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Research Paper

Picture Cue Cards – A Tool in Enhancing Communication in Children with Autism

Education

KEYWORDS : Autism, visual learning, communication, cue cards, pictorial images

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ABSTRACT

It is critical that children learn a system of communicating as early as possible. Many young children with autism spectrum disorder (ASD) do not use words or even imitate sounds the way typically developing children do. People with autism tend to be visual learners, which helps them to understand and process information. Hence to enable children with autism to develop communication, a visual mode (picture cards/cue cards) was prepared. A communication kit containing pictures through which stories were narrated was used to assess memory, attention and eye contact in 15 children with autism. It was found that children with autism greatly enjoyed communicating through picture cards and were attentive with better eye contact. Hence visual thinkers (autism) can be helped using visual support to reduce stress and promote learning for people with autism by making their environment easily understood and understandable.

Autism is a complex developmental disability that typically appears during the first three years of life. Children and adults with autism typically have difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities (Wing 2001). Some people with autism have no speech at all; in other cases the speech consists of a few words only, others are very long-winded, but in all cases reciprocal communication is very poor. (Wing 2001), Language is seldom used as a communicative means; it seems like a monologue instead of a dialogue. A study by Howlin et.al. (2000) has confirmed that the communication problems are very persistent and closely related to subsequent prognosis. Research has shown that the impairment in communication is one of the greatest sources of stress for parents (De Giacomo. A. et.al, 2009). Finally in many cases the challenging behavior of people with autism appears to be the result of communication impairments (Van Loon, & Peelen 2002). People with autism appear to be limited in both the receptive and expressive language areas as well as in non-verbal communication (De Giacomo A et.al , 2009).Semantic and pragmatic aspects of their speech and language are more affected than are syntax, morphology and phonology (Patricia Howlin 2002). The study of (Wetherby et al., 2000) shows that the deficits in receptive language, in comparison to expressive language, are more strongly associated with severe aberrant behavior. Therefore communication enhancement particularly through picture cards should be a major focus of education and intervention (Wetherby et al., 2000).

Temple Grandin (1995) an American animal scientist who has autism describes how she thinks in pictures and how words are like a second language for her. Visual supports such as those described by Yoder P. and Stone W. L. (2006) help children who do not have conventional communication systems to become more able communication partners. The Picture Exchange Communication System (PECS) Bondy, A. (2001), was developed as a means to teach children with autism and related developmental disabilities a rapidly acquired, self-initiating, functional communication system. PECS teaching showed concomitant increases in speech production, either in initiating communication with staff or in responding, or both. (Carr D, Felce J (2007) Hence visual aids through picture cards can help people with autism to make sense of the world and of other people. With this as the chief aim the research hypotheses were framed. a) The level of attention increases in children with Autism while communicating using cue cards/picture cards. b) Visual aids through pictures improve memory and help high functioning autism to recognize and recall. c) Visual learning through picture cards improves eye contact in children with Autism.

Method

Materials

Picture cards are primarily cards with pictures used in day to day life. These cards can be used with verbal and non-verbal children and it provides the child with an alternative means to communicate. They contain one or more messages in pictorial or written form and replace verbal prompts. Picture cards work well in situations where the child with an Autism Spectrum Disorder (ASD) needs to express a message in a stressful situation. The researchers prepared communication boards and picture cards. The Picture Card Kit with a total of 180 cards contained single and situational pictures. These pictures were categorized as food, clothing, household items, animals and birds, sports etc. A self prepared questionnaire was developed to study the type, stages and level of communication, attention, memory and eye contact. The socio-demographic details were collected from the class teachers and parents.

Participants

The participants included 15 children (9 males, 6 females) with a diagnosis of Autistic Disorder or PDD NOS according to the DSM-IV criteria referred to as having an autism spectrum disorder (ASD). Identification of having ASD was established by formal clinical diagnosis from a Psychological Assessment centre. The mean age of the sample was 8.6 years, and ranged from 5-15 years. They were drawn from 3 recognized Special Schools which catered to children with autism in the Tiruchirappalli District.

Procedure

Two children at a time were made to be seated in a comfortable position and a story was narrated to them using picture cards. The level of attention and eye contact were assessed. The child's memory was assessed by asking few questions relating to the story. Initially cards with single pictures (one object) were shown and later situational pictures .Their involvement in the narration of the story, their attention and memory were observed using a self prepared questionnaire -five point scale.

Result

50% of the children used gestures to communicate, and only 25% had language and good communication. A majority of children (60%) had pre-intentional communication. 45% were in the own-agenda stage, and only 10% were in the partner stage of communication. 30% of the children initiated eye contact and did not get distracted, while 40% did not initiate eye contact and therefore were distracted. There was a significant difference between the level of autism and phases of communication through pictures cards. High functioning children with autism showed more interest and involvement in the pictures. Children with pre-intentional communication showed greater interest in the pictures than intentional communicators. Intentional communicators do not get distracted or interrupt and answer questions when asked. A significant relationship was found between attention and memory. There was better memory when there

was good attention. Children with good communication were involved more in the narration of the story and showed joint attention than children who used gestures to communicate. Children with high functioning autism had joint attention while those with low functioning autism had selective attention. Most children were interested in all types of pictures and followed through the story. Those who were interested in single pictures showed interest in situational pictures also. While initiating eye contact they took initiative in developing conversation. Children who were not distracted answered questions relating to the pictures and asked for more pictures. A significant finding was that non-verbal children were equally interested in listening to the story narrated through picture cards like their verbal counterparts.

Discussion

As we observe children, we discover that many of them demonstrate strength in understanding **visual** information compared to their ability to respond to what they hear.

a) *The level of attention increases in children with Autism while communicating using cue cards/picture cards.*

Studies have indicated that joint attention behaviors lay the foundation for later emerging skills, including more complex expressive language and symbolic play. (Marckel J. M. et.al 2006). When the story was narrated without the pictures , the interest and attention level was less. One important finding that needs to be highlighted is the excessive attention to detail seen in these children. They are always on the look out for the next picture to emerge in the story continuum. Pictures provide an opportunity to view minute details and since children with autism are visual learners it enables them to remember the information perceived. Therefore attention increases memory. Joint attention is a prerequisite for language development and social development, and babies typically develop this skill around six to eight months of age. Joint attention teaches children "social referencing". As expected, our group of children with autism exhibited better communicative ability – they were more expressive and attentive, yet were not expressive with emotional and facial expressions regarding the tempo of the story.

b) *Visual aids through pictures improve memory and help high functioning autism to recognize and recall.*

Visual memory has been found to be an area of strength for children with autism but complexity of the stimuli appears to affect memory function. Children with autism have been reported to perform as well as matched controls on a delayed response visual discrimination task (Dyrbjerg P. and Vedel M. (2007) on a delayed match-to-sample visual memory task and on recall of pictures of everyday scenes (Isabelle Rapin & Michelle Dunn 1997), buildings (Luca 2008), and shoes. The children showed interest to recall certain information pertaining to the story. A few did look blank and seemed to be lost when questioned. The pictures relating to animals and food were of interest to them than household items and they were able to recognize food items which they generally preferred.

c) *Visual learning through picture cards improves eye contact in children with Autism.*

Eye contact is a very social, almost intimate, type of interaction. When the story was narrated to the children initially without the pictures, they seemed to be more distracted and uninterested. When the pictures were concealed and turned upside down they seemed to be more curious and maintained better eye- contact. Pictures coupled with the tone used during narration of the story added to getting the required eye contact from the children.

Conclusion

Tien & Kai-Chien(2008) claims that Picture Exchange Communication System (PECS) is an effective intervention for improving functional communication skills. Visual mode of communication directs attention and enhances functional communication. Information and communication technology can help bridge the divide and new sstrategies and tools for teaching and learning through visual mode can be further developed.

REFERENCE

[1] Bondy, A. and Frost, L. The Picture Exchange Communication System. Behavior Modification, 2001. Vol. 25(5), pp. 725-744. | [2] Carr D. and Felce J. Brief report: increase in production of spoken words in some children with autism after PECS teaching to phase III. Journal of Autism and Developmental Disorders, 2007 Vol. 37(4), pp. 780-787. | [3] De Giacomo A, Portoghese C, Martinelli D, Fanizza I, L'abate L, Margari L.Imitation and communication skills development in children with pervasive developmental disorders, Neuropsychiatr Dis Ttreat. 2009 Jul; 5(3): 355-62. | [4] Dyrbjerg P. and Vedel M. (2007) Everyday education: visual support for children with autism. London: Jessica Kingsley. | [5] Howlin P. et al The effectiveness of Picture Exchange Communication System (PECS) training for teachers of children with autism: a pragmatic, group randomized controlled trial. Journal of Child Psychology and Psychiatry and Allied Disciplines, 2007, Vol. 48(5), pp. 473-481. | [6] Isabelle Rapin, Michelle Dunn, Language disorders in children with autism, Seminars in Pediatric Neurology, Volume 4, Issue 2, June 1997, Pages 86-92 | [7] Luca Surian, Michael Siegel, Language and communication disorders in Autism and Asperger Syndrome, Handbook of the Neuroscience of Language, 2008, Pages 377-386. | [8] Lorna Wing. The Autistic Spectrum: A Parents' Guide to Understanding and Helping Your Child (Ulysses Press, 2001) | [9] Marckel J. M., Neef N. A. and Ferreri S. J. A preliminary analysis of teaching improvisation with the picture exchange communication system to children with autism. Journal of Applied Behavior Analysis, 2006. Vol. 39(1), pp. 109-115. | [10] Temple Grandin (2006) Thinking in Pictures, The expanded edition 2006 Vintage Press. | [11] Tien, Kai-Chien, (2008) Effectiveness of the Picture Exchange Communication System as a Functional Communication Intervention for Individuals with Autism Spectrum Disorders: A Practice-Based Research Synthesis, DDD, Fayetteville, AR 72702.pp 16. | [12] Wetherby, A.M., Prizant, B.M. & Schuler, A.L. (2000) 'Understanding The Nature Of Communication And Language Impairments', in A.M. Wetherby & B.M. Prizant (eds) Autism Spectrum Disorders. A Transactional Perspective, pp. 109–41. | Baltimore, MD: Brookes | [13] Yoder P. and Stone W. L. Randomized comparison of two communication interventions for preschoolers with autism spectrum disorders. Journal of Consulting and Clinical Psychology, 2006. Vol. 74(3), pp. 426-435. |