



# Interventions for Communication and Language Development in Children with Autism Spectrum Disorder

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## ABSTRACT

Communication and language are aspects that play a crucial role in a children's development. Autism spectrum disorder is a developmental disorder characterized by a lack of communication and language abilities in children. The prevalence of children with autism spectrum disorder is increasing every year, therefore early intervention is crucial. This study aims to describe the forms of intervention that can be implemented for children with autism spectrum disorder. The study used a literature review method in the form of journal articles from specific reference sources. The literature review yielded 15 journals relevant to the research topic, which is interventions that help in the development of communication and language skills in children in publications of at least the last 10 years. The forms of intervention identified are the picture exchange communication system, applied behavior analysis, visual media, developmental individual-differences relationship-based floortime, and storytelling. These forms of intervention can help children with autism spectrum disorder in developing their communication and language abilities

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## 1. INTRODUCTION

The amount of missed diagnoses for diseases like Asperger's and other pervasive developmental disorders has led to the belief that this redefinition will boost sensitivity in later age groups, such as teenagers and adults (Kulage et al., 2014). This definition, however, is more sensitive to children's needs. According to the World Health Organization (WHO), 0.76% of all children worldwide have ASD, which accounts for the global prevalence of ASD at 16% (Baxter et al., 2015). Additionally, a systematic review research by Zeidan et al., (2022) revealed that one in every 100 kids worldwide has ASD.

According to Maria Endang Sumiwi, the Director General of Public Health, there were 5,530 children with ASD in Indonesia in 2020–2021. According to estimates, there will be 500 more children with ASD in Indonesia per year. This shows that the prevalence of children with ASD is growing both locally and globally each year. Children with ASD will show evidence of regression in their verbal and nonverbal interactions with people around them (Myers and Johnson, 2007). Children with ASD will struggle to control their behavior, engage with others, and learn new things (Kasari et al., 2013).

The fundamental trait of children with ASD is difficulty communicating both verbally and nonverbally (Myers and Johnson, 2007). Children with ASD will struggle to understand and communicate their feelings (Starr et al., 2001). Additionally, children with ASD will struggle to understand language and express themselves clearly in social settings (Kadak et al., 2014). As a result, children with ASD will find it difficult to express their needs and won't engage with their social surroundings, including friends, family, and education (Wing et al., 2011). Children with ASD may experience irritation and anxiety due to untreated communication and language issues, which can also increase other ASD symptoms like stereotyped behavior (Tager-Flusberg and Kasari, 2013). As a result, it's crucial to offer the right kind of assistance and intervention to assist kids with ASD in overcoming their communication and language challenges.

Language impairments in phonology, semantics, and lexicon reveal no substantial impairment in these areas of language, but children with ASD display more pronounced delays in syntax and morphology (Loucas et al., 2008). Furthermore, children with ASD have extremely poor spoken language abilities, particularly in the expressive and receptive domains (Charman et al., 2003). As a result, there are delays in capturing and expressing language in communication. In general, children with ASD can distinguish between different sounds but struggle to comprehend the meaning of each word they know.

Children with ASD can benefit from a variety of interventions, including occupational therapy, music therapy, and others, depending on their specific circumstances and need. With the correct assistance, children with ASD can lessen the symptoms that first show up during their early developmental stages. The child will have more possibilities with early intervention to get ready for social and academic situations. As a result, it is important to take into account the language and communication needs of children with ASD so that every intervention helps them improve their communication and language abilities and become more socially adept.

Based on the previous explanation, it is known that ASD is one of the disorders that affect the language and communication abilities of children, which impacts their social interaction and development. This study aims to describe various interventions that can be carried out to help develop the language and communication abilities of children with ASD, particularly in the family and school environments.

## 2. METHODS

This study describes and explains numerous interventions that can be used to strengthen the language and communication skills of children with ASD, particularly in the family and school context. It does this by using a literature review methodology. The literature review approach is a type of study that entails reviewing, summarizing, and assessing literature on a certain subject (Snyder, 2019). The selection of literature uses journal articles obtained from several journal database sites such as ResearchGate, Garuda, and Google Scholar.

The selection of articles is limited to publications within the last 10 years with keywords such as "autism spectrum disorder," "autism," and "gangguan bahasa dan komunikasi pada autisme". From the search results, 15 journal articles were found that describe various interventions in developing the language and communication abilities of children with ASD. The various interventions found were then grouped according to similar themes based on the type of intervention described in the journal articles.

Based on the information you provided, I can assist you in organizing the interventions described in the 15 journal articles related to developing language and communication abilities in children with Autism Spectrum Disorder (ASD). Please provide me with the titles or brief descriptions of the articles, and I will help you group them based on similar themes.

## 3. RESULTS AND DISCUSSION

This study aims to explain various interventions that can be used to develop language and communication skills in children with ASD. Based on the literature review results, five forms of intervention were found to have an effective impact on the language and communication development of children with ASD, namely the picture exchange communication system, applied behavior analysis, visual media, developmental individual-differences relationship-based floortime, and storytelling.

The picture exchange communication system (PECS) has been widely recognized as an effective intervention for promoting language and communication skills in children with Autism Spectrum Disorder (ASD). PECS utilizes a systematic approach to teach children how to communicate through exchanging pictures. This intervention focuses on promoting the child's ability to initiate and respond to communication, leading to improved language and social interactions. PECS has been found to be particularly beneficial for children with limited verbal skills, as it provides them with a visual means of communication and enhances their overall communication abilities.

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Visual media, such as visual supports and social stories, have been found to be effective interventions for children with ASD to enhance their language and communication skills. Visual supports include visual schedules, visual cues, and visual prompts that provide visual information and support to aid comprehension and communication. Social stories are narratives that use visual and textual supports to explain social situations and appropriate

behaviors. By utilizing visual aids, these interventions help children with ASD better understand and engage in social interactions, thereby facilitating the development of their language and communication skills.

Developmental Individual-differences Relationship-based Floortime (DIR/Floortime) and storytelling are two additional interventions that have been shown to be beneficial for promoting language and communication development in children with ASD. DIR/Floortime focuses on engaging children in back-and-forth interactions and play experiences that are tailored to their individual developmental level and interests. This intervention emphasizes the child's emotional and social development as a foundation for language and communication skills.

Storytelling, on the other hand, uses narratives and storytelling techniques to captivate the child's attention, promote language comprehension, and foster communication skills. By immersing children in engaging and interactive experiences, DIR/Floortime and storytelling interventions provide opportunities for children with ASD to develop and enhance their language and communication abilities.

In summary, the literature review highlights five effective interventions for promoting language and communication skills in children with ASD: the picture exchange communication system, applied behavior analysis, visual media, developmental individual-differences relationship-based floortime, and storytelling. These interventions offer various strategies and techniques to address the unique needs and challenges of children with ASD, ultimately supporting their language and communication development and enhancing their overall social interactions.

### **3.1. Picture Exchange Communication System**

Children with ASD are therefore given support in communication so they can convey what they desire in their daily life or school. The PECS approach contains six phases for enhancing language and communication abilities (Stoner et al., 2006). PECS uses simple images of items that interest children with ASD in the beginning stages, and in later stages, more sophisticated images are presented to help them develop their language and social abilities (Charlop-Christy et al., 2002).

Through the display of images they are interested in, children are taught how to use photos as a form of communication at the first level. The following stage involves teaching children how to interpret and understand the pictures that are presented to them. The next stage involves teaching children how to add short sentences to express their wants, like "water, please.

"Following that, children are taught how to create simple to complicated sentences to communicate with others. In the last phase, children learn how to apply their newfound abilities in social situations, such as those with friends or family. In order for children with ASD to be able to properly communicate with others, PECS assists pupils in gradually and methodically developing their communication and language abilities.

### **3.2. Applied Behavior Analysis**

A strategy for helping children with ASD develop their communication skills is called Applied Behavior Analysis (ABA). Through structured intervention procedures, ABA focuses on reinforcement-based learning for children with ASD. Therefore, ABA can help children with ASD develop language and communication abilities like understanding language,

speaking fluently, reading facial expressions and body language, and communicating with others more successfully (Matson et al., 2012).

Then, clear, quantifiable, doable learning objectives are established. Following that, learning techniques are applied to help children with ASD develop their language and communication skills. Repetition of learning models, positive and negative reinforcement, and the application of audio and visual techniques are some possible tactics. To help children with ASD acquire language and communication skills that are suitable for the situation, therapists, parents, and caregivers must consistently and routinely implement the tactics in a structured environment.

To become a reinforcement for carrying out the required behavior successfully, positive reinforcement is given to children with ASD. In the final phase, ongoing evaluation is required to assess the program's correctness and children with ASD communicative development. In general, ABA is successful in assisting children with ASD in the development of language and communication skills through the use of structured teaching techniques and positive reinforcement so that they can engage with others in a productive manner.

Indeed, positive reinforcement is a key component of Applied Behavior Analysis (ABA) interventions when working with children with ASD. Positive reinforcement involves providing rewards or incentives to reinforce desired behaviors, thereby increasing the likelihood of their recurrence. By using positive reinforcement techniques, children with ASD can be motivated to engage in specific behaviors related to language and communication skills.

ABA interventions typically employ structured teaching techniques that break down complex skills into smaller, manageable steps. This systematic approach allows children with ASD to learn new language and communication skills gradually and with increased success. By providing clear instructions, repetition, and consistent reinforcement, ABA helps children with ASD acquire and generalize these skills more effectively.

One of the core features of ABA is the use of task analysis, which involves breaking down complex skills into smaller, more manageable steps. This allows individuals with ASD to learn and practice each step separately before progressing to the next one. By presenting information in a structured and organized manner, it helps individuals with ASD better understand and process the information.

Clear instructions are an important aspect of ABA interventions. The instructions are typically concise, specific, and presented in a way that is easy for the individual with ASD to understand. Breaking down skills into smaller steps and providing clear instructions helps reduce confusion and increase the chances of successful learning.

Ongoing evaluation and assessment are essential components of any intervention program for children with ASD. Regular evaluations help monitor progress, identify areas of strength and areas that require further attention, and make necessary adjustments to the intervention plan. By continuously assessing the program's correctness and the child's communicative development, interventions can be tailored to the specific needs and progress of each individual.

In summary, ABA has shown success in supporting the development of language and communication skills in children with ASD. Through structured teaching techniques, positive reinforcement, and ongoing evaluation, ABA interventions aim to enhance the communication abilities of children with ASD, enabling them to engage with others in a more productive manner.

### 3.3. Applied Behavior Analysis

Since children with ASD are better able to understand things displayed visually than only through oral instructions, learning through visual media allows the teacher to present several pictures, which are then displayed visually to the children with ASD (Ramadania et al., 2020; Saranani, 2022).

### 3.4. Developmental Individual-Differences Relationship-Based Floortime

Therefore, via active engagement with their family and therapist, the use of DIR/Floortime benefits children with ASD in their communication and language abilities. DIR/Floortime deployment necessitates the active engagement of the children with ASD and their social surroundings (Casenhiser et al., 2013). This approach employs regular feedback and reinforcement techniques so that children with ASD can comprehend the social world and hone their language and communication skills in a natural environment (Mercer, 2017).

The success of the method when used at home is significantly enhanced by execution with family support, which enables children with ASD to exhibit consistent and durable behavior. With the help of therapists and families who assist in achieving significant progress in the development of children's language and communication skills, children in DIR/Floortime therapy are encouraged to actively engage in meaningful and interesting social interactions in order to expand their language and better understand social contexts.

### 3.5. Storytelling

Children with ASD will develop their language, speaking, social, creative, attention, and concentration skills through storytelling (Soetikno et al., 2017). In practice, parents or therapists can deliver stories according to the student's understanding utilizing pictures and storybooks that are of interest to children with ASD (Khasinah, 2015). As a result, engaging in storytelling while learning will assist children with ASD develop positive communication and language skills.

The findings show that there are numerous strategies that can benefit children with ASD. Not every intervention, though, can be used with every child. This is due to the diverse origins of children with ASD, which include disparities in IQ and living conditions. Therefore, the selection of therapies needs to address each component and requirement of the children with ASD so that the intervention can be best offered. Additionally, for the intervention to be consistent and the development of communication and language to continue in many contextual contexts, cooperation from parents, therapists, and educators is required to obtain optimal benefits.

## 4. CONCLUSION

This study discovered that a variety of interventions, including the picture exchange communication system, applied behavior analysis, visual media, developmental individual-differences relationship-based floortime, and storytelling, can assist children with ASD in acquiring language and communication abilities. In order for the various interventions mentioned to be successful and aid children with ASD in developing their best language and communication skills, cooperation from a variety of parties is necessary. These parties include therapists, families, and educators.

Ongoing evaluation and assessment are essential components of any intervention program for children with ASD. Regular evaluations help monitor progress, identify areas of

strength and areas that require further attention, and make necessary adjustments to the intervention plan. By continuously assessing the program's correctness and the child's communicative development, interventions can be tailored to the specific needs and progress of each individual.

This study helps to illustrate the various kinds of interventions that are effective in helping children with ASD develop their language and communication skills. This study still has several shortcomings, though. First off, the majority of the therapies listed are solely based on Indonesian journal publications, thus there may be alternative intervention types used in other countries to help children with ASD with communication and language development.

Furthermore, this study used children with ASD as a general subject, future studies need to define age groups or certain educational levels so that the selection of interventions used can be more targeted to match the needs of children at different developmental stages. The study only performed a basic literature review, therefore it was unable to provide a systematic and thorough explanation of the many types of interventions. Future research is likely to use meta-analysis or systematic literature reviews to more fully explain the benefits of present therapies

## 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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