

Increasing Children with Autism Understanding of Their Daily Activities Schedules Using Wacker Daily Activity

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Abstract—One of the characteristics of children with autism is their inability to understand the audible instructions properly. It is easier for them to understand commands visually. As a result, children with autism need adaptive media to understand their daily activities schedule. By employing a behavior modification research, this study aims to find the effectiveness of Wacker Daily Activity media in helping children with autism understands their daily activities schedule. This research used SSR or single subject research method. SSR makes research possible done on one subject. This research procedure was carried out through three stages, namely, baseline 1, intervention, and baseline 2. The results showed that in baseline step 1 (A1), it decreased from 2 to 3. This is because it is still in the initial condition. Meanwhile, the intervention stage (B) increased from 7 to 9, because it has been given Wacker Daily Activity or WDA media. Then, the baseline step 2 (A2) increased again 9 out of 12 sessions. It can be concluded that the use the Wacker Daily Activity media improves the children with autism understanding of their daily activity schedule.

Keywords—*children with autism, wacker daily activity, daily schedule.*

I. INTRODUCTION

The majority of children with autism have minimal knowledge of self-understanding so that some tutors and teachers find it difficult to communicate with them [1]. As a result, it is important to find the right intervention techniques for children with autism conducted by teachers at school and parents at home [2]. This opinion shows children with autism need other people such as parents and teachers who can help them to understand their daily activities. In the process, there is also habituation and repetition so that what children with autism should do can be stored in long-term memory and become a habit. To continue doing habituation means that children with autism should always be in accompaniment of other people, especially for children who have not received intervention at all. However, in reality, it will be difficult for them to be always dependent on others because people do not always care and be there to help them. Children with autism should be independent even though their independence may not the same as independent as typical children. To train independence, children with autism need supporting media, especially to increase children's visual sensitivity.

The result of diagnoses, children with autism spectrums is different from children in general. Children with autism are easier to understand something through the visual senses than understanding through auditive senses [3]. This report suggests that children with autism have a problem in sensory sensitivity. Especially the auditory senses, all sensory stimuli received by the senses that will be processed in the central nervous system. So sensory visuals are important things that must be trained in sensitivity to help self-understanding of a daily activity. Based on the explanation of the spectrum of autism with all its problems, this report was prepared to present one of the modified media which aims to train the independence and sensitivity of the visual abilities of autistic children by making daily activity schedules using the *Wacker Daily Activity*.

The problem in this study is the effectiveness of The *Wacker Daily Activity* as media in helping children with autism to understanding daily activities schedule. Through this media assistance, children are expected to be able to improve their ability to understand schedules and be able to perform daily activities regularly. The media can be a visual communication media for autistic children.

II. METHOD

This study uses a quasi-experimental method, using a type of behavior modification research. Subjects Single research with ABA design is used to find out how much influence from interventions given to individuals by comparing baseline conditions before and after the intervention. Before the intervention was conducted using the *Wacker Daily Activity* media, an initial test was conducted to find out the understanding of children with autism on the daily activity schedule as the baseline phase 1. After the intervention, an understanding test of the schedule is conducted as baseline 2.

Children with autism as a subject who have problems in understanding the daily activities schedule. Researcher uses a data recording system with direct observation to record the data of the dependent variable on an event or behavior that occurs. Data recording used is recording events. This means that recording is done by direct observation in order to know the movement of the research subject. The instrument used is

an observation sheet. Data analysis is carried out through two stages, namely analysis in conditions and analysis between conditions. The analysis in conditions through steps: determine the length of the condition, determine the direction trend, determine the stability tendency, determine the trend of the data trace, determine the level of stability and range, determine the level of change. The inter-condition analysis uses steps: determining the number of variables that are changed, determining changes in direction trends, determining changes in stability trends, determining the level of change and the percentage of overlap.

III. RESULTS AND DISCUSSION

Data was collected from the results of 12 days of research, with the division of the day (one day-one session for 15 minutes). Baseline 1 (A1) conducted for 3 days (conducting research for one session in 12 hours in one day), intervention (B) conducted for 6 days (conducting research for one session in 12 hours in one day), and baseline 2 (A2) conducted for 3 days (conducting research for one session in 12 hours in one day).

A. Data on baseline 1.

TABLE I. DATA ON THE APPLICATION OF MEDIA TO CHILDREN AT BASELINE 1 (A1)

| Activity | Day | | | Description |
|------------------------------|-----------------|-----------------|-----------------|-------------|
| | 1 st | 2 nd | 3 rd | |
| Clock sound response | 2 | 1 | 1 | |
| Pay attention to the picture | 1 | 1 | 1 | |
| Follow the schedule | 1 | 1 | 1 | |
| Total | 4 | 3 | 3 | |

From Table 1, the condition of subject on the baseline 1 (A1) can be described as follow.

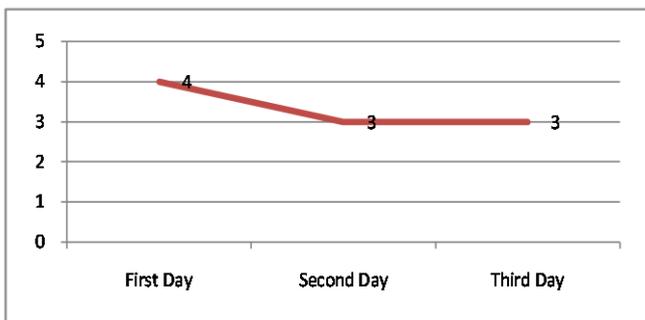


Fig. 1. First Baseline Graph (A1) of the Subject

B. Intervention Results (B)

The ability of subjects at the baseline stage 1 (A1) has been known, then the intervention stage (B). At this stage, the subject was given an intervention where the researcher gave a treatment using WDA (Wacker Daily Activity). The application of intervention to the child by placing the WDA in the guest room, then every once an hour when the parent or

researchers tell the child to approach WDA, see the picture of the activity on WDA and listen to the sound of WDA. Parents or researchers while notifying the name of the picture of the activity that is on WDA and notifying the sound of the sound that is on WDA. At this intervention stage, we applied in 6 sessions so that the subjects were expected to improve their auditory-visual perception abilities.

TABLE II. DATA ON THE APPLICATION OF MEDIA TO CHILDREN AT THE INTERVENTION STAGE (B)

| Activity | Day | | | | | | Description |
|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------|
| | 1 st | 2 nd | 3 rd | 4 th | 5 th | 6 th | |
| Clock sound response | 2 | 3 | 4 | 2 | 2 | 3 | |
| Pay attention to the picture | 3 | 2 | 2 | 3 | 4 | 2 | |
| Follow the schedule | 2 | 2 | 3 | 2 | 3 | 3 | |
| Total | 7 | 7 | 9 | 7 | 9 | 8 | |

From Table II, the intervention result can be figured as follow.

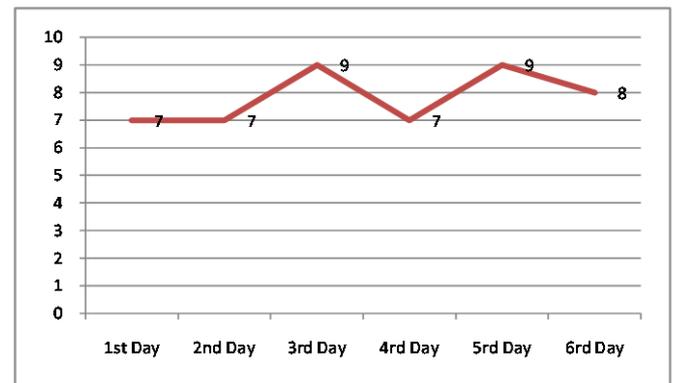


Fig. 2. Graph of Intervention (B) on WDA media (Wacker Daily Activity)

C. Baseline data 2 (A2)

The researcher gave a *treatment* which conducted in three times a session then the researcher continued to the *baseline 2* (A2). The purpose of baseline 2 is to compare with *baseline 1* (A1) where the subject's experiences increase in visual-auditory perception of WDA after being given *intervention* (B). The *baseline* phase 2 (A2) was conducted in 4 sessions. Baseline 2 observation result used to see children's behavior towards WDA (Wacker Daily Activity) media by looking at the frequency of desired behavior arising in children.

TABLE III. DATA ON THE APPLICATION OF MEDIA TO CHILDREN AT BASELINE 2 (A2)

| Activity | Day | | | Description |
|------------------------------|-----------------|-----------------|-----------------|-------------|
| | 1 st | 2 nd | 3 rd | |
| Clock sound response | 4 | 4 | 4 | |
| Pay attention to the picture | 3 | 3 | 6 | |
| Follow the schedule | 3 | 2 | 2 | |
| Total | 10 | 9 | 12 | |

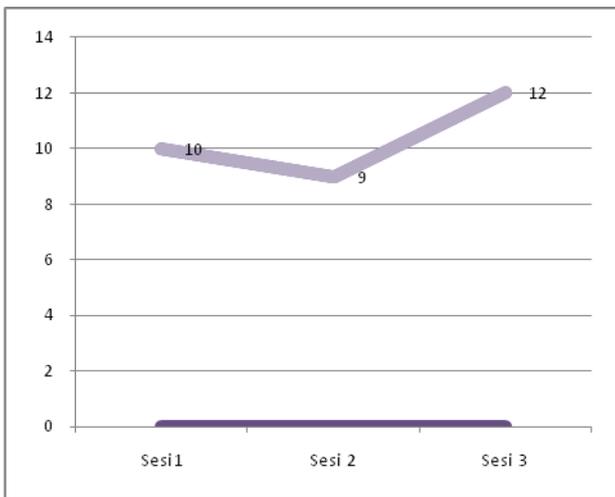


Fig. 3. Second Baseline Graph Concentration of Children on Behavioral Indicators towards *Wacker Daily Activity* media

The summary of the subject condition in the baseline 1, after intervention, and in the baseline 2 can be summarized as follow.

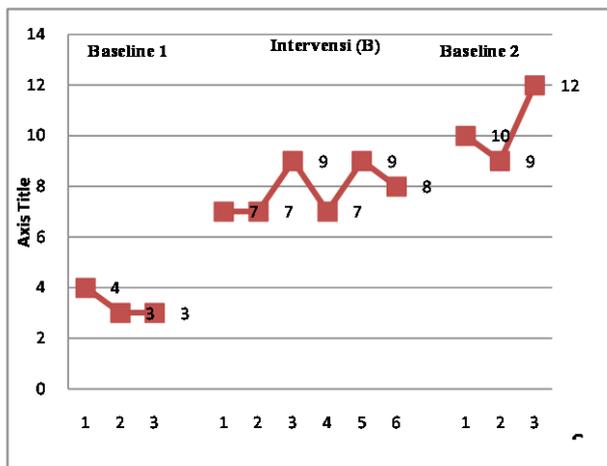


Fig. 4. Summary of baseline 1 data, intervention and baseline 2

The autism spectrum is "autism comes from the word auto which means self, people with autism seem to live in their own world" [4]. Based on this opinion, many teachers and parents consider children unable to interact with the surrounding environment, identified as children with autism, whereas not a few children who are not interacting with the environment are caused by psychological problems. Autism is a collection of syndromes (symptoms) due to nerve damage and disrupts children's development [5]. Children with autism spectrum is those who experienced typical developmental disorder that includes perception, linguistic, cognitive, communication from mild to severe, and like living in their own world, characterized by the inability of communication verbally and non-verbally with the external environment. The characteristics of children with autism in communication (speech, language, and communication) include: Language development is slow or completely disable and not imitating or echoing (echolalia). If children with autism like to imitate,

they can memorize the words or songs properly without understanding their meaning, children with autism look like deaf, have difficulty to speak, or have ever spoken but disappeared, sometimes the words used do not match with the meaning. Babbling without meaning often takes place, in a language that cannot be understood by others. Talking is not used for communication tools. Some of these children do not speak (non-verbal) or speak a little (less verbal) until they became older [6].

Intervention for individuals with spectrum autism through the Individual Education Plan (IEP), which is tailored to children's needs. In IEP one of the methods used to teach the material to children with autism using Applied Behavior Analysis (ABA) [7]. ABA is a method that is widely used in modifying behavior in children with autism [8]. ABA is a scientific study of behavior which states that a behavior is influenced by its environment, both physical and social environment. The stimulus given to a child with autism can help determine the expected behavior [6]. ABA uses the principle of behavior in modifying children's behavior [9]. The method to improve a behavior is controlling by the antecedents that precede behavior and then followed by giving positive reinforcement. Antecedents are stimuli that precede a response and can affect the response that will appear [10]. The intervention carried out in this study uses the *Wacker Daily Activity* or abbreviated as the WDA Tool, which is a set of tools from a modified clock to a new clock that has a loud alarm sound, and has a picture of daily activities in its background. *The Wacker Daily Activity* can be used for children with special needs of other types such as children with Autism, hyperactive, mental retardation, visual impairment, hearing impairment, physical impairment, and other children with special needs. But this media more emphasis on children with autism or children who have problems with behavior, emotion, communication, and concentration.

The tool for children with autism in this study is WDA (*Wacker Daily Activity*). The results showed that the use of WDA (*Wacker Daily Activity*) media was able to improve the ability to understand the schedule of daily activities in children with autism. These data reinforce the findings which informed that when parents and teachers find ways or media to intervene children with autism than the children can be assisted in understanding the daily activity [11].

This shows that there is a change in conditions (A_1), (B), (A_2). Based on data that has been presented in the graph at the baseline session and intervention sessions conducted during several meetings. Changes in conditions can be seen from the difference in the level of change from *baseline 1* (A_1) to the beginning of the *intervention* condition (B) is increased by a value of 4 while the difference in change from *baseline 2* (A_2) is increased by value 5. Subject's ability at *Intervention* (B) with the score 7-8 the attraction of the child to WDA after *Intervention* (B) has increased which can be seen from the frequency of children approaching the media WDA hours increase. This can be seen from the value obtained by the subject at *baseline 1* (A_1) in the aspect of approaching the clock media when the clock goes off and observing the picture displayed on the WDA clock. Every hour, the short clockwise

clock refers to one of the images, but at *baseline 1* (A_1), the child only sees an object that has just found, only gives a little response and approaches the clock when the sound on the WDA clock goes off. Children also only see images with short time intervals. Subject at *Intervention* (B) experienced a development in the aspect of visual perception because at the time the clock rang and the short needle pointed towards one of the images and numbers on the WDA clock, then immediately the subject always notified that the picture is the form of an activity and has suitability with the time in the form of numbers on the short clock hands. Every sound on the WDA clock rings, so it is given treatment like that repeatedly in stages and assisted by researchers or parents. So that the expectations of the schedule and activities are also remembered by the subject. So, the ability to perceive the visual aspects of the child by being given intervention increases, as evidenced by the value of the first session in the *Intervention* condition (B) the subject approached the WDA 7 times, at the sixth session there was an increase of 8 times the child approached and observed WDA clock media. The above data reinforces the findings on the behavior of autistic children and the attention span will increase when intervened appropriately and attract the attention of children using the right media [12]. Interventions using the WDA (Wacker Daily Activity) needs to be done through appropriate planning and involving parents and teachers. This is confirmed that the intervention with media can be used appropriately if we pay attention to the following steps : (1) Establish the behavior modification technique and the procedure for its application, namely stimulus control. (2) Involve parents and teachers in designing interventions. In this case determine the stimulus, consequences, and reinforcement that are appropriate for the subject. In this case, the stimulus used is a method of teaching with singing, movement, and color. The reinforcement that will be given is the vehicle coloring book (3) Determine the stimulus of the subject's natural environment to generalize and maintain improved behavior (4) Making eradication contracts (written or oral) The agreement made does not use a written contract, only an oral agreement (5) Applying techniques and procedures that have been compiled (6) Take notes development subject that does by the teacher, and parent [10].

This study has not been able to control other factors that affect the understanding of the daily activities schedule outside the intervention using WDA (Wacker Daily Activity). It is suggested to the next researcher to conduct controls that affect the child's ability such as being observed at home, or by giving interviews to children with autism parents.

IV. CONCLUSION

Using WDA (Wacker Daily Activity) media can have a positive influence on increasing understanding of the daily activities schedule of children with autism. Increasing understanding of the daily activity schedule seems clear in baseline before using WDA and after intervention using WDA (Wacker Daily Activity).

V. SUGGESTIONS

- For the children with autism at home, expected that children will be more active in viewing various images of activities that exist on the clock, and listening to the sounds of the WDA clock. In addition, children can also see pictures of activities and be applied to children's daily activities.
- For parents, WDA media (Wacker Daily Activity) becomes a representative media in order to train the visual spectrum of children with autism perceptions, especially for those at home, try this media, not just a display, but also functioned according to its function, WDA (Wacker Daily Activity) media is expected. be an educational media that can stimulate children's learning interest.
- For the government, the local government can provide facilities for children with autism and other special needs children. and it is expected that WDA (Wacker Daily Activity) media can be developed to further enhance WDA (Wacker Daily Activity) media.

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