



Lego Based Therapy for children with special needs

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Participants

- ▶ 9 children Age 6 to 9
- ▶ Six boys and three girls.
- ▶ They all diagnosed with autism spectrum disorder
- ▶ Their mental ability are slightly below normal to normal



Method

- ▶ Before and After the intervention, parents were invited to complete strength and difficulties questionnaire and social communication questionnaire.
- ▶ Parents were asked to describe their observations of their children after the intervention
- ▶ The group process was video taped with consent from parents. The performance of the participants were analyzed by trained therapists.

Strength and difficulties Questionnaire

Number of cases of Experimental Groups by categories of Strength and difficulties questionnaire before and after joining the programme

Category	Normal		Borderline		Abnormal	
	Before	After	Before	After	Before	After
Total difficulties score	2 (22.2 %)	2 (22.2%)	3 (33.3%)	3 (33.3%)	4 (21.9 %)	4 (21.9%)
Emotional symptoms score	8 (88.9 %)	6 (66.7%)	0 (0%)	2 (22.2%)	1 (11.1 %)	1 (11.1%)
Conduct problems score	2 (22.2 %)	5 (55.6%)	3 (33.3%)	2 (22.2%)	4 (21.9 %)	2 (22.2%)

Number of cases of Experimental Groups by categories of Strength and difficulties questionnaire before and after joining the programme

Category	Normal		Borderline		Abnormal	
	Before	After	Before	After	Before	After
Hyperactivity score	2 (22.2%)	2 (22.2%)	1 (11.1%)	5 (55.6%)	6 (66.7%)	2 (22.2%)
Peer problem score	0 (0%)	3 (33.3%)	1 (11.1%)	1 (11.1%)	8 (88.9%)	5 (55.6%)
Prosocial behaviour score	5 (55.6%)	4 (21.9%)	0 (0%)	2 (22.2%)	4 (21.9%)	3 (33.3%)

Statistical test of SDQ of experimental groups before and after the programme

	Before Mean (SD)	After Mean (SD)	Wilcoxon's Ranked Test Significance (2- tailed)	Signed (2- tailed)	Effect Size (d)
SDQ Total Score	22.44 (4.22)	15.89(4.59)	$Z=-2.56, n=9,$ $p=.01^*$		0.85
SDQ Pro Social Score	5.56(2.74)	5.67(1.58)	$Z=.00, n=9,p=.1.0$		0.00
SDQ Hyperactivity	6.11(1.76)	6.22(1.86)	$Z=-.22, n=9,p=.83$		0.07
SDQ Emotional Problem Score	2.44(2.30)	2.44(2.01)	$Z=.00, n=9, p=1.0$		0.00
SDQ peer problem	4.78(1.39)	4.11(2.03)	$Z=-1.21, n=9, p=.23$		0.40
SDQ Conduct Problem Score	3.56(2.35)	3.11(2.37)	$Z=-.78, n=9, p=.43$		0.26

**P<.05*



The Social Communication Questionnaire

- The Social Communication Questionnaire (SCQ) is a questionnaire for children with autism spectrum disorder (ASD) with age 4 and above. The questionnaire is a 40-item, parent report questionnaire. The before and after score are as below

Statistical tests

Statistical test of SCQ of experimental groups before and after the programme

	Before Mean (SD)	After Mean (SD)	Wilcoxon's Signed Ranked Test Significance (2- tailed)
SCQ Score	21.78 (5.97)	25.67 (5.34)	$Z=-1.31, n=9,$ $p=.19$

Case Analysis of Social Communication Questionnaire

Before and after score of SCQ of each case

	Before	After
CASE 1	25	24
CASE 2	23	27
CASE 3	14	17
CASE 4	24	27
CASE 5	11	30
CASE 6	23	33
CASE 7	24	20
CASE 8	31	22
CASE 9	21	31



Summary of findings

- ▶ 1. A lower in total difficulties score after the intervention
- ▶ 2. Number of cases of abnormal conduct problem, peer problem and hyperactive reduced after intervention.
- ▶ 3. The improvement in social communication score was not statistically significant.
- ▶ 4. 6 out of 9 students have increased in the social communication score after the intervention.



Limitations

- ▶ Small sample size
- ▶ No comparison group
- ▶ Report rely on parent's observation, lack of triangulation from teachers and therapists.