



Basic Communication Skills Therapy for People with Autistics Spectrum Disorder (ASD) with the ABA Method and Media of Concrete Objects

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Abstract. This article is motivated by the need and importance of basic communication skills therapy for people with autism. As stated by experts, people with ASD have deficiencies in communicating, socializing, and behaving. Through this research, it is expected that people with ASD have basic communication skills (mand, tact, and echoic). This study aims to describe the process of therapy for the basic communication skills of people with ASD and the results of therapy by applying the ABA (Applied Behavior Analysis) method using concrete objects as media. This research is a qualitative and descriptive research approach. The research subjects were ASD sufferers and underwent therapy at ACT (Autistic Children Therapy) Surabaya. Data was collected by observation and note-taking techniques, then analyzed using descriptive-interpretative techniques. The results of the study were the application of the ABA method and concrete object media in accordance with the ABA stages in therapy for basic communication skills for people with ASD and people with ASD who are able to ask (mand), name objects (tact), and are able to imitate (echoic).

Keywords: Autistic Spectrum disorder (ASD), basic communication, Applied Behavior Analysis (ABA), concrete object media.

1 Introduction

Humans are God's creations who besides acting as individual beings, also as social beings. In a position as social beings, humans need media to communicate with language media. However, not all humans are born with the ability to communicate because they are considered disabled, whether at birth or after birth. One of the disabilities that needs special attention and treatment is autism. Autism spectrum disorder (ASD) or what is more commonly called autism is a neurodevelopmental disorder that affects language development and a child's ability to communicate, interact, and behave. ASD is not just autism, it also includes Asperger's syndrome, Heller's syndrome, and pervasive developmental disorder (PPD-NOS). Autism is a disorder of the development of brain function. These disturbances cover the areas of social and affective functioning, verbal (language) and non-verbal communication, imagination, flexibility, range of interests,

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cognition, and attention. Other characteristics that appear in people with autism are speech delays from peers, indifferent behavior, or anxiety.

From a number of ASD characteristics, what is relevant to the researcher's knowledge is the ability to communicate. As is known, humans need to communicate with each other. However, people with ASD do not have this ability. For that, they need therapy and guidance, both from parents, teachers, therapists, or other people who care about ASD. Through effective therapy and guidance, it is hoped that people with ASD can express their desires, feelings and thoughts.

Before people with ASD communicate in two directions, they need to be trained and taught to convey wishes and feelings, which are referred to as basic communication skills. In the Applied Behavior Analysis (ABA) method, these basic abilities are in the form of the ability to ask (mand), the ability to label (tact), the ability to imitate sounds (echoic), and the ability to intraverbal 1.

In mentoring and learning, the basic skills of communication are conveyed using the ABA method and learning media are needed. As is well known, the media functions to facilitate understanding and mastery of language learning material provided that the media is used appropriately and effectively. One of the simple media that is easy to find and function in learning basic communication skills is concrete objects that are close to the daily lives of people with ASD and those in the surrounding environment. Media concrete objects function as concretization of words with the meaning contained therein.

This research was conducted at ACT (Autistic Children's Therapy): Learning and Training Center for Children with Special Needs (ABK), Surabaya. ACT was chosen as the research location because there were people with ASD who underwent basic communication skills therapy as previously described.

Based on this background, the problem of this research is how to implement basic communication skills therapy using the ABA method and concrete object media for people with ASD and how the results of basic communication skills therapy using the ABA method and concrete object media for people with ASD.

There are a number of previous studies that are relevant to this research . The title of the first research article is "Behavior Therapy for Children with Autism in Elementary School Age Based on Applied Behavioral Analysis (ABA) at the Center for Disability and Inclusion Education in South Kalimantan Province" with the aim of describing the implementation of ABA method behavior therapy services for people with autism at the Center for Disability and Inclusion Education Services (PLDPI) South Kalimantan Province 2 . The study used a descriptive-qualitative method with two autistic people as research subjects, namely R (13 years) and RA (9 years) who had undergone therapy for approximately one year for R and two years for RA. Collecting data using observation and interview methods. The results of the study prove that the use of the ABA method can significantly improve the behavior and other abilities of the two research subjects, namely the ability to distinguish colors, the ability to identify letters. This research has similarities with the research carried out, namely the application of the ABA method to treat people with autism in behavior and language skills, but what distinguishes it is that it does not examine the use of concrete objects and does not focus on the basic abilities of the research subjects to communicate.

The second relevant research titled , "Meta-analysis: Effectiveness of Applied Behavior Analysis therapy on communication skills of children with Autism Spectrum Disorder " 3 . It was conveyed that this study aims to determine the effectiveness of Applied Behavior Analysis (ABA) to improve the communication skills of ASD children. Improvement in the communication skills of research subjects in 14 experiments of people with ASD was measured by the Vineland Adaptive Behavior Scales (VABS) with the meta-analysis method. The application used to measure is stat direct trial version 3.0. The use of ABA in ASD was declared ineffective. This right is supported by the results of data processing M, SD, and N with the effect size of the fixed effect ($I^2 = 55.7\%$) of 0.210 (95% CI = 0.035 to 0.384; small effect size). These results mean that ABA is less effective in improving communication skills in people with ASD. In other words, ABA therapy should be accompanied by other interventions that also target the ability to communicate with research subjects. Chadrawijaya's research has similarities with the research that will be carried out which aims to improve the communication skills of people with ASD with ABA therapy. The difference is that Chandrawijaya's research only focuses on the use of ABA therapy methods, while research is conducted using ABA methods and media of concrete objects.

The next relevant research titled "Implementation of ABA (Applied Behavior Analysis) Therapy for Children with Autism Spectrum Disorders at the Therapy Center in the Yogyakarta Special Area" 4 . The purpose of this research is to explore the techniques of Applied Behavior Analysis (ABA) performed by therapists for people with ASD at the Special Region of Yogyakarta (DIY) Therapy Center; describe the implementation of the therapy process with the ABA method for people with ASD; describes the feasibility of the ABA method for research subjects at the DIY Therapy Center. Research conducted using descriptive method. The research subjects were therapists, parents, and children with ASD. Data collection was carried out by observation, interview and documentation techniques. The results achieved in this study were that there were three ABA techniques, namely instruction, imitation, and reward techniques applied by therapists to people with ASD; the ABA method is implemented quite well at the DIY Therapy Center with a program that aims to support the success of people with ASD in their growth and development; ABA therapy methods are very effective for teaching the ability to follow instructions, respond to other people's words, and the ability to imitate what the therapist conveys to people with ASD. This study has similarities with research conducted, namely the use of ABA therapy methods for people with ASD, the difference lies in the subject and location of therapy.

From the three studies, it can be concluded that the study entitled "Basic Communication Therapy for People with Autism Spectrum Disorder (ASD) Using the ABA Method and Concrete Material Media" has a novelty, namely the use of the ABA method and concrete object media in therapy for basic communication skills for people with ASD . The three previous studies focused on the use of the ABA method for people with ASD.

2 Method

The research entitled "Basic Communication Skills Therapy for People with **Autism Spectrum Disorder (ASD)** Using the ABA Method and Concrete Material Media" is a qualitative research because it aims to explain the application of the ABA method and concrete object media in therapy for the basic communication skills of ASD people and the results of therapy which include the ability asking (mands), labeling objects (Tactics), and imitating speech sounds (Echoic). In addition, the data is obtained naturally, where the therapy process takes place.

The subject of this study was H, a person with ASD who underwent basic communication skills therapy at ACT (Autistics Children's Therapy Surabaya). The research subjects and the schedule for carrying out the therapy were described as follows.

Table 1. Research subjects.

Subject initials	Age (years)	therapy time		
		Manding	Tactics	Echoic
H	4.0	3,5,12 Oct '22	5,7,12 Oct'22	3,5,12 Oct '22

Based on the table, the research subjects underwent a therapeutic process using the ABA method individually (face on face). The data comes from the process and results of the three basic communication skills anchored in the data sheets and therapy results sheets .

Data collection was carried out using observation techniques, documentation techniques, and percentages. Observation data was carried out when the therapy process with the ABA method using concrete objects took place in the therapy house. Data collection schedule of this research is presented in table 1. Data collection took place in the early to mid-October 2022 according to the schedule and agreement between the therapist and parents.

Data on the application of basic communication skills and interviews with therapists were analyzed using descriptive techniques, while data on the results of applying therapy were analyzed using descriptive and percentage techniques. The stages of the research are charted as follows.

3 Results and Discussion

This subtitle describes the basic communication skills therapy process for people with ASD. Speech therapy is carried out using the Applied Behavior Analysis (ABA) method with concrete objects as media, namely objects that are present in people with ASD, in the speech therapy room, and/or if not available, artificial objects are used , for example toy cars.

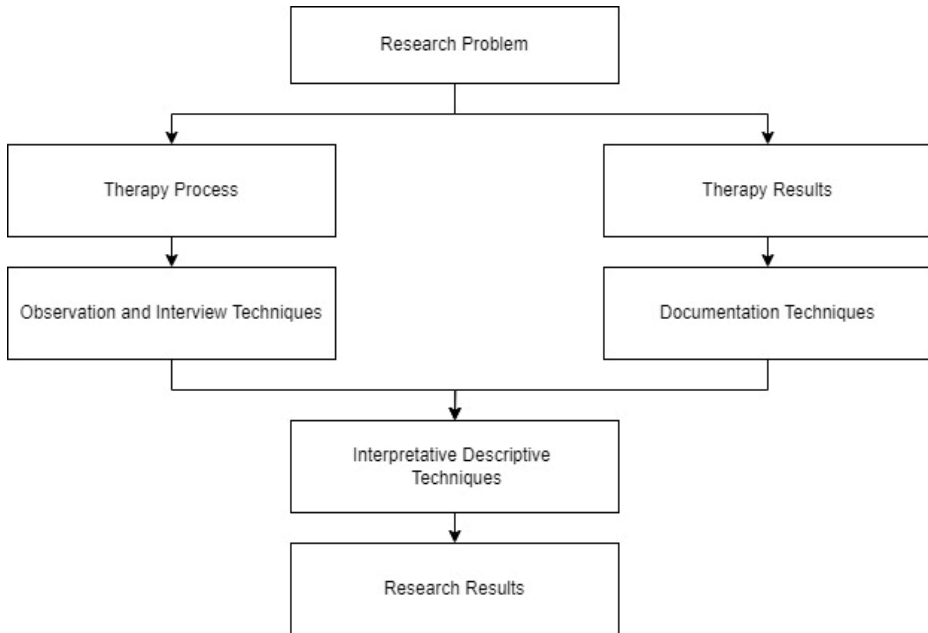


Fig. 1. Research methods.

3.1 Results

This section reports the results of the research which consists of two parts: the implementation of the therapeutic process and the results of basic communication skills (manding, tacting, and echoic) therapy. Both are presented below.

Application of Basic Communication Skills Therapeutic Process. The therapist takes the steps of preparation, implementation, and evaluation. At the preparatory stage, what the therapist did was to make a Basic Program List for H, a person with ASD, the subject of this study is shown below. This is based on the results of consulting parents with a therapist when they enroll their child in a therapy center to undergo speech therapy. Of the ten basic programs, the ones studied were manding, tactical, and echoic programs as described in the Introduction. In the following step, the therapist prepares instruments for H as shown below.

The second stage is the implementation of basic ability therapy to communicate with the ABA method using concrete objects as media. Concrete objects come from objects carried by research subjects or provided by therapists. When concrete objects are not available, the therapist uses imitation of these objects, for example toy cars. At this stage, the therapist has also prepared a "Data Sheet" which is used to record the results of therapy for each research subject. The following shows the "Data Sheet" of Manding basic ability therapy for research subjects (H).

During therapy, the therapist will circle (+) if the response is on target; (-) if the research subject does not respond as requested by the therapist; (P) if the research subject responds but with prompts from the therapist. This also applies to tacting and echoic therapy for the five subjects of this study.

Based on observations made according to the day and date of therapy, the therapist applies the ABA method using concrete object media with the therapist delivering instructions as a stimulus (S) and showing the media, the research subjects respond as expected. Instruction (S) reads, "What do you want?"; "What do you need?"; "What do you want?" to treat manding abilities. The instructions read, "What's that?" or "What is this?" to treat tactile abilities, while to treat echoic abilities, the therapist delivers instructions to research subjects "Imitate!".

The target of manding therapy for H is to respond "toy", "eat", and "drink" to the stimulus conveyed by the therapist "What do you want?" Subject H underwent manding therapy on October 3, 2022, October 5, 2022, and October 12, 2022. Each target was treated for 3 days. Per day, the target is treated 10 times.

From table 7, manding therapy results that H achieved on October 3, 2022 were 10% and 90% required prompts from a therapist. The results of this therapy are the results of target therapy 1, namely responding to the stimulus of the therapist asking "What do you want? What do you want; or what do you need?" The yield of 10% was achieved on the first day. This is because H is still not used to the situation in the therapy room and the therapist. Therefore, H still needs to be prompted 9 times (90%). The results for the second therapy on October 5, 2022, H reached the target of 60%, did not respond by 10%, and required a prompt of 30%.

On the second day, H was getting to know the situation of the place and the therapist. Then, the results of target 1 therapy on the stimulus "What do you want?" with the response "Toy" can be achieved 100% by H. This is an extraordinary achievement for H. Target 2 and 3 manding is to respond "Eat" and "Drink" to the stimulus "What do you want?" The therapy is carried out for 3 days on the same date as the target 1 therapy. Each target is carried out 10 times. The results of therapy on the second and third day (5 and 12 October 2022) for tags 2 and 3 were the same, namely 10% and 70%. What distinguishes the results of the achievement of target 1 with target 2 and 3 is that on the first day of therapy H did not respond once (10%), on therapy with target 2 and 3, H never did not respond to a stimulus.

Even more extraordinary were the results of target therapy 1, 2, and 3 on the third day of manding therapy with the ABA method using concrete objects. On the third day of therapy (12 October 2022), H reached the target of 100%. This happened because H was used to the situation in the therapy setting and had gotten to know the therapist more closely. In addition, the media used also plays a role in the implementation of therapy for manding abilities.

In the following, the results of the tacting ability therapy obtained by subject H are presented. There are three targets programmed by the therapist, namely through the stimulus "What is that/What is this?" it is hoped that subject H's response is "shoes"; "jacket"; "face mask". The three objects being treated belong to H. Using concrete objects and the ABA method, the therapies were carried out on 3, 5 and 12 October 2022. Each therapy per target was carried out 10 times. The therapeutic results for the "Shoes"

target that H achieved on the first day (3 October 2022) were 60% responded correctly, 10% did not respond, and 30% required a prompt. Then, on the second day of therapy (5 October 2022), the therapeutic results achieved by H were the same as those on the first day (3 October 2022). However, a spike in results occurred in therapy on the third day (October 12, 2022). H managed to respond correctly (100%).

Therapy with the second target "Jacket", responded correctly by 70%; not responded by 10%; 20% prompt required. These results were achieved on the first day of therapy (3 October 2022). On the second day (5 October 2020), H responded correctly 60%, down 10% from the results of the second targeted therapy on the first day. The second target of therapy on the second day (5 October 2022) was not responded by 10% and a prompt was needed by 30%, there was an increase in prompts of 10% when compared to the results of therapy on the first day for the second target. The extraordinary thing H achieved was during therapy on the third day (October 12, 2022), namely a 100% correct response to the second "jacket" tactical target therapy.

Then, the H results for therapy with the third target "mask" are on the first day (3 October 2022) and the second day (5 October 2022) with the target "jacket" being the same. On the first day, the correct response was 70%; not responded by 10%; 20% prompt required. Then, on the second day, 60% correct response, 10% no response, and 30% required prompt. Thus, on the first and second day there was a 10% decrease in the correct response and a 10% increase in the prompt. A surprising result was made from therapy with the ABA method using concrete objects occurred on the third day (12 October 2022). H is able to respond correctly by 100%.

The third target of H's tacting therapy is "Masks". This target is relevant to the current condition of therapy, the Covid-19 pandemic still leaves traces. Therefore, "masks" are an important target because they are an important need when the Covid-19 pandemic occurs in Indonesia. Achievement H for the third target, both on the first, second, and third day, is the same as the therapy for the second "jacket" target. In full, the results of tacting therapy with the ABA method using concrete objects by H.

The target programmed by the echoic therapist is to imitate the sound "A--Z"; imitating the words "1--10" and "glasses". For sound imitating therapy (target 1), the therapist asks H to imitate the A-Z pronunciations spoken by the therapist. On the first day of therapy, H was able to pronounce A--Z sounds by 50%, did not respond by 20%, and required a prompt by 30%. On the second day of therapy for target 1, H was able to imitate A--Z pronunciation by 80%, did not respond by 10%, and required a prompt by 10%. This achievement was also obtained by H during therapy on the third day. Thus, the achievement of target 1 by H increased on the second and third day of therapy.

On the first day (October 3, 2022), H responded correctly by 70%, did not respond by 10%, and required prompts from the therapist by 20%. Then, the H achievement on the second day of therapy (5 October 2022) was 90% with a prompt of 10%. Thus, there is an increase in achievement of 20%. The results achieved by H on the third day of therapy (12 October 2022) for the second target were to respond correctly by 100%. This achievement is a good thing.

The third target of echoic ability is imitating the word "glasses". The therapist delivered a stimulus with the command to imitate the word "Glasses" to H. On the first day of therapy (October 3, 2022) and the second day of therapy (October 5, 2022), H's

results were the same, namely 70% responded correctly, 10% did not respond, and requires a prompt of 20%. However, on the third day of therapy, H managed to respond correctly by 100%. H's achievement on the third day is truly extraordinary.

Table 9. Results of subject H's echoic ability therapy.

Target	Date	trials	(%)	Information	
Letter A--Z	3-10- 2022	+ (5) - (2)	P(3)	50	Target reached 50%, no response 20%, prompt 30%
	5-10- 2022	+ (8) - (1)	P(1)	80	Target reached 80%, no response 10%, prompt 10%
	12-10- 2022	+ (8) - (1)	P(1)	80	Target reached 80%, no response 10%, prompt 10%
Number 1--10	3-10- 2022	+ (7) - (1)	P(2)	70	Target reached 70%, no response 10%, prompt 20%
	5-10- 2022	+ (9) -	P(1)	90	Target reached 90%, prompt 10%
	12-10- 2022	+ (10) -	P	100	Target achieved 100%
Glasses	3-10- 2022	+ (7) - (1)	P(2)	70	Target reached 70%, no response 10%, prompt 20%
	5-10- 2022	+ (7) - (1)	P(2)	70	Target reached 70%, no response 10%, prompt 20%
	12-10- 2022	+ (10) -	P	100	Target achieved 100%

3.2 Discussion

The research findings that have been presented and supported by the depiction in the graph show that the use of ABA with concrete objects has proven to have an effect on the basic communication skills of people with ASD. This is in contrast to the findings of Chandrawijaya (2021) 15 which states that the use of the ABA method to treat the communication skills of people with ABA does not support the results of therapy. Therefore, Chandrawijaya suggested that the use of ABA for speech therapy be accompanied by other interventions. Therefore, the research carried out by researchers is besides using the ABA method, therapy is accompanied by media of concrete objects. If concrete objects are not available, the therapist uses toys that match the words or therapeutic targets.

4 Conclusion

The findings of this study support the results of Muninggar's research (2021) 16. In an article entitled "Implementation of ABA (Applied Behavior Analysis) Therapy for Children with Autism Spectrum Disorders at the Therapy Center in the Yogyakarta Special Area", the use of the ABA method in therapy for children with ASD at the Yogyakarta Special Region Therapy Center has proven to be very effective because

ABA teaches ASD children to follow instructions, respond to the words of the speech partner, and imitate.

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