

Effectiveness of Theatre Techniques in Enhancing the Skill of Communication in Children with Autism Spectrum Disorder

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Abstract:

A quasi-experimental study was carried out to find out the effectiveness of a theatre technique based Social Skills Enhancement Package (SSEP) in improving the communication skill of children with autism spectrum disorder (ASD). The pre-test post-test control group design utilised two convenient groups of children with ASD (control group, n = 23; experimental group, n = 27) enrolled to the Urban Resource Centre, Kozhikkode and the Block Resource Centres, Perambra, under Sarva Shiksha Abhiyan (SSA), Govt. of Kerala. Pre-test and post-test data on communication skill were collected from the parents and teachers of the disabled children by administering the Social Skill Assessment Scale for Children with Autism (SASCA). A three months long psycho-pedagogic intervention was done on the experimental group with a theatre technique based Social Skills Enhancement Package developed by the investigators. Analysis of data revealed that theatre technique based SSEP is effective in enhancing the communication skill of children with ASD.

Key words: Autism spectrum disorder, Communication skill, Theatre technique, Social Skills Enhancement Package.

1. INTRODUCTION

Autism Spectrum Disorder (ASD) is a range of pervasive neurodevelopmental disorder characterised by persistent impairment in social reciprocity, communication deficits, and the presence of stereotyped, repetitive behaviours or interests (American Psychiatric Association, 2013). Impairment in communication and difficulties with social interactions are a hallmark of autism spectrum disorder. Social skills training (SST) has been widely practiced in clinical and educational settings to instil social skills in children with autism. Group based social skills training is a demanding intervention approach as it provides the child (with autism) an opportunity to rehearse newly learned skills in a more naturalistic setting. In recent years, many behavioural and educational interventions have been designed to deal the communication deficits of children with ASD (eg. Jonsson *et al.*, 2019; Radley, Dart, Moore, Battaglia, & LaBrot, 2017; Sofronoff, Silva, & Beaumont, 2017; Nora *et al.*, 2017; Rodríguez, Martín, Carbonero, & Ovejero, 2016; Deckers, Muris, Roelofs & Arntz, 2016). Such social skills interventions are usually facilitated by therapists in clinical setting and may involve training parents or siblings to interact with autistic child. In school settings, such interventions are enabled by teachers who employ explicit or implicit teaching of social skills typically with the mediation of peers.

The explicit teaching of social skills to children with autism is an expensive effort in terms of motivation and attention (Musial, Pradere, & Tricot, 2012). Implicit teaching of social skills is facilitated by offering opportunities for exploring the environment, participating in social activities, group games and the like where the learner learn without thinking about it. The implicit learning brings about an adapted change in behaviour of the autistic child, resulting from a repeated interaction with a structured situation that does not involve any conscious attention, which is maintained over time. In recent years, there has been an interest in using theatre activities to improve the social and communication challenges that occur with autism spectrum disorder. Compared to explicit teaching of interpersonal skills, theatre presents more openings for learning interpersonal skills by virtue of theatre production requirements (Reading, Reading, Padgett, Reading, & Pryor, 2016; Minne & Semrud-Clikeman, 2012; Guli, Wilkinson & Semrud-Clikeman, 2008; Lerner & Levine, 2007). Many studies have presented empirical evidences for the success of different theatrical forms in improving social behaviour and communication skills of children and adolescents with autism (Goldstein & Therrien, 2019; Mpella & Evaggelidou, 2018; Corbett *et al.*, 2011). Most of these studies, however, were confined to just one theatre technique viz., drama, as the component of theatre therapy. Since the socio-cultural milieu of the learner is a critical factor in the development of social skills, the components of the theatre techniques should be culturally aligned for them to generate the best outcome. This paper, limited to one of the social skills (communication), is part of a larger research to study the effectiveness of a social skill enhancement package based on theatre techniques on social skill development of children with ASD.

2. OBJECTIVE OF THE STUDY

The main objective of the study is to find out the effectiveness of a theatre technique based social skills enhancement package in developing the skill of 'Communication' in children with autism spectrum disorder.

3. HYPOTHESIS OF THE STUDY

The null hypothesis formulated for the study is stated as follows: "The social skills enhancement package will not be effective in developing communication in children with autism spectrum disorder".

4. METHODOLOGY

4.1 Method

The quasi-experimental method which followed pre-test post-test control group design was adopted for the study.

4.2 Population

Children with mild autism spectrum disorder in the age range 6-14, living within the revenue territory of the State of Kerala (India) constituted the population for the study.

4.3 Participants

The participants of the study were two convenient groups of children with ASD (control group, n = 23; experimental group, n = 27) enrolled to the Urban Resource Centre, Kozhikkode and Block Resource Centres at Perambra, under Sarva Shiksha Abhiyan, Govt. of Kerala.

4.4 Tools and Materials Used

a) *Social Skill Assessment Scale for Children with Autism – Parents’ Version (SASCA-P) and Teachers’ Version (SASCA-T):*

The social skill (communication) of the participants were assessed by employing a dual-version psychometric instrument named as the Social Skill Assessment Scale for Children with Autism – Parents’ Version (SASCA-P) and the Social Skill Assessment Scale for Children with Autism – Teachers’ Version (SASCA-T), developed by the investigators. These instruments are designed to produce an objective measure of the ability of children with autism to exhibit a socially acceptable learned behaviour that enable them to interact with others in ways elicit positive responses and assist in avoiding negative responses. The P-version of the instrument (SASCA-P) is for the parents or other caretakers of the child at home, who will evaluate the social skills of the child by considering his/her social behaviour in family/ neighbourhood situations. Whereas, the T-version of the instrument (SASCA-T) is for the teachers of the child, who will evaluate the social skills of the child by considering his/her social behaviour in the classroom/school situations. The instruments are intended to assess six component social skills, viz., Cooperation, Responsibility, Assertion, Self-control, Communication, and Empathy. For the present study the scores produced by the Sub-scale Communication alone were taken for analysis. The SASCA-P has a criterion validity of 0.77 and inter-rater reliability of 0.86; while the SASCA-T has validity and reliability coefficients in the order of 0.74 and 0.81 respectively.

b) *Social Skills Enhancement Package (SSEP):* It is a psycho-pedagogic package based on theatre techniques, developed by the investigators for promoting the social skills of children with ASD. The SSEP consists of modelling, written and behavioural rehearsal, instructional strategies, and behaviour management to enhance important social skills needed for daily life. The SSEP was developed based on the Instructional System Design (ISD) using the ADDIE Model (Analysis-Design-Development-Implementation-Evaluation) put forth by McGriff (2000). The SSEP is a 50 hours teacher assisted package consisting of a total of 74 activities, focusing on enhancement of a particular component of social skill. The activities in the SSEP were evaluated by a panel of 30 experts from different areas for their Transparency, Relevance, Attractiveness, Participation, Flexibility, Reliability and Simplicity, and reported to be either ‘highly satisfactory’ or ‘satisfactory’.

4.5 Procedure

The social skill (communication) of each participant in the control group and experimental group were assessed by two persons – a Resource Teacher and either of the Parents. The Resource Teachers used the SASCA-T for evaluating the social skills of a disabled child, while the parent employed the SASCA-P for evaluating his/her child. The participants in both the control group and experimental group were subjected to pre-test measurement of the social skill (communication) by administering the SASCA-P and SASCA-T. The experimental group (n = 27; Mean age = 8.50 years, SD = 2.58) was then exposed to three months long social skill training with the help of the SSEP, at the Centre for Research and Development of Autistic Children (CRDAC), Kozhikkode, an R & D Centre for children with autism under the Urban Resource Centre (URC), Sarva Shiksha Abhiyan (SSA), Govt. of Kerala. Though the participants in the control group (n = 23) were restrained from getting any social skills development training during the experimentation period, they were not restricted from receiving any routine educational exposure in the school, assistance of the Special Education Teachers of the school, assistance of the Resource Teachers in the Block Resource Centre, or any medical or psychological assistance during the period of experimentation. After the completion of the experimental period, the social skills of the participants in the control group and experimental group were assessed once again by a Resource Teacher and either of the parents by employing the relevant version of the Social Skill Assessment Scale for Children with Autism. The pre-test and post-test data thus collected were subjected to statistical analysis by using SPSS.

5. ANALYSIS AND INTERPRETATION

The data and result of the independent sample t-test performed to compare the control group and experimental group with respect to the pre-test scores of ‘communication’ is given in Table 1.

Table 1: Comparison of the control group and experimental group regarding the pre-test scores of communication

Groups	Statistical Indices				t	Sig.
	N	M	SD	SEM		
Control	23	23.83	5.408	1.128	0.426	NS
Experimental	27	23.26	4.063	.782		

The t-value estimated on comparing the pre-test scores of the social skill 'communication' for the control group and experimental group is not significant ($t = 0.426$; $p > .05$), revealing that the groups are alike with respect to the skill for communication before the experimentation. Table 2 presents the result of the paired sample t-test carried out to find out the significant difference, if any, between the pre-test and post-test scores of communication in the experimental group.

Table 2: Comparison of pre-test and post-test scores of communication of experimental group

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Pre-test	27	23.26	4.063	.782	10.987	.001
Post-test		28.89	3.401	.654		

The t-value estimated on comparing the pre-test and post-test scores of 'communication' for the experimental group is significant ($t = 10.987$; $p < .001$). Scrutiny of the data shows a significant improvement in the communication skill of the disabled after SSEP intervention.

The social skill score of communication obtained for the control group before and after the experimental period was compared to find out the significant difference, if any, happened to the social skill factor during the experimentation period. The data and result of the paired t-test done in this context is given in Table 3.

Table 3: Comparison of pre-test and post-test scores of communication of control group

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Pre-test	23	23.83	5.408	1.128	0.580	NS
Post-test		23.57	4.409	.919		

The t-value estimated on comparing the pre-test and post-test scores of 'communication' of children in the control group is not significant, revealing that no considerable change has been happened in the communication skill of children with ASD in the control group within the intervention period. The control group and experimental group were compared with respect to the post-test scores of communication so as to find out the significant difference, if any, between the groups. The data and result of the analysis performed in this regard is given in Table 4.

Table 4: Comparison control group and the experimental group with respect to the post-test scores of communication

Groups	Statistical Indices				t	Sig.
	N	M	SD	SE _M		
Control	23	23.57	4.409	.919	4.817	.001
Experimental	27	28.89	3.401	.654		

The t-value obtained on comparing the control group and experimental group with respect to the post-test scores of 'communication' dimension of social skill is significant at 99% confidence interval ($t = 4.817$; $p < .001$). It exposes the presence of a true difference between the control group and experimental group regarding the communication skill of children with ASD. A closer inspection of the mean scores shows that the experimental group excels the control group with regard to the post-test scores of communication skill, which is indicative of the effectiveness of experimental treatment in promoting communication skill in children with autism.

In order to find out the effectiveness of theatre techniques in promoting the social skill 'communication' in children with autism, the post-test scores of communication of control group and experimental group were compared after adjusting for the effect of pre-test scores by employing ANCOVA. The data and result of the tests of between subjects effect performed is given in Table 5.

Table 5: Result of the ANCOVA of the post-test scores on the social skill of communication of control group and experimental group

Dependent Variable: Post-test scores of Communication

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	886.372 ^a	2	443.186	107.399	.000	.820
Intercept	171.966	1	171.966	41.673	.000	.470
Pre-test	534.371	1	534.371	129.496	.000	.734
Group	405.391	1	405.391	98.240	.000	.676
Error	193.948	47	4.127			
Total	36034.000	50				
Corrected Total	1080.320	49				

a. R Squared = .820 (Adjusted R Squared = .813)

The F-value obtained on comparing the control group and the experimental group with respect to the post-test scores of 'communication' skill of children with autism, after controlling for the effect of pre-test scores, is statistically significant beyond 99% confidence interval ($F = 98.240$; $p < .001$). The hypothesis formulated in this context (*the social skills enhancement package will not be effective in developing skill of communication in children with autism spectrum disorder*) is, therefore, rejected.

6. CONCLUSIONS

Before the experimentation, no significant difference was noticed between control group and experimental group with respect to the communication skill of children with autism. While the intervention with SSEP brought about a significant improvement in the communication skill of children with ASD in the experimental group, no significant changes in the communication skill was noticed among those in the control group. A significant improvement in the communication skills of disabled children in the experimental group was also noticed when the control group and experimental group were compared by taking the post-test scores of communication. The significant difference observed between control group and experimental group with respect to the post-test scores communication after partialling out for the effect of pre-test scores exposes that the theatre techniques are effective in promoting the 'communication' skill of children with autism spectrum disorder.

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