

Effect Of PECS (Picture Exchange Communication System) In Developing Tamil Vocabulary Among Children With Autism

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Abstract-

Autism Spectrum Disorder (ASD) is a group of complex neuro - development disorders which are characterized by repetitive and characteristic patterns of behavior and difficulties with social communication and interaction. Some of the children with Autism are verbal or non-verbal. Before developing the communication skill, children with Autism should be trained in their Mother tongue. In Tamil Nadu, Tamil is the Regional language. Most of the digitalized Applications are in English and other foreign languages. Few of them are in Tamil. PECS is the abbreviation for “Picture Exchange Communication System”. It is one of the digitalized Applications, commonly used to increase the communication skills of Children with Autism. PECS is designed in Digitalized mode in selected languages such as English, Spanish, Japanese, French, German, and Greek but is not used for Tamil . This research is based on the assessment of the language development of children with Autism in Tamil using PECS. For the present study, twenty boys and ten girls with Autism studying in Regular and Special schools in Tiruppur District were identified for the assessment. The Major finding reveals that using PECS method can be easily modified in Tamil to improve Tamil speaking ability of Children with Autism.

Keywords: Picture Exchange Communication System (PECS), Autism Spectrum Disorders (ASD), Parent training, Communication, Tamil

1. Introduction-

Autistic Spectrum Disorder (ASD) is a large and complex disorder that includes many elements and children with a diagnosis of ASD display varied behaviors and difficulties. The occurrence of ASD has raised concerns at the Local, National as well as International levels which has led to action in the recent decade, (Rice et al., 2012). There has been a rapid increase in the number of children with autism worldwide (Hasan, 2020). Some of these children, with high functioning Autism, are getting integrated into the mainstream educational system (Jelínková, 2019). Despite all the disabilities, this group of students also has the right to be facilitated to get

education in all areas including learning the English language. Several researchers (**Elder, 2006; Petersen, 2010; Reppond, 2015; & Kuperinen(2017)**) highlight that “One does not need to be intellectually gifted to learn a foreign language. However, certain methods of language learning should be intelligently followed to make the language learning process more fruitful.”

2. Need and Significance of the study-

There is a very substantial body of research on the treatment and education of children with Autism but this work has not often been integrated into education decision-making and policy at Local or State levels.

Many treatment approaches and demonstration projects disseminated information, yet most have not yet provided appropriate, scientifically rigorous documentation of effectiveness and efficiency. While research in language and communication development in children with Autism using PECS is well developed, there is a need for more effective awareness among professionals in these disciplines, the educators and parents of children with Autism who carry out the bulk of treatment and intervention oriented research. PECS was initially developed in English language and later adapted to some other foreign languages. Literature survey revealed that PECS is so far not adapted in any of the Indian languages. Hence an attempt was made to adapt the PECS in Tamil language.

3. Objectives of the study were to-

This study aimed to assess the effect of PECS in developing Tamil vocabulary among children with Autism.

4. Adoption of PECS in Tamil Language-

The study selected three basic concepts such as family members, actions and objects. The related words of the pictures in the PECS in English Language were converted to Tamil Language.

5. Method-

The sample consisted of twenty children with Autism with the age group 3 to 10. Among the sample, there were 20 boys and 10 girls. The children were selected both Regular and Special schools of Tiruppur District were targeted. The sampling procedure in this study was through purposive samplings. The present study employed an experimental design having the three components: a) baseline phase, b) treatment phase, and c) repeated measurement. The baseline included the evaluation of the children on their Tamil knowledge. The treatment phase included the use of PECS in teaching Tamil language. The repeated measurement included the assessment of the vocabulary learnt at every session together with the previous session.

6. Picture Exchange Communication System(PECS)-

Picture Exchange Communication System (PECS) was developed to teach children with Autism Spectrum Disorder (ASD) and related Developmental Disabilities a functional communication system (Bondy and Frost,1998), requiring the user to approach a communicative partner and initiate interaction before performing a referential communicative act (**Bondy,2011; and Charlop-Christy MH et al., 2002**). It is based on B.F.Skinner's book on 1958, Verbal Behaviour and Applied Behaviour Analysis (ABA). PECS consisted of Six phases.The main goal of PECS is to train functional Communication. Researchers have shown that some learners using PECS also develop speech.

7. Six phases of PECS-

At first phase, Children with Autism are trained to exchange single pictures for items or activities they want. In the second phase,Using a Single picture, children are taught to generalize these new skills in different places. They also learn to be more persistent communicators. The third phase, children learn to select from two or more pictures, their favorite objects. The next phase, children are trained to frame simple sentences. The fifth phase, children learn to use PECS to answer simple questions. The final phase, children are taught to comment in response to simple questions.

Accordingly, the present study aimed at contributing Tamil language teaching to Children with Autism by using PECS as a well – established form of communication training among these children. The following research questions were answered based on the objectives which were to find out the effect of PECS on Tamil language learning as well as the challenges encountered by teachers in using this system for teaching Tamil. Pictures with Tamil words for identification and verbal expression.The content of the pictures has included 30 words related to the categories of family members, actions and objects.Pictures depicting action with words, a focus on conceptual learning using digitalized mode in the Tamil language.Ten pictures with action words were used.e.g 'mother' 'come', 'eat' 'apple' for all such words combine and make sentence. Other gadgets employed in the study included a variety of pictures through digital platforms like mobile phones, laptop and projectors

Phase I: The student will be shown flashcards through digital mode whether on the phone, laptop, projector.

Phase II: The student will be asked to identify the images shown in the flashcards.

Phase III: The student is asked to combine the image shown in the flashcards as a sentence.

8. Intervention strategies-

a)Picture Mode

Initially a single word pictures were shown for identification and naming. Followed this, a combination of two words pictures were used to develop vocabulary of children with Autism.

b)Digital Mode

The two dimensional pictures and also available in the Digital mode. Those children who were not able to communicate orally,could point out pictures for communication. The children were trained in Picture mode and Digital Mode as per the needs of the children.

9. Identification of concepts through digital mode-

Table: 1 Identification of concepts

Test	N	df	Mean	Standard Deviation	t value	p value
Pre-test	30	29	4.17	2.77	-20.098	0.000
Post-test	30		22.57	4.30		

Result of the the phases based experiment can been seen the Table 1.Using paired samples test, p value is calculated and the value is less than 0.05, hence there is a significant difference between the means scores of the pre test and post test of identification of the images in digital mode of the Children with Autism Spectrum Disorder.

10. The ability of the students to combine words-

Table: 2 Ability to combine words

Test	N	df	Mean	Standard Deviation	t value	p value
Pre-test	30	29	7.20	9.90	-13.40	0.000
Post-test	30		23.33	14.12		

The ability of the student to combine the words was also studied in Table 2. Perception, Comprehension, and Verbal identification of the images were shown to the students and the

researcher analyzed. The out put of the paired samples test is significant. So there is a significant difference between the means scores of the pre - test and post - test of Children with Autism in their ability to combine words to build a sentence.

Table 3 shows that the results of “ Identification of concepts and Ability to combine words” consolidated pre – test and post – test. There is a significant difference between over all pre – test and post – test.

Table 3 Consolidated Test

Test	N	df	Mean	Standard Deviation	t value	p value
Pre-test	30	29	11.33	9.67	-18.94	0.000
Post-test	30		46.23	17.09		

11. Conclusion-

The findings of the study revealed that PECS can be an effective system in the early stages of language teaching to teach Tamil vocabulary and simple conversational words. Even though the students find it difficult in the early stage with steady progress they can develop an understanding of the concepts and skills in communicating the same in Tamil. Any technological innovation in teaching-learning can bring about a major transformation among these Children in terms of sustaining attention and motivation in the process. Compared to Children with Autism in inclusive schools, these Children in Special Schools are in an advantaged condition with the use of technology , additional and focused support by the Special Educators.

12. Reference-

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