

Exploring the application of PECS board in the teaching of communication skills to an autistic learner

Tram House 1

ABSTRACT: This case study explores the application of Picture Exchange Communication System (PECS) board in the teaching of communication skills to an autistic learner from an instrumental perspective. A PECS board was utilized as a tool in applied behaviour analysis to teach learners with communication limitations and barriers to express themselves through pictures and symbols. This study also illustrates the application and the result of teaching communication skills using a peccs board in the learning environment.

This is an instrumental case study focused on teaching communication skills to an autistic learner at BeyondAutism. This learner is twelve years old, Key Stage - 3 and is a non-vocal communicator. At the time of this case study, he was on a reinforcement schedule of a variable ratio of 1 response to earn reinforcement. As part of the learner’s Individual Education Plan (IEP), communication skills are taught in a group and in an individualized setting; this combination forms part of the education endeavour in aiding this student in his communication development as he is considered to be an early learner.

In an effort to facilitate this learner’s communication skills development, a weekly target for communication skills was developed using a PECS board with a field size of two and three with his most preferred and non-preferred reinforcers. According to Kearney (2015), ‘PECS involves several phases of training, starting with teaching the child to exchange a picture of a reinforcer for the actual reinforcer and leading up to communicating about things in the environment’ (p. 140).

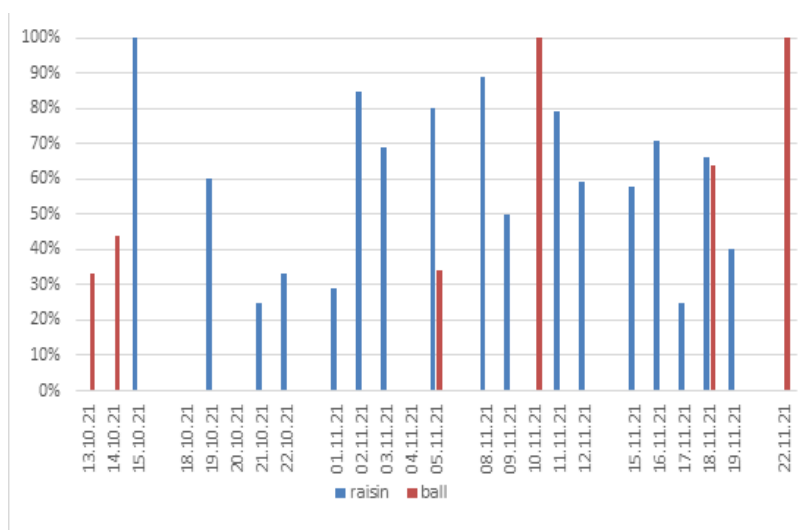
Method

In an effort to assist this student in acquiring and expanding his communication skills using a PECS board at school certain skills had to be taught as he was required to have some pre-determined abilities such as: fine-motor skills, visual perception to discriminate between symbols and pictures, and hand-eye coordination. Fine-motor skills are required to grasp objects on the board to present them for access to reinforcers. According to Granpeesheh, Tarbox, Najdowski, and Kornack (2014), ‘fine motor lessons focus on the development of hand and finger strength and movement in the context of functional tasks’ (p. 265). Visual perception allows the

learner to choose among presented options; according to Kurtz (2006), ‘visual perception may be thought of as the cognitive component of interpreting visual stimuli, or more simply, understanding what is seen. It involves the ability to mentally manipulate visual information as needed to solve problems and to take action in response to environmental demands’ (p. 33). For this learner, peer play in the form of basketball and independent play were introduced to aid in hand-eye co-ordination and promote social skills. According to Mayesky (2015), ‘hand-eye coordination is important for future school-work’. Many reading experts believe that good hand-eye coordination helps a child learn to read. They believe that the ability to use hands and eyes together in activities such as painting and playing ball helps a child learn the motor skills needed in reading (p. 187).

These pre-requisite abilities facilitate the learning process involving the use of a PECS board in teaching communication skills, which is done using mass trials. According to Luiselli, Russo, Christian, and Wilczynski (2008), ‘massed trials involve presenting the same antecedent stimulus (or stimuli) across a number of trials (e.g., 5 to 10), wherein correct responses and successive approximations are reinforced’ (p. 183). Each learning session involves the following: pairing, imitations, agreeing on promise reinforcers, setting the field with reinforcers, errorless teaching, and in a suitable learning instance.

Results



Graph 1. Chart showing the result of communication training using peccs board

According to Kearney (2015), ‘functional communication training (FCT) refers to teaching alternate ways of communicating so that individuals with severe language deficits can express themselves more successfully. This enables them to get their reinforcement having their needs met without resorting to maladaptive behaviors’ (p. 139). Using the PECS boards to teach communication skills was the preferred method of functional communication training employed, which produces a positive result when it is implemented using errorless teaching. Kearney (2015) further stated that, ‘pictures are used to represent common objects, and symbols are often used for other common words. PECS enables children who cannot yet communicate successfully through speech to express themselves successfully by using a series of pictures’ (p. 140). This learner showed interest in this learning process as he tolerated using the PECS board progressively to gain access to his highest reinforcers.

In addition, errorless teaching made teaching communication skills effective using time delay; errorless teaching is, according to Barbera & Rasmussen, ‘[a] technique used within VB programs to prevent or reduce errors. A prompt is provided immediately after the direction is given or question is asked and then that prompt is faded out via a transfer trial’ (p. 174).

Time delay was adopted from the errorless learning, because the learner possesses a limited number of verbal behaviours which could be further developed and therefore, he was encouraged to label the reinforcers in the learning process. According to Cooper, Heron and Heward (2020), ‘time delay is considered an “errorless learning” technique because students often make few or no errors as control of responding shifts from the contrived prompt to the instructional stimulus’ (p. 448).

For the period under review, October 13, 2021, to November 22, 2021; the results show that this learner has made moderate progress in mastering his targets designed to develop his communication skills using a PECS board.

Discussion and conclusion

The PECS board is an effective tool for functional communication training for this learner which involves mass trials and errorless learning applying the principles of applied behaviour analysis. The functional communication training using PECS board was done in an individualized setting. Teaching communication skills using a PECS board is one effective tool; however, another effective method that was implemented but recorded on his weekly sheet was overlearning. According to Kearney (2015), ‘overlearning generally refers to continuing to practice something even after the criteria for learning it has been met’ (p. 141).

The table below show the progressive results of the learner in this case study at the time of mastery period observed October 13, 2021, to November 22, 2021.

	29%	nr
	85%	nr
	69%	nr
nr		nr
	80%	34%
	89%	nr
	50%	nr
nr		100%
	79%	nr
	59%	nr
	58%	
	71%	
	25%	
	66%	64%
	40%	nr
	67%%	100%

Table 1. VB MAPP – Listener responding 3-f Selects reinforcing pictures/objects

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