

## **THE PICTURE EXCHANGE COMMUNICATION SYSTEM: AN APPROACH TO OPTIMIZE COMMUNICATION ABILITY OF THE AUTISTIC CHILDREN**

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### **Abstract**

The communication barrier is a disorder condition that is often found among the autistic children. Therefore we need an approach to optimize the communication ability of the autistic children. PECS is very effective to help the autistic children to communicate and to control their emotions. PECS can be used as a starting point to build the interactions during the instruction both between autistic students and their teachers, and between their classmates and the environment more effectively.

The Picture Exchange Communication System (PECS) is a unique alternative communication intervention method for individuals with autism. It is an approach to practice communication ability using non-verbal symbols. PECS is primarily an attempt to stimulate the children's communication ability spontaneously. The use of visual language instead of verbal language is an initial mediation effort towards the communication process appears to be more complicated. The process of visual communication in turn triggers verbal expressions. PECS can be considered as efforts to provide visual stimuli. The process can be done in several phases. In the first phase the children are introduced to the non-verbal symbols. The different phases show the ability levels and the children's development.

To apply PECS, it is required to use a behavior modification. By using the behavior modification, it will be covered up the children desire. The objects desired will enforce the children to communicate through the pictures exchange, in which in the final phase the use of PECS approach makes the children motivated to speak.

**Keywords:** *communication, autistic children, PECS*

### **I. Introduction**

PECS is an approach that develops early expressive communication skills using pictures. Not a mere of using pictures for visual support, PECS is a functional communication system that develops important communication and social skills.

Cited from [www.pecsusa.com](http://www.pecsusa.com), PECS was developed in 1985 as a unique alternative communication intervention package for individuals with autism spectrum disorder and related developmental disabilities. PECS was first used at the Delaware Autistic Program, and then it was received worldwide recognition for focusing on the initiation component of communication. PECS does not require

complex or expensive materials. It was created by families, educators, and resident care providers in mind or readily used in a range of settings.

As an approach, PECS is appropriate for people of all ages with a wide range of learning difficulties, although originally PECS was developed for children with autism, but it is now being successfully used with adults and children with a range of communication difficulties. It's never too late to start PECS, which can be used in conjunction with other approaches.

PECS can be used anywhere to communicate. It is initially introduced at home or in special schools, residential settings, outreach programmes or care homes. PECS can be successfully implemented by family members or professionals. It does not require expensive or complex equipment and overcomes disadvantages found with signing and other picture-based augmentative communication systems. (Adapted from: PECS and the Pyramid Approach, the PECS training manual at [www.pecs.com](http://www.pecs.com)).

PECS is a technique that combines in-depth knowledge of speech therapy to understand communication in which children can not interpret the word, poor understanding in communication. The technique is aimed to help children spontaneously express communicative interactions, to help children understand the function of communication, and to develop communication skills. (Haryana, 2012).

PECS was designed by Andrew Bondy and Lori Frost in 1985 and began to be published in 1994 in the United States. PECS originally was used for pre-school students with autism. Children who use PECS are not encouraging language development and they do not have the will to communicate with others.

Based on the rationale, the objective of this study is investigate how far PECS can be used to optimize the communication ability of the children with autism. Autism is a developmental neurobiological disorder that occurs in the children causing problems of them to communicate and relate with their social environment. Autism is a developmental disorder that affects some aspects of how the children see the world and how they learn through experiences. (Hasdianah, 2013).

Individuals with autism have impaired social interaction, communication, imagination, as well as repetitive behavior patterns, and resistance or not easy to

adjust changes in routine. The social interaction disorder makes them look strange and different to other children.

This is because the communication difficulties of the autistic children are impaired in language (verbal and nonverbal), whereas language is the main medium of communication. They often find it difficult to communicate his wishes verbal and nonverbal languages (gestures, body movements and so on).

## **II. Discussion**

The word “Autism” is derivated from “auto”, means itself or himself. Thus it can be interpreted as a child who lives in his own world. This term is used for the children who suffer from a symptoms of autism, oftenly they look like as one who lives alone. A child with autism seems to live with his own world and regardless of the social contacts (Sunu, 2012).

Hasdianah (2013) mentioned that autism is a developmental neurobiological disorder that occurs to children which causes problems to communicate and relate with their social environment. Autism is a developmental disorder that affects some aspects of how the children see the world and how they learn through experiences.

Individuals with autism cannot relate to others significantly, as well as the ability to build relationships with others disrupted because of the inability problems to communicate and to understand what is meant by others. The symptoms are already apparent before the age of 3 years, and then it continues into adulthood unless interfered with a right intervention.

Autism spectrum disorders (ASD) are characterized by social-interaction difficulties, communication challenges and a tendency to engage in repetitive behaviors. However, symptoms and their severity vary widely across these three core areas. Symptoms may be more severe, for others, as when repetitive behaviors and lack of spoken language interfere with everyday life. (Adapted from: <https://www.autismspeaks.org>). Hasdianah (2013) states that there are three disorders interconnected in the children with autism, namely, behavioral disorders, social interaction, communication, and language.

### ***Basic Concepts of Communication***

Communication is the process of transmitting information and common

understanding from one person to another. (Lunenburg, 2010). The term communication is often defined as the ability to speak, but wider the communication than language and speech. Therefore, the communication should not be interpreted narrowly, but it need here to explain definition of communication. Communication means the delivery of a statement by one person to another as a consequence of social relationships (Sunardi and Sunaryo, 2006). The definition of communication here emphasizes on the communication as a means of social relationship as a consequence of humans' life as social beings. So to perform and act their role as social human beings they have to communicate to others.

To perform a communication there must be a means indeed. The primary means in communication is language (Jordan and Powell, 2002). Means of communication involves verbal and non-verbal language in the forms of oral, written, sign language, body language, and facial expressions.

According to the definition previously mentioned, there are three important things related to the communication. First, the communication must involve two parties or more people. Second, the communication contains the information exchange in two-way traffic, and the third it involves understanding. Thus, it can be concluded that communication is a dynamic process using language as a primary means in the context of individual social relation to others in which involves expression of feelings, submission of ideas, desires, needs, and goals.

### ***Types of Communication***

The primary means of communication is language which is generally divided into two, namely verbal communication (spoken) and nonverbal one (gestures, facial expressions, and body language). In other word, we may say that the communication does not take place only in words but also with the help of actions, gestures, facial expressions, meaningful images, and text.

Every step of the communication process becomes necessary to be effective and a good communication. But Lunenburg (2010) reminded that blocked steps of communication become barriers which are described as follows:

- a. Sender barrier. A new administrator with an innovative idea fails to speak up at a meeting, chaired by the superintendent, for fear of criticism.

- b. Encoding barrier. A Spanish-speaking staff member cannot get an English speaking administrator to understand a grievance about working conditions.
- c. Medium barrier. A very upset staff member sends an emotionally charged letter to the leader instead of transmitting her feelings face-to-face.
- d. Decoding barrier. An older principal is not sure what a young department head means when he refers to a teacher as "spaced out."
- e. Receiver barrier. A school administrator who is preoccupied with the preparation of the annual budget asks a staff member to repeat a statement, because she was not listening attentively to the conversation.
- f. Feedback barrier. During a meeting, the failure of school administrators to ask any questions causes the superintendent to wonder if any real understanding has taken place.

Because communication is a complex, give-and-take process, breakdowns anywhere in the cycle can block the transfer of understanding. There are barriers of communication experienced by the autistic children namely:

- a. The language development is slow or completely non-existent.
- b. The child looks like deaf, difficult to speak, or never speak.
- c. Sometimes the words used have no appropriate meaning.
- d. The child babbles without meaning repeatedly but not understood by others.
- e. Imitates and acts echolalia.
- f. He imitates and memorizes words or songs exactly, but does not understand the meaning.
- g. Some of the autistic children do not talk or do a little talk up to adulthood.

### ***Communication Development of the Autistic Children***

One of the difficulties owned by autistic children is in terms of communication (Delphie, 2006). Therefore, development of communication in children with autism is varied, especially who has severe obstacles experience in language and speech mastery. This is because the communication difficulties in autistic children are impaired in language (verbal and nonverbal), whereas language is the main medium of communication. They often find it difficult to communicate his wishes verbally and non-verbally.

Generally as the children have already known names, they can respond saying 'yes and no', understood the abstract concept of male-female, and follow simple commands. Meanwhile, the autistic children may only act echolalia to what is said or says nothing at all.

Children in general usually start talking in about the age of six months. He begin to speak in words at the age of one year and stringing two or three words in one sentence before eighteen months. Whereas children with autism on the contrary, they do not have a pattern of language development. Their communication abilities vary, some of them do not ever talk like children in general to eighteen months or twenty months, sometimes their speaking ability disappears.

Children with autism are difficult to talk, often express themselves through behavior or desires. Indeed, in some cases of autistic child who can convey their wishes by pulling one's hand near, or pointing to a desired direction, or scream. If the parents or the people around him do not understand what he wants, he become angry, but he express his tantrums.

Communication development of the autistic children occurs differently and slowly. It is caused by the sensory challenges associated with the disorder, children with autism might seem more interested in environmental sounds, like the whirring of a fan or water splashing of the shower, than in the sound of people talking. They seem distracted or even seem not to hear what the people say. First words are often delayed and, when some children do start talking, their first words are unusual (like numbers) or they echo others. Particularly, the research shows that when parents interact with their children in ways that motivate, encourage and support them to communicate, they can make a significant difference to their child's social and communication development.

### ***How PECS works for the Autistic Children***

As it is mentioned in the English Wikipedia, that PECS is designed to teach functional communication skills with an initial focus on spontaneous communication. It has been and continued to be implemented in a variety of settings and contexts (home, school, community) so users have the skills to communicate their wants and needs. PECS does not require complex or expensive materials since

it uses picture symbols as the modality. PECS is a method to teach young children or any individual with a communication impairment a way to communicate within a social context. Some research have shown that many preschoolers using PECS also begin developing speech. Based on the current evidence base, PECS has been described as an emerging treatment shown to increase communication skills for individuals with autism.

(Vis: [en.wikipedia.org/wiki/Picture\\_Exchange\\_Communication\\_System](https://en.wikipedia.org/wiki/Picture_Exchange_Communication_System))

PECS was designed by Andrew Bondy and Lori Frost in 1985 and began to be published in 1994 in the United States. PECS was originally used for pre-school students who live with autism. Students who use PECS are not encouraging language development and they do not have the will to communicate with others. In a further development, the use of PECS has been expanded can be used for a variety of ages and deepened again.

By using PECS with the help of pictures or symbols, the understanding of the language conveyed verbally can be understood clearly. Indeed, in early phases the children are introduced to the non-verbal symbols. But in the final phase of the PECS use, the children are motivated to speak.

There may be some parents concern about their children using PECS. They worry if their children can not speak and dependence on the pictures. According to this possibility, Schwartz (1998) conducted a study on 18 of pre-school children who have language disorders, some of whom were diagnosed as autistic children. Then they had been treated with PECS, to communicate during the school day, not just at the treatment session. It turned out that after a year, more than half of them have stopped using PECS and started speaking naturally. ([www.autism.healingthresholds.com](http://www.autism.healingthresholds.com))

There is no negative effect from the use of PECS (Bondy, 2001). There are also fears of dependence on PECS and communication skills of children with autism become not develop, the concerns were not based on research results. In fact a lot of evidence show that children with autism who use PECS reach the development faster than those not using PECS (Bondy, 2001).

### ***Phases of PECS Use***

There are six phases of PECS use to help children in communication skills. The teacher should develop an inventory of which items the children desire. This way, no verbal prompting is needed to ask the child what he wants. The chosen reinforcers should be consistently motivating to the child.

***Phase 1: How to Communicate.*** During this phase, the focus is on teaching the child to initiate social communication. The child is taught to approach the communicative partner with a picture of a desired object and place the picture in the teacher's hand, in order to receive the desired reward. This exchange is taught using one picture, selected by the teacher as the trainer. Within Phase 1, two trainers are utilized. One trainer acts as the student's communicative partner, and the other trainer acts as the physical prompter, who prompts the student to reach towards the communicative partner with the picture in exchange for the student's reward.

***Phase 2: Distance and Persistence.*** During Phase 2, the child is taught to initiate social interaction when the communicative partner is not nearby and waiting. The child is taught to persevere if the reward is not immediately provided, to communicate over longer distances whether it be across a larger table or walking farther distances to reach his/her communicative partner, and initiate spontaneous communication. Teaching the child persistence is comparable to a typically developing child raising his/her voice to gain attention when initial attempts are not recognized by the communication partner. Training should progress across different settings, with different communicative partners, and different types of reinforcing items to assist in the generalization of PECS usage.

***Phase 3: Discrimination Between Symbols.*** During this phase, the child is taught discrimination of symbols and how to select the symbol which depicts a desired item. Once the child demonstrates mastery with pairings of preferred and non-preferred pictures, discrimination between two preferred pictures is introduced. The picture array is increased until the child can discriminate among all the pictures in the picture book. For children who have difficulty with picture discrimination, mini objects can be used followed by a gradual shift to pictures.



Children progress to this step after they can reliably request their favorite items from a variety of people.

**Phase 4: Using Phrases.** During phase 4, the child is taught sentence structure in order to make requests by using expressions such as “I want ..... ”. Another skill targeted in this phase is commenting as it is learned at the same time as requesting among typically developing children. The requests consist of a sentence starter and a picture of the desired activity or item on a sentence strip. The communicative partner reads back the sentence after it has been exchanged by the student. A delay between the sentence starter and the activity/reward is often used to encourage speech and/or vocalizations. Speech/vocalizations are rewarded by providing the student with a greater amount of the reinforcer to encourage the student to use a picture and speech rather than a picture exchange alone to request activities and items. Teaching children using PECS to create a sentence using expressions such as “I want ....” is a way to increase the complexity of their communicative exchanges.

**Phase 5: Answering a Direct Question.** During Phase 5, the child is taught to respond to the prompt, “What do you want?” The goal of this phase is for the child to respond “I want .....” regardless of whether the item is present. This phase adds upon already established skills and a desired item is still used to motivate the user to respond. Ultimately, the student should answer the question before additional prompts are provided. According to Bondy and Frost, skills developed in phase 5 are acquired quickly because sentence construction is familiar to the student and they are motivated to answer.

**Phase 6: Commenting.** During this phase, the child is taught to respond to questions as well as to spontaneously comment on items, people, or activities present in his or her environment. The child can now respond to the question “What do you want?” with a comment “I want .....” In this phase, the child is also taught to differentiate between appropriate responses to the question “What do you see?” and the question “What do you want?” The teacher should structure the environment to give the student plenty of opportunities to make spontaneous comments.

Depending on the age and cognitive level of the child, the time to master PECS will vary. One study found that it takes an average of 246 trials for users to master all six phases of PECS.

(Vis: [en.wikipedia.org/wiki/Picture\\_Exchange\\_Communication\\_System](http://en.wikipedia.org/wiki/Picture_Exchange_Communication_System))

### **III. Conclusion**

Communication is the process of transmitting information and common understanding from one person to another. It is often defined as the ability to speak, but wider the communication than language and speech. The main tool of communication is the language, while the language itself is generally divided into two, verbal and nonverbal. Every step in the communication process becomes necessary for effective and good communication.

Autism is a developmental neurobiological disorder that occurs in the children. The autistic children are the individual suffer a developmental disorder, which characterized by social-interaction difficulties, communication challenges and a tendency to engage in repetitive behaviors.

PECS is an approach that develops early expressive communication skills using pictures. There are six phases of using PECS to help children in communication skills. PECS is designed to teach functional communication skills with an initial focus on spontaneous communication. As an approach PECS is appropriate for people of all ages with a wide range of learning difficulties, although originally PECS was developed for children with autism.

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