

# Effective Strategies for Working with Children with Autism in Mainstream Classrooms

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**Abstract:** *In this study the education is identified as one of the key performance areas in the occupational therapy practice framework. The occupation of education includes academic (math, reading, writing), non-academic (recess, lunch, self-help skills), extracurricular (sports, band, cheerleading, clubs), and prevocational and vocational activities. The objective of this study is to assess out the effectiveness of classroom strategies for children with autism in mainstream classroom. The methodology adopted under this study is 20 children with autism and 24 teachers were included in the control group(N=10,12) and experimental group(N=10,12). Canadian Occupational Performance Scale, Teachers Attitude Towards Inclusion Scale, and Behaviour Rating Scale were used before and after the use of classroom strategies. The results of this study are experimental group, COPM, there was a significant difference in the pretest and post-test of the performance (p=0.005) and satisfaction (p=0.013) component of COPM. When goals addressed in the control and experiment groups were compared between groups, it showed significant difference in the post tests of both the groups in performance (u=0.005) and satisfaction (u=0.005) component of COPM. The pre-test and post-test of the POS (attitude towards student with disability in inclusive setting) and total component showed significant difference (p= 0.003 and 0.004) whereas there is no significant difference in the control group. The classroom strategies have a positive effect on the occupational performance for children with autism in mainstream classroom. It is effective in bringing positive attitude among teachers towards inclusion. It also improves the classroom behaviours of the children.*

**Keywords:** Non-Academic, Autism, Occupational, Skills, Behavior, Children

## 1. Introduction

Occupational performance is the ability to perform those tasks that make it possible to carryout occupational roles in a satisfying manner that are appropriate to the individuals developmental stage, culture and environment (Llorens, 1991) for children occupational performance includes sleep, education and play.

Education is identified as one of the key performance areas in the occupational therapy practice framework; Domain and Process (Framework-II) (2008) and refers to the activities needed for being a student and participating in the learning environment". The occupation of education includes academic (math, reading, writing), non-academic (recess, lunch, self-help skills), extracurricular (sports, band, cheerleading, clubs), and prevocational and vocational activities. Consequently, in addressing a student, education, attention to a broad range of occupational performance areas is often required to help children succeed in their student role including play, leisure, social participation, activities of daily living and work.

Typically developing children benefit from early social interaction with peers and play is foundational for many school-aged skills, including social-communication. For children with disabilities, participation in early childhood programs that feature education among typically developing peers may provide unique access to these benefits. Despite the continued debate about the potential impact of inclusive settings on child outcomes, the early childhood experience has changed for children with disabilities with an increasing trend for young children with disabilities to be educated alongside typically developing peers whenever possible.

School based occupational therapy practice is influenced by

and educational versus medical model requiring a set of knowledge and skills unique to both occupational therapy and school setting. School-based therapists must combine a sound understanding of occupational therapy's domain of practice with a current understanding of the school context, which is guided by federal laws and regulation.

WHO puts the global prevalence of autism at 1 in 500. Boys are four times more likely to have autism than girls. From one in 10,000 children ten years ago in India, the prevalence is 3-4 per 1,000 live births now. The incidence rate is approximately 1 in 90,666 or 11,914 people in India. According to estimates, over 2 million people are living with autism in India. Every year, the National Institute for the Mentally Handicapped, Secunderabad, registers approximately 100-125 new cases, which is much higher than compared to five years ago(School Education of Children with Special Needs in India With a Perspective on the Initiatives for Children with Autism, Dr. Alka Bhargava).

Many educational professionals feel that because autistic students have poor social behavior they are not capable of participating in an inclusion classroom (Strain, Wilson, & Dunlap, 2011). An article on "THE HINDU" news paper, (Mangalore august24, 2014), about a survey done among 326 teachers has concluded that teachers have poor knowledge of ASD.

The Right of Children to Free and Compulsory Education Act, 2009 states free and compulsory elementary education a Fundamental Right, for all the children in the age group of 6-14 years.

Though the government has given a lot of importance in inclusion but various surveys shows that there is lack of awareness about autism among teachers. There are no studies

done in India regarding children with autism in mainstream classroom. The education system and the curriculum of Indian school are different from the western countries it is important to see the effectiveness of classroom strategies in mainstream schools in India.

## 2. Aims and Objectives

### Aims

To find out the effectiveness of classroom strategies to improve occupational performance of children with autism in mainstream schools.

### Objectives

Improve occupational performance of children with autism in schools.

- To explore the change in the attitude of teachers towards autism.
- To explore the change in classroom behavior.

### Hypothesis:

#### Null Hypothesis:

- 1) Classroom strategies does not have a significant effect in improving occupational performance of children.
- 2) Classroom strategies does not have a significant effect in changing the attitude of teachers towards inclusion.

#### Alternative Hypothesis:

- 1) Classroom strategies has a significant effect in improving occupational performance of children.
- 2) Classroom strategies has a significant effect in changing the attitude of teachers towards inclusion null hypothesis.

## 3. Methodology

**Place of study:** Jaipur Occupational Therapy College & Hospital, Jaipur

**Research design:** Quantitative, two group pre-test post-test Quasi experimental study design.

**Population:** Children with autism going to mainstream school.

**Sample size:** 10 children and 12 teachers in experimental group and 10 children and 12 teachers in control group

**Sampling method:** Convenient sampling

### Selection Criteria

#### Inclusion criteria:

- Children within the age group 3-7 years.
- Children with autism diagnosed based on DSM V criteria who are currently being educated in mainstream schools.

#### Exclusion criteria

- Children with physical dysfunctions are excluded.
- Long absentees are excluded.
- Children who have medical complications such as seizures

## Variables

**Independent variable:** Classroom strategies for children with autism in mainstream classroom.

### Dependent variables:

- Occupational performance of the children in a classroom setting
- Adaptive behaviour of children
- Attitude of teachers towards inclusion

### Extraneous variable:

- Children regularity to school, severity of illness, co-morbidities.
- Other therapy program like occupational therapy and speech therapy.

### Outcome Measure

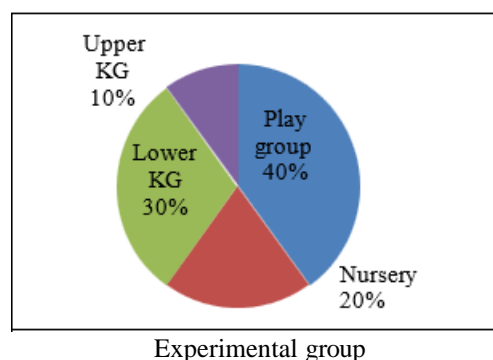
- Occupational performance of the children
- Teachers attitude towards inclusion
- Change in the behaviour of the child.

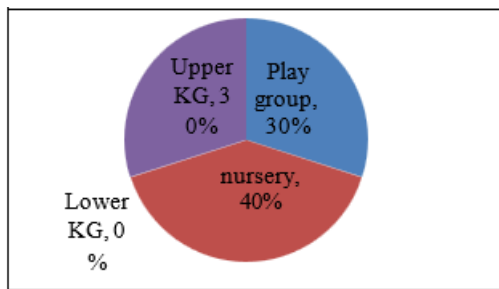
## 4. Analysis and Results

With an aim of measuring the effectiveness of classroom strategies for children with autism in mainstream classroom, the study was conducted among 20 students with autism between the age group of 3-7. The participants were divided into two groups- 10 in the experimental group and 10 in the control group. Classroom strategies were used for the children in the experimental group, and the outcomes were measured comparing their performance and teachers satisfaction using COPM, and change in the behaviour using BRS and the change in the attitude of the teachers towards inclusion using TATIS.

**Table 1:** Distribution in the grades of children in class

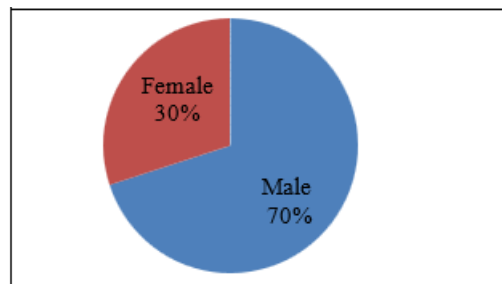
	Number of children	
	Experimental	Control
Play group	4	3
Nursery	2	4
Lower KG	3	0
Upper KG	1	3





Control group

**Graph 1:** Graphical representation of the distribution of grades of class of the children



Control group

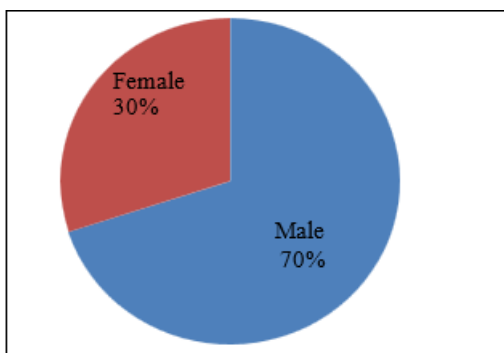
**Graph 2:** Graphical representation of gender distribution

**Table 2:** Descriptive analysis of the gender of the children

Gender	Experimental group	Control group
Male	7	7
Female	3	3

**Table 3:** Descriptive analysis of the age group of the children

Age group	Experimental group	Control group
3-4	2	1
4-5	3	5
5-6	4	4
6-7	1	0
mean	4.4	4.3



Experimental group

**Table 4:** Descriptive statistic of Canadian Occupational Performance Measure: Performance and satisfaction Component

	Group	Test	Mean	Std dev	Mean difference	min	Max
Performance	exp	Pre	23.98	7.04	25.9	12.20	35.60
		Post	49.89	13.07		19.60	62.00
	Con	Pre	23.4	5.81	11.06	13.2	34.6
		Post	34.46	8.71		17.2	46
Satisfaction	exp	Pre	29.54	9.55	18.14	9.40	47.40
		Post	47.68	18.23		12.00	64.60
	Con	Pre	30.24	7.18	11.22	18.40	41.40
		Post	41.46	7.95		28.60	53.00

**Table 5:** Descriptive statistic of Teachers Attitude Towards Inclusion Scale (TATIS)

TATIS	Group	Test	N	Mean	Std dev	Mean difference	min	Max
POS	Experimental	pre	12	24.58	3.52	4.42	18.00	28.00
		post	12	20.16	4.04		15.00	24.00
	Control	pre	12	21.83	1.46	0.92	20.00	28.00
		post	12	20.91	2.27		18.00	26.00
BEI	Experimental	pre	12	16.16	3.24	-1.17	10.00	20.00
		post	12	17.33	2.60		11.00	20.00
	Control	pre	12	17.25	1.86	0.34	14.00	19.00
		post	12	16.91	1.92		13.00	19.00
PRF	Experimental	Pre	12	12.66	4.31	1	4.00	17.00
		Post	12	11.66	1.30		9.00	14.00
	Control	pre	12	15.00	1.59	0.67	13.00	18.00
		post	12	14.33	1.30		13.00	18.00
Total	Experimental	pre	12	52.83	5.42	6.33	44.00	60.00
		post	12	46.50	5.26		39.00	58.00
	Control	pre	12	51.50	3.37	1.09	47.00	57.00
		post	12	50.41	4.18		45.00	60.00

POS: student with disabilities in inclusion setting; BEI: Belief about efficacy of inclusion; PRF: Belief about professional roles and responsibilities

**Table 6:** Comparison of pre test and post test score of performance and satisfaction component of COPM

COPM	Group	test	Positive rank	Negative rank	ties	Z score	Sig. (2- tailed)
Performance	Exp group	Post- Pre	10	0	0	-2.803	0.005
	Control group	Post- Pre	10	0	0	-2.803	0.005
Satisfaction	Exp group	Post- Pre	9	1	0	-2.497	0.013
	Control group	Post- Pre	10	0	0	-2.803	0.005

There is a significant difference in the performance component of COPM in both experimental and control group where  $p$  is 0.005 ( $<0.05$ ). The performance component also shows significant difference on both experimental and control group where  $p$  is 0.013 ( $<0.05$ ) respectively. Increase in score indicates increase in child's performance in targeted goals and increase in satisfaction indicates teachers satisfaction on the child's performance

## 5. Discussion

The study was conducted in the schools of Coimbatore which includes saravanampatti, and kovai pudur branch of Euro kids, sivananda colony branch and saravanampatti branch of Kidzee and GS Nursery school with the aim being effectiveness of classroom strategies for children with autism in a mainstream classroom.

The study was conducted among 20 children with autism where 10 were included in the experimental group and 10 in the control group. The mean age of children in experimental group was 4.40 and the mean age of children in control group was 4.30. 8 boys and 2 girls were included in both experimental and control group. The teachers from both the experimental and the control group were included to measure their attitude toward inclusion. The children in the control group underwent the regular mainstream classroom and regular behavioural strategies used by the teachers. The children in the experimental group underwent in the regular mainstream classrooms along with various classroom strategies. Some of the class room strategies include proper positioning of the child in the classroom, giving movement breaks, sharing of thing, peer interaction, use of various activities where turns are taken among peer, etc.

## 6. Conclusion

The classroom strategies have a positive effect on the occupational performance for children with autism in mainstream classroom. It is effective in bringing positive attitude among teachers towards inclusion. It also improve the classroom behaviours of the children.

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