase, the capability measurement is carried out in three sessions. The test instrument used is the same as the instrument in the baseline-1 stage.

Data analysis is divided into analysis in conditions and analysis between conditions. The steps in analyzing the conditions, consist of: (1) Determining the Length of the Condition, (2) Determining the Estimation of Direction Trend, (3) Determining the Trend Stability, (4) Determining the Data Footprint, (5) Determining the Stability Level and Range, (6) Determine the Level of Change. While the steps in analyzing between conditions, consist of: (1) Determining many changing variables, (2) Determining changes in direction and effects, (3) Determining changes in stability trends, (4) Determining level changes, (5) Noting whether overlap percentage.

FINDINGS AND DISCUSSION

Findings

The subject of the study was a student with Down syndrome in the basic therapy class of SLB Idayu II Pakis. The student is KV 5 years old, Male.

Students experience delays in language development. Have interactions in the form of good eye contact. The behavior does not appear to be a self-inflicted child. Students tend not to be hyperactive. Students have gross motor skills including: walking, running, and sitting well. But it has low ability in fine motor skills, namely buttoning a shirt. Students have the power of concentration that is easily disturbed by stimuli in the surrounding environment.

The first step in data collection is to measure the subject's initial ability to wear clothes before being given an intervention. Social ability in question is the ability to interact with peers and with the teacher / therapist in play activities.

Baseline 1 (A) conditions were taken daily from March, 1 to 11 2019. Measurements were made in six sessions with a span of 15-20 minutes / day. In baseline 1 (A) conditions were observed without treatment to determine the subject's initial ability. The data collection was carried out based on the observation sheet guide prepared by the researcher. The observation sheet consists of four aspects that illustrate the ability to wear student clothes against the teacher / therapist or with their peers, each aspect consisting of 2-4 statements.

The next stage is the provision of intervention to the research subjects for six sessions. Retrieval of data starts from March, 12 to 19 2019 with a span of 15-20 minutes / day assisted by 1 observer, the class teacher. This measurement is done after the subject gets treatment through the pictorial board media about the steps to wear clothes. The final stage is to measure baseline-2 (A2). Baseline-2 (A2) stage is a measurement of the subject's final ability to use after being treated. Measurement of baseline-2 (A2) conditions was carried out by observation without treatment. Measurement of baseline-2 (A2) was done in 3 sessions with a span of 15-20 minutes / day. This measurement is carried out after the subject is not treated through the pictorial board media.

The value of the measurement results of the ability to wear down syndrome students' clothes has been accumulated in the form of percentages with the following explanation: 1) In the baseline-1 (A1) condition test, six sessions were conducted. The first session with a score of 47 results, the second session with a score of 56, the third session with a score of 58, the fourth to the sixth session with a score of 61. 2) In the intervention condition test (B) carried out six sessions. The first session with a score of 81, the second session with a score of 72, the third session with a score of 86, the fourth session with a score of 92, the fifth and sixth sessions with a score of 89. 3) In the baseline-2 (A2) condition test carried out three session. The first session with a score of 78, the second session with a score of 81, the third session with a score of 86.

Based on the data accumulation table 1, the ability to wear down syndrome students' clothes can be illustrated in the following Figure 1.

The measurement results of the ability to wear down syndrome students in SLB Idayu II Pakis show a line that illustrates the overall data, figure 1. Green line is as a result of data in baseline-1 (A1) conditions. In the first session, physical and verbal assistance was widely applied to the aspect of buttoning a shirt. In the second session, students showed an increase in understanding of the term shirt collar. Students are able to identify shirt collars without assistance. In the third session, students demonstrate the ability of the indicator to hold the buttons of the shirt with the right hand with verbal assistance only. Percentage values from the first session to the third session show improvement. In the second and third sessions the student scores were in the low category. In the fourth to the sixth session, the students' score was in the moderate category, even though it included an increase from the previous session. It can be said that the measurement of the baseline-1 (A1) condition has experienced stability.

The blue line as a result of data on the condition of intervention (B). In the first session, students do not need physical assistance. In the second session, physical assistance was needed on the aspect of buttoning up the clothes, so that, the student's score decreased. In the third session, students were able to show their abilities more without help. In the fourth session, students showed more abilities without assistance. The percentage of values from the first session to the second session shows a decrease, but in the third to fourth session shows an increase from the score from the previous session. In the fourth and fifth sessions, although the students' scores decreased, they were classified as very good. It can be said that the measurement of the intervention condition (B) has experienced stability and.

Brown line is as a result of data in baseline-2 (A2). The percentage of values from the first session to the third session shows the level of stability based on the category of values that are classified as good. It can be said that the measurement at baseline-2 (A2) has experienced stability.

Discussion

The application of the steps of the TEACCH method is in accordance with its basic principles for carrying out tests on the ability to wear clothes. Rewards are given to students when they are easily willing to carry out their ability to wear clothes even during their ability tests, students calmly follow all the researchers' instructions. The reward given is in accordance with the objects that students like and are interested in, namely illustrated storybooks, soccer balls, and the provision of appropriate time to go home. In the implementation of activities to wear clothes, students are supported with the help of picture boards as a guide for students to follow the instructions of the

trainer according to the steps. Assistance obtained by students can be physically or verbally in each practice session.

The application of the TEACCH method requires teachers, therapists and parents who need to understand the way children understand and act, abilities and obstacles related to symptoms, because their role is to serve in the introduction of aspects of life including various environmental procedures in students with down syndrome. The implementation indicators in this study refer to the four basic principles of the TEACCH method.

According to the TEACCH method, the most functional skills for children with special needs are routine work that involves checking the child's schedule and following the established work system. The physical structure is realized by providing special rubber as a place for students to wear clothes. Arrangement of activity schedule by applying the use of sequence pictures that explain each activity arranged from top to bottom. The work system is realized when organizing the use and laying back of equipment used in wearing clothes in a certain order, for example from the bottom up.

The use of visual support media make predictable sequence of training activities, so that, individual tasks can be understood by students with Down syndrome. Visual information is shown in the use of place settings that are visually restricted or separated, visualized schedules, and work systems that are visually understood.

Down syndrome students often have an intense and passionate level of focus on interesting things. Special interest is very important for students with special needs, similar to an intense hobby. Special interest is manifested in the form of reinforcement that is applied in this study in the form of small ball toys because students are interested in these toys. Reinforcement is given after students have successfully completed the dressing activity.

Meaningful communication is done by showing pictures of equipment and how to wear clothes accompanied by commands pronounced by researchers in accordance with the pictures shown. For example, students are shown a picture of clothes together with researchers saying take clothes, which is expected students will understand and take clothes. Verbal praise can motivate most children with special needs while in development.

This study uses the TEACCH method which is carried out according to the A-B-A research design 'with a total of fifteen sessions. The baseline-1 (A1) session was conducted in six sessions with the score showing the low ability of students to wear clothes independently. The intervention session (B) was held six sessions until the student's score seemed stable and showed an increase in scores with the help of a picture board on the application of the method.

Table 2. Data Analysis Under Conditions

Condition	*Baseline*	Intervention	*Baseline*
P Condition	6	6	3
Direction Trend	(+)	(+)	(+)
S Trend	Stable (83,4%)	Stable (83,4%)	Stable (100%)
Data Traces	Stable (47% - 61%)	Stable (72% - 92%)	Stable (78% - 86%)
Range Stability Level	(+)	(+)	(+)
Level Change	47% - 61% (+14)	81% - 89% (+8)	78% - 86% (+8)

Table 3. Data Analysis Between Conditions

Comparison of Conditions	A1/B	B/A2
Amount of Variable changed	1	1
Change in Direction and Effect	(+)	(+)
Change in Stability	Stable to stable	Stable to stable
Level Change	61% - 81% (+20)	89% - 86% (-3)
Percentage of Overlap	0%	

Baseline-2 (A2) session was held in three sessions, although the score decreased from the results of the previous session, in this session, the students' scores were classified as good.

Analysis in Conditions

Table 2, Explanation of visual analysis in the conditions in this study are as follows: 1) The length of the conditions in the baseline-1 (A1) condition is 6 sessions, in the intervention condition (B) is 6 sessions, and in the baseline-2 (A2) condition is 3 sessions. 2) Estimation of trends in the direction of data in each of the baseline-1 (A1), intervention (B), and baseline-2 (A2) conditions is increasing. The increasing line means that the intervention in the form of the TEACCH method can help in increasing the ability to wear down syndrome students' clothes and show the effect of implementing the intervention. 3) The tendency of data stability in baseline-1 (A1) and intervention (B) conditions was obtained the same result, which was 83.4%. At baseline-2 (A2), the results are 100%. The three results obtained by students shows that the data is relatively stable. 4) The trend of data trace

in each of the baseline-1 (A1), intervention (B), and baseline-2 (A2) conditions is classified as increasing. The increase shows that interventions in the form of the TEACCH method can improve the ability to wear down syndrome student clothing. 5) The level of stability in each condition increases stably with a range in the baseline-1 (A1) conditions by 47% - 61%, in the baseline-2 (A2) conditions by 72% - 92%, and in the baseline-2 conditions (A2) of 78% - 86%. 6) Changes in the level of each condition have increased with the results of an increase in the baseline-1 (A1) conditions with an increase in score of 14, intervention conditions (B) with an increase in score of 8, and in the baseline-2 (A2) with a score of 8.

Explanation of visual analysis between conditions in this study is as follows: 1) The number of variables changed at baseline-1 (A1) to intervention (B) and from intervention conditions (B) to baseline-2 (A2) is one variable, namely the ability to use clothes. 2) The change in direction and effect in each condition has increased, so that, it shows a positive effect (+). It can be explained that the level of attainment of the ability to wear clothes of students has increased after being given intervention in the application of the TEACCH method. 3) Changes in stability from baseline-1 (A1) to intervention (B) conditions, ie stable to stable with positive effects (+). In the intervention condition (B) to baseline-2 (A2) that is stable to stable with an effect that is also positive (+). 4) Changes in the level between baseline-1 conditions (A1) and intervention conditions (B) obtained an increase in ability from 61% to 81% with a difference of +20. In the intervention condition (B) with baseline-2 (A2) condition, there was a decrease in ability from 89% to 86% with a difference of -3. 5) Data overlapping at baseline-1 (A1) to intervention (B) is 0%, indicating no data on intervention conditions (B) are included in the baseline-1 (A1) condition range.

Inter Condition Analysis

Analysis of the conditions and between conditions based on calculations shows that the percentage score obtained by students in the ability to wear on tests shows an increase and stability of grades, table 3. The overlap data percentage shows 0%, which means that the TEACCH method is able to give a good effect on the ability to wear student clothes. The smaller the percentage of overlapping data results, it shows that there is an effect of the TEACCH method on target behavior, namely the ability to self-develop using the clothes of Down syndrome students.

The Effect of the TEACCH Method on the Self-Development Ability to Wear Down Syndrome Student Clothes

Research on the effect of the TEACCH method on the ability of self-development to wear down syndrome students' clothes shows the effect of baseline-1 (A1)

conditions using the intervention board (B) condition media and retested under baseline-2 (A2) conditions. This is proven based on the results of the percentage of overlap data of 0%, indicating that the provision of interventions using the TEACCH method affects the target behavior, namely the ability of self-development to wear clothes on Down Syndrome students at SLB Idayu II Pakis, Malang.

CONCLUSIONS

Based on the results of the analysis and discussion that has been described it can be concluded that the use of the TEACCH method can affect the ability of self-development to wear the clothes of a down syndrome student name KV. TEACCH as one of the programs that reflects and contributes to the implementation of basic interventions for children with special needs. This can be proven by the result of overlapping data of 0%, which shows that the smaller the percentage of overlap data, the better the effect of intervention on target behavior.

Down syndrome students certainly learn and take on new skills throughout their lives, but it may take longer to achieve some important goals. the development of self-development skills learning that supports student convenience is needed, so that, students can move independently. It is hoped that each lesson allows students to develop their competencies through the application of the TEACCH method with the active role of the teacher, parents, and therapist of the TEACCH method.

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