
ENHANCING EXPRESSIVE COMMUNICATION IN CHILDREN WITH AUTISM SPECTRUM DISORDER THROUGH THE USE OF THE PICTURE EXCHANGE COMMUNICATION SYSTEM (PECS) COMBINED WITH ANIMATED VIDEO

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ABSTRACT

Children with autism generally experience barriers in communication skills so they need appropriate interventions to support the development of these abilities. One of the approaches that is considered effective in improving communication skills is the Picture Exchange Communication System (PECS) assisted by animated videos. This study aims to analyze the effect of the application of PECS assisted by animated videos on the communication ability of children with autism at SLB Autisma YPPA Bukittinggi. This study uses a quasi-experimental design with a pretest-posttest design. The research was carried out in September 2024 with a sample of 28 children selected using purposive sampling techniques. The research instrument was in the form of a communication ability questionnaire. Data analysis is carried out using appropriate statistical tests. The results showed that the average communication ability score of children with autism before the intervention was 27.36 and increased to 47.29 after the intervention. The results of the statistical test showed a value of $p = 0.001$ ($p < 0.05$), which indicates a significant influence of the application of PECS assisted by animated videos on the communication ability of children with autism. It can be concluded that PECS assisted by animated videos is effective in improving the communication skills of children with autism. This method is expected to be used as an alternative learning model in an effort to improve the communication skills of children with autism.

Keywords : *Autism; Picture Exchange Communication System (PECS); Animated video media; Expressive communication; Learning interventions*

INTRODUCTION

Autism means "alone". Autism is a complex developmental disorder whose symptoms generally appear before the age of three. This disorder belongs to the pervasive neurological disorder that deals with the

neurobiological aspects of the brain and impacts various domains of child development. This condition causes children with autism to have difficulty learning interaction and communication skills naturally, so they often

seem as if they live in their own world (Aswandi et al., 2023).

Children with autism generally show three main characteristics, namely disturbances in communication and language, behavior, and social interaction. Among these three characteristics, communication disorders are one of the most prominent problems. Communication plays an important role in building social relationships and facilitating understanding between individuals. Therefore, the development of communication skills in children with autism is very important to help them interact with the surrounding environment and express their needs and desires more effectively (Santoso, 2021).

Data from the World Health Organization (WHO) shows that communication disruptions globally reach 78.18%, while in Indonesia the prevalence is 59.3%. Communication disruptions are not only a global and national problem, but also occur at the regional level. In West Sumatra Province, the prevalence of communication disorders was recorded at 60.13%, while in Bukittinggi City it reached 45% based on data from the Basic Health Research (Riskesdas) of West Sumatra Province. Improving communication skills, especially in children with autism, can increase motivation, involvement in daily activities, and strengthen social relationships. Previous research has shown that around 40–50% of children with autism have difficulties in communication (Yuwono, 2016).

Communication problems in children with autism are often associated with expressive communication or expressive language disorders. Expressive language is an individual's ability to convey messages, thoughts, and feelings to others. Expressive language disorder is characterized by an

inability to express messages verbally or nonverbally, which is generally caused by difficulties in coordinating and organizing thoughts systematically.

Various approaches have been developed to deal with communication disorders in children, one of which is the Picture Exchange Communication System (PECS) which can be combined with animated video media. Previous research has shown that the PECS method is effective in improving expressive communication skills in children with autism. The results of the study on grade I students at SLB Negeri 1 Bantul showed an increase in expressive communication skills scores from 21% in the *baseline* condition to 67% in the intervention phase, with an average increase of 46% and an overlap percentage of 0%, which indicates the effectiveness of the PECS method (Kasirer et al., 2020).

The application of the PECS method is carried out through six learning phases, which include image recognition, image exchange with the desired object, selection of images according to instructions, and the arrangement of several images into a series of simple sentences. In its application, the use of animated videos acts as a visual stimulus that helps children understand the context of communication, increase attention, and facilitate children's ability to respond to questions and compose sentences sequentially.

The choice of the PECS method in this study is because the PECS method uses images or symbols to replace or support speech skills, so it is suitable for children who have not developed speech skills well. PECS has also received support from empirical research in support of its use to improve communication in children with autism. Some of the studies described above have shown its effectiveness in improving communication skills and facilitating language development in children with autism.

Based on the initial survey that the



researcher has conducted at the YPPA Bukittinggi Autism Clinic on March 5, 2024 with observations and interviews conducted with teachers and researchers also distributed questionnaires to autistic children through their teachers, From the results of the observations, it was found that there are the most common disorders in the SLB, namely communication disorders where when invited to talk they do not show eye contact, not being able to speak using a few sentences to ask for something they want, not being able to use a few words to speak or tell someone else, not being able to ask others what they think or feeling, communicating using body language and can only communicate in short time, and have not been able to memorize sentences or words obtained from their environment, from these communication problems so that they can hinder the child's interaction (Goa & Derung, 2017).

Findings in the study by Ulfah, et al. (2013) on expressive communication between teachers and students show that when starting the communication process, teachers use expressive interpersonal communication such as greeting, praise, condemning, satirizing, threatening and accusing students. However, the resulting studies show that expressive communication is more effective for positive communication between teachers and students, such as greetings, praise and discussions.

Based on the description above and the phenomenon obtained, the researcher is interested in conducting research on "The Effect of the PECS (Picture Exchange Communication System) Method Using Animated Video on Expressive Communication in Autistic Children at the Yppa Bukittinggi Autism Special School in 2024".

RESEARCH METHODS

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This study is a quantitative research with a quasi-experimental study design using a one group pretest-posttest design. This design was used to analyze the effect of the application of the Picture Exchange Communication System (PECS) assisted by animated videos on expressive communication skills in children with autism. The research will be carried out in June 2024 at the Autism Special School (SLB) YPPA Bukittinggi.

The population in this study is all children with autism registered at SLB Autisma YPPA Bukittinggi, with a total of 158 children. The research sample consisted of 28 children with autism who were selected using the purposive sampling technique based on the inclusion and exclusion criteria that had been set. Inclusion criteria include children with autism diagnosis, being able to participate in PECS interventions, and obtaining consent from parents or guardians.

The data used in this study includes primary data and secondary data. Primary data were obtained through the measurement of expressive communication skills using questionnaire instruments that had been used in previous studies and adjusted to the characteristics of the research subjects. Secondary data were obtained from school documentation and records related to participant characteristics.

Data analysis was carried out using quantitative analysis with the help of the Statistical Package for the Social Sciences (SPSS) software. Univariate analysis was used to describe respondent characteristics and distribution of expressive communication ability scores before and after the intervention. Bivariate analysis was performed using the Wilcoxon signed-rank test to determine the difference in expressive communication ability scores before and after the administration of the intervention, with the significance level set at $\alpha = 0.05$.

using quantitative analysis techniques, in quantitative analysis using computer devices, namely SPSS with univariate analysis and

bivariate analysis using *the Wilcoxon* test.

RESULTS AND DISCUSSION

Based on table 1, it is known that the average communication score of autistic children before the PECS (*Picture Exchange Communica System*) method at the AUTISMA YPPA Bukittinggi 2024 special school is 27.36 with a standard deviation of 3.61. The communication score of autistic children is the lowest is 23 and the highest is 37. Meanwhile, after being given, the PECS method was 47.29 with a standard deviation of 2.99. The communication score of autistic children is the lowest is 43 and the highest is 54

Table 1. Communication Levels of Autistic Children Before the PECS Method Using Videos In Schools Is Amazing

Communication of autistic children before the PECS method	N	%
Less	21	75.0
Enough	7	25.0
Good	-	-
Total	28	100%

Table 2. Communication Levels of Autistic Children After the PECS Method Using Videos In Schools Is Amazing

Communication of autistic children before the PECS method	N	%
Less	-	-
Enough	7	25.0
Good	21	75.0
Total	28	100%

The Effect of the PECS (*Picture Exchange Communica System*) Method Using Animated Video on Expressive Communication Skills in Autistic Children at the AUTISMA YPPA Bukittinggi Special School 2024

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Table 3.

The Effect of the PECS (*Picture Exchange Communica System*) Method Using Animated Video on Expressive Communication Skills in Autistic Children at the AUTISMA YPPA Bukittinggi Special School 2024

Variabel	N	Mean	Sd	P Value
Pre	28	27,36	3,61	0.000
Post		47,04	2,97	

Communication is the process of studying, giving, and receiving information. The PECS method is a method developed to teach how to use functional communication skills in children with autism and other developmental disorders. The main focus of the PECS method is to develop spontaneous communication skills and functional social communication (A. Autis et al., 2023).

The PECS method is used to assist children in conveying as well as providing an avenue for children to pursue their own decisions, giving children different options for saying something, or helping children what to do. By using the PECS method, listeners do not have to get practice because the images used are quite easy to understand. Charlop revealed that PECS is not difficult to implement, inexpensive, and can be given to children with less verbal and motor skills (Diana et., 2023).

In line with previous research conducted by Dewi and Komang (2022), it had the same results as this study. The results of previous research stated that *the Picture Exchange Communication System (PECS)* had an effect on communication skills in autistic children with an average gain value of 62.29%. It can be concluded that PECS media is quite effective in improving communication skills in autistic children.

The PECS method is one of the effective

media in an effort to improve the communication skills of autistic children. The effectiveness of the application of PECS media is contributed by the use of animated video media as a tool for children to communicate. Autistic children have difficulty in conveying messages. PECS media helps autistic children mediate the message that wants to be conveyed in a communication. Autistic children will show pictures or objects to convey the desires and goals they want to achieve so that the teacher or therapist is able to understand the message they want to convey.

The application of PECS media in an effort to improve communication skills can be more effective by minimizing the number of students and the suitability of images with the message to be conveyed in communication. Other factors that are not researched such as the level or level of autism of the student have the potential to affect the effectiveness of the application of PECS media. Therefore, in an effort to obtain effective results, teachers or therapists can tailor the needs and levels of autistic children and images that suit their needs.

An animated video is a video show that resembles a movie consisting of images and sounds, then the images and sounds can be designed in such a way that they can be more interesting. Animated video is the movement of one frame with other frames that differ from each other in a predetermined duration of time so as to create the impression of moving and there are also sounds that support the movement of the image, for example the sound of conversation or dialogue (Husni, 2021). In addition, animated video media is a tool that can be used as an aid in the teaching and learning process, can stimulate the mind, feelings, motivation of students through illustrations of moving images accompanied by narrative sounds and function to clarify

the meaning of the message to be conveyed so that they can achieve learning goals better and perfectly (Fitriana, 2014). This animation video media is very helpful for learning because it expands the knowledge and insight of students. Students will get new experiences by learning to use animated videos because students are not just watching or not just listening. With the existence of animation video media, you can listen to and see directly the text readings and animated movements in the form of pictures according to the material that will be delivered by the teacher (Alifa, 2021).

According to the assumption of Lia Kurnia Asih's (2023) research, the results of this media development show that learning activities using animated videos are able to improve student learning outcomes because animaker-based animation video learning media is attractive, interactive, and easy to understand.

The researcher assumes that the provision of intervention (*PECS*) using animated video is effective in improving the communication skills of autistic children, where the improvement of the communication skills of autistic children from the results of observation through animated videos has increased significantly. Animated videos that are full of color and movement tend to be more appealing to autistic children than traditional methods. This interest can help children be more focused and engaged during research sessions, making them more motivated to communicate.

The use of fun animated characters makes children more comfortable in understanding the use of PECS, so they can more easily associate images or symbols in everyday communication. Animated videos allow children to see examples of the use of PECS in clear and specific situations. Children can observe how animated characters use symbols or images to ask for something, which helps them understand the basic concepts of the communication. This imitation process is very helpful for autistic



children who tend to learn more easily with visual methods. By looking at animations depicting the use of PECS, they can understand the interaction patterns that need to be followed.

This animated video was played during the study (a month) twelve times, this animated video can be an alternative for children to learn continuously and consistently. This repetition is very important for autistic children to internalize communication concepts. This repetition also helps children to remember the sequence or stages of communication, so they can more quickly understand when and how to use PECS in their daily lives. Autistic children will be more interested in participating in communication sessions using PECS because animated videos provide attractive visuals, bright colors, and characters that children like. With higher interest, their participation in learning PECS expected to increase. Children become more focused when learning to use PECS and are not easily distracted. This will support increased children's involvement in the communication process.

Animated videos that illustrate concrete examples of the use of PECS will help autistic children understand the relationship between symbols/images and the meaning behind them. By seeing the characters in the video using pictures to communicate, it will be easier for children to understand the concept of "asking" or "Expressing a desire. Autistic children can use PECS more effectively, such as using pictures to express needs or desires independently. With the PECS method reinforced by animated videos, autistic children can express themselves more clearly and in a structured way. This will help reduce negative behaviors such as tantrums or aggression that usually arise due to their inability to communicate. Children show a decrease in aggressive behavior or tantrums

because they now have an easier and more enjoyable way to communicate with the people around them.

By understanding the use of PECS from animated videos, autistic children will be more open in interacting with others, as they have the tools to convey their desires or needs. Animated videos can provide good examples of social interaction, so that children better understand how to communicate with others. Children are more active in trying to initiate communication, such as asking for help, asking for food, or playing with peers, using symbols or images from PECS. When autistic children see that they can successfully communicate with PECS and be understood by others, their confidence in communicating will increase. Animated videos help show that PECS is a way of communication that can be accepted and appreciated by others. Children show increased initiative to communicate with the surrounding environment without fear or doubt, so that the quality of communication and self-confidence increases.

The use of animated videos in *the Picture Exchange Communication System* (PECS) can provide several advantages for autistic children. First, the video animation tends to be more interesting and interactive, so it can increase children's interest and motivation to learn communication. Dynamic and colorful visuals in animation can help autistic children, who are often more responsive to visual stimuli, to better understand communication concepts. In addition, animated videos can present examples of the use of PECS in the context of everyday life, making it easier for children to apply the communication skills learned to real-life situations. It also allows for consistent repetition, which is important for autistic child learning.

On the other hand, the use of animated videos in PECS also has some drawbacks. First, not all autistic children respond well to animated stimuli, especially if they have different sensory preferences or difficulties in processing complex



visual information. In addition, creating animated videos that suit the individual needs of autistic children can be quite time-consuming and costly. Finally, reliance on animated videos can reduce direct social interaction between children and teachers or parents, even though these interactions are essential for developing autistic children's social communication skills holistically.

CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that there is an influence of the PECS method (*Picture Exchange Communicate System*) used an animated video on expressive communication skills in autistic children at the AUTISMA YPPA Bukittinggi 2024 special school. It is expected for respondents with the existence of a *Picture Exchange Communication System* (PECS) using animated videos can be input or alternative materials for autistic children to improve communication skills.

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