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THE EFFECTIVENESS OF APPLIED BEHAVIOR ANALYSIS INTERVENTION ON ATTENTION AND ADAPTIVE BEHAVIOR IN CHILDREN WITH AUTISM SPECTRUM DISORDER

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Abstract

Difficulty sustaining attention and maladaptive imitation may interfere with the participation of children with Autism Spectrum Disorder (ASD) in learning activities. This article aims to describe the child's initial condition, the implementation of a behavioral intervention, and the behavioral development following an Applied Behavior Analysis (ABA)-based intervention at KB-RA Terapi Tazkiyah. The article was developed from assessment data obtained through interviews and observation, followed by five intervention sessions using Discrete Trial Training (DTT), modeling, prompting, prompt fading, and positive reinforcement. The participant was a six-year-old girl diagnosed with ASD who demonstrated difficulty sustaining attention, responding consistently to her name, following simple instructions, and imitating behaviors adaptively. The results showed that the child began to respond to several simple instructions using concrete objects and demonstrated emerging imitation of adaptive behavior, such as self-calming. However, these improvements were not yet consistent. The child remained easily distracted, required prompting and repeated instructions, and occasionally refused tasks or experienced tantrums, resulting in incomplete trials. These findings indicate that the ABA-based intervention produced limited initial progress and should be continued gradually while considering emotional regulation, sensory characteristics, and the child's readiness for instruction.

Keywords: *autism spectrum disorder, Applied Behavior Analysis, attention difficulties, imitation, behavioral intervention*

1. Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by difficulties in communication and social interaction, as well as restricted and repetitive patterns of behavior (American Psychiatric Association, 2013). These characteristics occur along a spectrum, meaning that each child may have a different profile of abilities and support needs (Rezieka et al., 2021). In educational contexts, these differences need to be considered when designing interventions so that behavioral targets are aligned with each child's individual needs. Difficulty sustaining attention is one condition that may affect the involvement of children with ASD in learning. Children who are easily distracted may experience difficulties maintaining attention to stimuli, following instructions, and completing activities. In addition to attention, imitation skills play an important role in learning because children can acquire new skills through observing and imitating the behavior of others (Lord et al., 2000). Literature indicates that interventions aimed at improving imitation in children

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with ASD may have an impact on social, language, behavioral, motor, and daily living skills (Alves et al., 2020).

Interventions based on the principles of Applied Behavior Analysis (ABA) are widely used to develop adaptive behavior through the arrangement of antecedents, consequences, repetition, prompting, modeling, and reinforcement. Synthesis of evidence indicates that ABA-based interventions may provide benefits across several developmental domains, although effect sizes and consistency vary across interventions and child characteristics (Yu et al., 2020; Rodgers et al., 2021). Reviews of evidence-based practices also identify modeling, prompting, and reinforcement as practices with empirical support for children with autism (Hume et al., 2021).

These findings emphasize that strategy selection should not be based solely on diagnosis, but should also consider the child's individual response to stimuli and task demands. Interventions that are too difficult may increase task refusal and hinder learning. Conversely, targets broken into small steps, delivered in brief sessions, and accompanied by reinforcement may help children acquire responses gradually. This approach is consistent with behavioral intervention principles that emphasize measurable behavior and strategy adjustment based on the child's response. At KB-RA Terapi Tazkiyah, initial observations of a six-year-old child diagnosed with ASD indicated difficulty sustaining attention and responding consistently to her name. The child responded only after being called several times and was easily distracted by environmental stimuli. The child also demonstrated maladaptive imitation, such as following peers' behavior without understanding the context. These conditions formed the basis for developing an intervention program focused on improving attention, responses to instructions, and imitation of adaptive behavior.

This article aims to describe the child's initial condition, the implementation of an ABA-based behavioral intervention, and the development of attention and adaptive imitation skills following the intervention. This description is expected to provide a practical overview of the application of DTT, modeling, prompting, prompt fading, and reinforcement strategies for a child with ASD while considering individual characteristics and emotional regulation. The degree of up-to-date material referenced by looking at the proportion of the last 10 years and referring to the primary literature. Problems and objectives, as well as the usefulness of research written narratively in paragraphs, do not need to be given special subheadings. Similarly, operational definitions, if deemed necessary, are also written narratively

2. Method

This article employed a descriptive approach using assessment data and intervention implementation involving one participant. The activities were conducted in April 2026 at KB-RA Terapi Tazkiyah. The participant was a six-year-old girl who had been diagnosed with ASD in 2025 and was enrolled in Class A. Personal identifying information, such as address and telephone number, was not included in the article to maintain the participant's confidentiality.

2.1 Assessment and Data Collection

Assessment was conducted through interviews with the parents and teacher and through observation of the child's initial abilities. The observed aspects included responses to being called by name, ability to sustain attention, understanding of simple

instructions, imitation behavior, responses to environmental stimuli, and emotional regulation. The assessment results showed that the child was easily distracted, required repeated instructions, and needed assistance to maintain engagement in activities.

2.2 Intervention Procedures

The intervention applied ABA principles using DTT, modeling, prompting, prompt fading, and positive reinforcement. Sessions were brief and structured. Instructions were delivered one at a time with a response interval of approximately 3–5 seconds. If the child did not respond, verbal or gestural prompts were provided, and in certain situations, light physical assistance was used. Reinforcement was provided after the child demonstrated the targeted response. When the child began to show signs of frustration, the activity was temporarily stopped to provide a break before continuing.

Table 1. ABA-Based Intervention Procedures

Strategy	Implementation	Key Procedure
DTT	Brief, structured trials; instructions delivered one at a time	Approximately 3–5 seconds response interval; repetition when needed
Modeling	Teacher demonstrates the target response for the child to imitate	Used especially for imitation of adaptive behavior
Prompting	Verbal or gestural prompts; light physical assistance in certain situations	Provided when the child did not respond independently
Prompt fading	Gradual reduction of assistance	Used to encourage more independent adaptive responses
Positive reinforcement	Reinforcement delivered after the targeted response was demonstrated	Used to strengthen emerging target behaviors
Break / regulation	Activity temporarily stopped when frustration appeared	Brief break provided before continuing the intervention

2.3 Data Analysis

The data were analyzed descriptively by comparing the initial condition, the implementation process of each intervention, and observable behavioral changes following the sessions. The analysis focused on response consistency, the level of assistance required, the ability to sustain attention, and the ability to imitate adaptive behavior. Because the report did not use quantitative measurements with repeated baselines, the results were not interpreted as a measure of causal effectiveness, but rather as a description of initial development during program implementation.

3 Results and Discussion

3.1 Result

The assessment results indicated two main difficulties: attention difficulties and maladaptive imitation behavior. At baseline, the child did not consistently respond to her name and only responded after being called repeatedly. Her attention also shifted easily when other stimuli were present in the environment. In terms of imitation, the child was able to imitate observed behaviors but was not always able to understand the context and select appropriate behaviors.

The five intervention sessions produced varied results. The intervention focused on concrete-object instruction responses, simple picture imitation, imitation of adaptive behavior, increased attention and instructional responses, and imitation and independence in adaptive behavior.

Table 2. Summary of Five Intervention Sessions

Session	Intervition	Observed Development	Remaining Difficulty
1	DTT + reinforcement; fried-snack stimulus; “look,” “hold,” “take”	Attention to stimulus emerged; responded to several simple instructions	Still required prompting and repetition
2	Modeling + prompting + DTT; imitation of a simple circle using a concrete object	Interest in concrete objects was evident	Could not imitate independently; left the activity several times
3	Modeling + DTT + prompting + reinforcement; self-calming behavior	Began imitating chest-stroking while saying “be patient”	Still required assistance
4	DTT + prompting + reinforcement; short one-at-a-time instructions	Targeted increased attention and instructional responses	Easily distracted; refused some tasks; occasional tantrums
5	Modeling + prompt fading + DTT + reinforcement; adaptive behavior	Slight increase in independence for repeatedly practiced behaviors	Responses remained inconsistent and affected by environmental distractions

3.2 Discussion

The most noticeable initial change occurred in responses to simple instructions using concrete objects. During the first intervention, the use of an engaging stimulus helped the child respond to the instructions “look” and “take.” This finding demonstrates the importance of selecting stimuli that match the child's interests and providing brief, structured instructions. In evidence-based practice, prompting and reinforcement can be used to help children acquire target skills gradually (Hume et al., 2021).

In contrast, the simple picture imitation intervention did not produce an independent response. The child was more interested in concrete objects than in pictorial representations and required full assistance. This finding indicates a gap between the ability to follow a concrete example and the demand to imitate a graphic form. Literature on imitation interventions also suggests that developmental readiness and individual characteristics should be considered when determining the form of imitation training (Spjut Janson et al., 2020). Therefore, task complexity should be increased gradually, beginning with easier motor or manipulative responses before progressing to picture imitation.

The third intervention showed that modeling could be used to shape simple adaptive behavior. The child began imitating self-calming behavior after observing an example from the teacher, although the response remained dependent on prompting. This finding is consistent with the understanding that modeling is an evidence-based practice in interventions for children with autism (Hume et al., 2021). However, the inconsistent emergence of the behavior indicates that success in imitation during one session does not automatically mean that the child has mastered the skill independently and can generalize it across contexts.

The fourth intervention provided an important finding regarding the relationship between task demands and emotional regulation. When demands to sustain attention were increased, the child remained easily distracted and, on several occasions, refused tasks or experienced tantrums. This condition indicates that intervention outcomes are influenced not only by the techniques used, but also by the child's readiness, activity difficulty, and environmental conditions. The report also indicated that the child was sensitive to loud sounds and was better able to concentrate in a quiet environment. Therefore, distraction management and emotional regulation need to be incorporated into intervention planning.

More broadly, the findings are consistent with research indicating that behavioral and developmental interventions may benefit children with ASD, although effects are not uniform across domains and children (Sandbank et al., 2020; Sandbank et al., 2023). Meta-analysis of ABA-based interventions also indicates variation in outcomes across intervention types and developmental domains (Yu et al., 2020). Thus, the findings from this single-subject article cannot be generalized as evidence that ABA is always effective; rather, they demonstrate the importance of adapting strategies based on individual responses.

The development observed during the fifth intervention, namely the emergence of slight independence in behaviors that had been practiced repeatedly, indicates the potential benefit of prompt fading. Gradually reducing assistance gives the child an opportunity to produce responses without full dependence on the teacher. Nevertheless, the child's attention remained easily distracted in crowded environments. This finding reinforces the need for consistent and repeated intervention, as well as the involvement of parents and teachers so that skills can be practiced across contexts. Interventions involving natural environments and caregivers are also supported in the literature on social-communication interventions for children with ASD (Deb et al., 2020).

Practically, the findings suggest that initial targets should prioritize emotional regulation, simple joint attention, and responses to instructions that have functional meaning for the child. The use of concrete objects and activities preferred by the child can serve as an initial stage before increasing abstraction demands. A naturalistic approach may also be considered to complement structured sessions, particularly because joint attention and naturalistic interventions show potential benefits for social engagement, play, and language (Waddington et al., 2021).

4 Conclusion

The implementation of an ABA-based behavioral intervention through DTT, modeling, prompting, prompt fading, and reinforcement for a child with ASD at KB-RA Terapi Tazkiyah demonstrated limited initial development in attending to stimuli, responding to several simple instructions, and imitating adaptive behavior. However, these developments were not yet consistent and remained influenced by environmental distractions, the need for prompting, and emotional regulation. Simple picture imitation was not yet appropriate to the child's readiness, whereas training using concrete objects and adaptive behavior more readily produced initial responses. Therefore, the follow-up program should be conducted gradually, consistently, and individually, with priority given to emotional regulation, the use of concrete stimuli, gradual prompt reduction, and collaboration among teachers, therapists, and parents. The findings of this article represent the development of a single participant and therefore cannot be generalized without research using stronger designs and measurements.

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