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Effect of Stimulus Shaping & Prompting in Developing Dressing Skills in Trainable Mentally Challenged Children among Age Group of 6-12 Years

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Abstract: ***Mental retardation is one of the most common neurological disorder in which there is deficit in mental, cognitive & adaptive skill areas[3]. The severities of mental retardation have been identified as mild, moderate, severe and profound. Children with mental retardation often do not learn these skills on their own. Through systematic efforts, it is possible to teach and train them in these skills. The techniques used to improve the adaptive skills include stimulus shaping, stimulus fading, forward & backward chaining etc. Among these stimuli shaping appears to be a highly successful way to teach various skills. The sample of 16 trainable mentally challenged children of age group 6-12 years were taken with purposive sampling technique. The Dressing skill observation rating scale was selected as method of data collection. The pretest was conducted with this rating scale. The experimental group was taught dressing skills with stimulus shaping and prompting and the control group without stimulus shaping and prompting for one month. The post test was conducted using the same rating scale. Results showed significant difference in mean pre test and mean post test dressing skill score in experimental group and mean post test dressing skill score of experimental and control group.***

Keywords: Stimulus Shaping, Prompting, Trainable mentally challenged children, Dressing skills.

1. Introduction

Wisdom is the product of brain. Man has relied wisdom and development of language to achieve his current state of dominance in the world. Intelligence is clearly a salient feature in permitting the species to adapt to a wide range of differing environments. The people of restricted intelligence are at a disadvantage in solving problems and coping with new complex situations [1].

Mental retardation is not a disease or single entity. Mental retardation is one of the most common neurological disorder in which there is deficit in mental, cognitive & adaptive skill areas include communication, self-care, home living, social skill, community use, self direction, health and safety, functional academics, leisure and work[3].

Behra A in The Indian Journal of Occupational Therapy stated that nearly 83 million of the world's population is estimated to be mentally challenged, with 41 million having long-term or permanent disability. It is more common in developing countries because of the higher incidence of injuries and anoxia around birth, and early childhood brain infections[7].

The severities of mental retardation have been identified under four levels based on their I.Q level. The mild mentally retarded children have I.Q. of 50-70 who can acquire basic social and vocational skills. The moderate mentally retarded children have I.Q. of 35-49 who can perform academic activities comparable to a child upto grade two. The severe mentally retarded children have I.Q. of 20-34 permanently dependent on others and spend their life at home or the institution. The profound mentally retarded children have I.Q. below 20 and are fully reliant on caregivers.

A recent review of literature indicates that the teaching of dressing skills to the mentally handicapped has received comparatively little attention. Few conclusions have been reached as to the most effective approach to establish this complex group of skill.

Normal children learn the skills of daily living such as feeding, dressing, toilet training, and social skills such as playing, mixing, and interacting with others easily, by watching others and with some adult guidance and teaching. But children with mental retardation often do not learn these skills on their own. Through systematic efforts and using proper techniques, it is possible to teach and train them in these skills.

The various techniques used to improve the adaptive skills include stimulus shaping, stimulus fading, forward & backward chaining, rewarding or positive reinforcement, modeling etc. Among these stimuli shaping appears to be a highly successful way to teach discrimination skills.Stimulus shaping always requires fewer & less intrusive therapist's prompts & always resulted in greater density of reinforcement.

The children classified as moderately mentally retarded can learn self help skills or daily living skills by various training sessions (Fred Biasini, Lisa Grupe, Lisa Hoffman, Norman Bray). Watson suggested that 8-12 months of training may be required to attain full competence in self dressing skills. Bensberg et al, suggest use of short training sessions over periods of several weeks to learn dressing skills[13].

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Through stimulus shaping the mentally retarded children should be encouraged to do self care skills as much as possible for themselves because this achievement may lead to sense of accomplishment for them.

2. Literature Survey

Murali Madhav S. studied the prevalence of Mental Disorders in India. In material & method, the sample taken was ten major epidemiological studies in this field. A national prevalence rate for all mental disorders (All India rates/1000 population) was found to be 65.4% and specifically 4.2 per 1000 was observed for mentally challenged alone.

Maxwell, Larisa Ann studied the effect of a stimulus shaping procedure on fluent letter sound acquisition. The purpose of this study was to evaluate the benefits of combining an errorless learning procedure, stimulus shaping, and fluency-based procedures to teach see/say letter sound discriminations to three preschool children. Results showed that combining the procedures reduced the amount of teaching time up to 40% and the percent of errors by up to 50%.

Teena J. Sewell conducted a study to evaluate the effectiveness of a simultaneous prompting procedure with a physical guidance controlling prompt to teach three dressing skills each to two preschoolers with disabilities. A multiple probe across skills single subject research design was used. Both students maintained the skills with 90% accuracy up to 6 weeks following acquisition.

3. Methods/Approach

Research Design: A quasi experimental, non randomized control group design was used for the study.

Setting of the study: The study was conducted at Navjivni School of Special Education, Patiala (Punjab).

Population: The population for the present study consists of children who are trainable mentally challenged children among the age group of 6-12 years at Navjivni School of Special Education, Patiala (Punjab).

Sample size/ Sampling technique: 16 mentally challenged children were selected by purposive sampling technique.

Description of the tool
The data collection was done by the use of three sets of parts

Part A- Demographic data
This part deals with demographic data of 6-12 years mentally challenged children such as age, level of education of child, years of admission in the school, educational status of the parents

Part B- Procedure of dressing skills
This part deals with the general guidelines for the procedure of dressing skills and the procedure for teaching the dressing and undressing skills of the shirt

Part C- Dressing skill observation rating scale
This part deals with the dressing skill observation rating scale to evaluate the dressing skills of mentally challenged children. The children were rated at the score of 0, 1, 2 and 3.

Data Collection Procedure

Period of data collection: Data collection procedure was carried out for period of four weeks. After obtaining permission from Principal and Director, Navjivni School of Special Education, Patiala (Punjab). The data collection was carried from 1st January, 2012 to 31st January 2012. The data collection was planned between 11 AM to 1PM

Pretest: The pretest was conducted with the help of dressing skill observation rating scale at Navjivni School of Special Education, Patiala (Punjab).

Implementation: The mentally challenged children of age group 6-12 years were taught the dressing skills through the procedure of undressing and dressing of the shirt. The experimental group was taught dressing skills with stimulus shaping and prompting and the control group was taught dressing skills without stimulus shaping and prompting.

Post test: The post test was conducted after the period of 1 month using the same dressing skill observation rating scale to assess the effect of stimulus shaping and prompting in developing the dressing skills in trainable mentally challenged children.

4. Results

Table 1: Frequency and percentage distribution of trainable mentally challenged children according to sample characteristics

Sample characteristics	Exp group		Control group	
	Freq.	%	Freq.	%
Age of the child (in years)				
6-8	2	25	2	25
9-10	2	25	4	50
11-12	4	50	2	25
Level of education of the child				
Pre- primary education	2	25	3	37.5
Primary education	6	75	5	62.5
Secondary education	0	0	0	0
Years of admission in the school				
Less than 1 year	2	25	5	62.5
From last 1-2 years	3	37.5	2	25
From last 3-4 years	3	37.5	1	12.5
From last 5-6 years	0	0	0	0
Educational status of the father				
No formal education	1	12.5	0	0
Primary	2	25	0	0
Matric	2	25	5	62.5
Graduate	3	37.5	3	37.5
Post Graduate and above	0	0	0	0
Educational status of the mother				
No formal education	1	12.5	0	0
Primary	3	37.5	0	0
Matric	4	50	7	87.5
Graduate	0	0	0	0
Post Graduate and above	0	0	1	12.5

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Table 1 reveals that majority of the children 4(50%) in experimental group belong to age group 11-12 years whereas majority of the children 4(50%) in control group belong to age group 9-10 years. In relation to level of education, majority 6(75%) of the subjects of exp group study in primary education and in control group also majority 5(62.5%) of the subjects study in primary education.

In relation to years of admission in the school, 3(37.5%) in exp group are admitted to school from last 1-2 years, 3(37.5%) from last 3-4 years. In control group, majority 5(62.5%) of the subjects are admitted in the school from less than 1 year.
Regarding educational status of father, in exp group 3(37.5%) were graduates. In control group, majority 5(62.5%) were matric qualified.

Regarding educational status of mother, in exp group majority 4(50%) were matric qualified. In control group, the maximum number of mothers 7(87.5%) were matric qualified.

Table 2: Pretest and Posttest mean, range of score, median and standard deviation of dressing skill observation rating scale of experimental and control group

N_1=8, N_2=8

	Variable	Pretest dressing skill of shirt	Posttest dressing skill of shirt
Experimental Group	Mean	1.25	20
	Range of score	8	6
	Median	1	20
	Standard Deviation	1.035	2.725
Control Group	Mean	0.25	10.5
	Range of score	1	13
	Median	0	12.5
	Standard Deviation	0.4629	4.44

Data presented in the table revealed that the post test dressing skill score was higher (20 $\pm$ 2.725) than the pretest dressing skill score (1.25$\pm$ 1.035) in the experimental group and the post test dressing skill score in control group was higher (10.5 $\pm$ 4.440) than the pretest dressing skill score (0.25$\pm$ 0.4629).

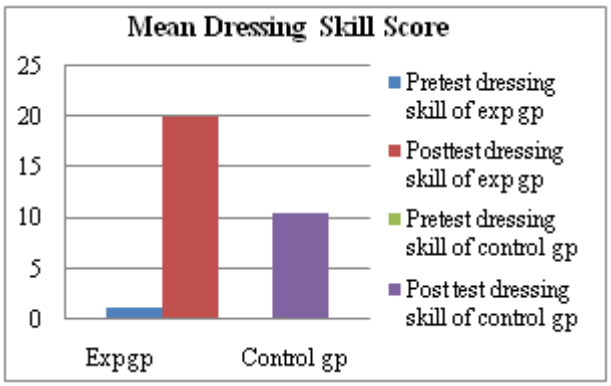

Figure 1: Mean Dressing Skill score of experimental group and control group.

Figure 1 represents that the mean post test dressing skill of experimental group was higher than the mean post test dressing skill of control group.

Table 3: Comparison of mean pretest dressing skill score and posttest dressing skill score of experimental group using paired t test.

N=8

Aspects	Mean	Mean Difference	Standard Deviation	Paired t test
Pretest dressing skill score	1.25	18.75	1.035	19.94*
Post test dressing skill score	20		2.725	

t_7 = 2.37, p<0.05 * significant

Table 3 revealed that there was significant difference in pre test and post test dressing score (t7=19.94,p<0.05) of children in experimental group suggesting that dressing skill score was higher in post test than the pretest (20 + 2.725 vs 1.25+ 1.035).

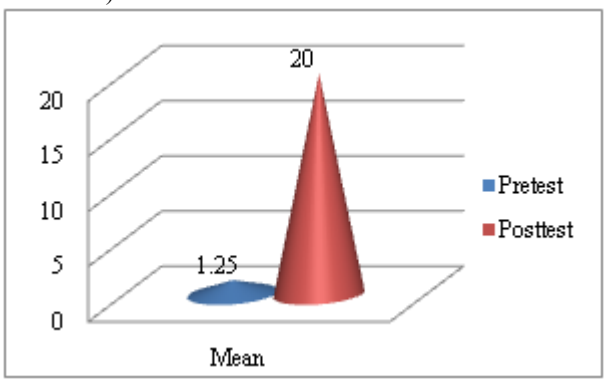

Figure 2: Mean pretest and post test dressing skill score of experimental group

Figure 2 reveals that the mean post test dressing skill score was higher than the mean pre test dressing skill score in the experimental group.

Table 4- Comparison of mean posttest dressing skill score of experimental group and control group by using unpaired t test.

N_1=8, N_2=8

Aspects	Mean	Mean Diff	Standard Deviation	Unpaired t test
Post test dressing skill of exp group	20	9.5	2.725	5.16*
Post test dressing skill of control group	10.5		4.44	

t_{14} = 2.15, p<0.05 *significant

Table 4 revealed that there was significant difference in post test dressing score (t14 = 5.16,p<0.05) of children in experimental and control group suggesting that dressing skill score was higher in experimental group than the control group (20 + 2.725 vs 10.5+ 4.44).

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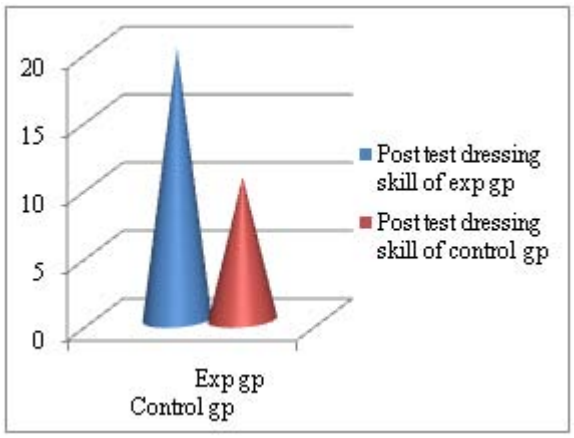

Figure 3: Mean post test dressing skill score of experimental and control group

Figure 3 reveals that the post test dressing skill score of experimental group was higher than the post test dressing skill score of control group.

5. Discussion

Major findings of the study

- The post test dressing skill score was higher (20 + 2.725) in the experimental group than the post test dressing skill score (10.5 + 4.440) in the control group.
- There was significant difference in pre test and post test dressing score (t7=19.94, p<0.05) of children in experimental group suggesting that dressing skill score was higher in post test than the pretest (20 + 2.725 vs 1.25+ 1.035). A study was conducted by Azrin et al to teach dressing skills to profoundly mentally handicapped using intensive training. The baseline pre assessment score was 7% which by the end of training programme was 90%.
- There was significant difference in post test dressing score (t14 = 5.16,p<0.05) of children in experimental and control group suggesting that dressing skill score was higher in experimental group than the control group (20 + 2.725 vs10.5+ 4.44).
- A similar study was conducted by Maxwell and Larisa Ann in 2009 to see the effect of a stimulus shaping procedure on fluent letter sound acquisition. The children's letter sound acquisition after stimulus shaping was 60 correct sounds / min which were higher than the baseline of 2 sounds / min.

6. Conclusion

- The post test dressing skill score was higher (20 + 2.725) in the experimental group than the post test dressing skill score (10.5 + 4.440) in the controlgroup.
- There was significant difference in pre test and post test dressing score(t7=19.94, p<0.05) of children in experimental group suggesting that dressingskill score was higher in post test than the pretest (20 + 2.725 vs 1.25+ 1.035).
- There was significant difference in post test dressing score (t14 = 5.16,p<0.05)of children in experimental and control group suggesting that dressing skillscore was higher in experimental group than the control group (20 + 2.725 vs10.5+ 4.44).

7. Future Scope

- A similar study can be conducted on Mild, severe, profound mentally retarded children.
- The study can be conducted on other dressing skills like pants, socks, shoes, jackets etc by using stimulus shaping and prompting.
- The study can be conducted for long duration of time on large sample.

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