Original Research Paper

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EFFECT OF COGNITIVE INTERVENTION ON READING ABILITY OF READING DISABLED CHILDREN

Psychology

KEYWORDS:

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ABSTRACT

Dyslexia is a word-level reading disorder associated with problems with phonological processing. It is the most common form of learning disability. The aim of present study is to investigate the impact of cognitive intervention on reading skills of reading disabled children. Sample of 80 children with reading disability were selected, 40 were treated as experimental and 40 control group. The study finds that cognitive strategies like decoding Scaffolding, Reinforcement, Repeated practice and Incremental rehearsal helped in improving reading skills of dyslexic children

Academic success is important because it is strongly linked to the positive outcomes. Working people will need higher levels of education to tackle the technologically demanding occupations of the future. Academically successful adolescents have higher self-esteem, have lower levels of depression and anxiety, are socially inclined, and are less likely to abuse alcohol and engage in substance abuse. Positive self-esteem and self-confidence are critical factors in commitment to academic success. Children who master basic reading, writing and mathematics skills are less likely to fail in school and more likely to develop the thinking skills they need to graduate from high school and post-secondary school. Some reasons for poor performance are specific to the students and not related to external factors. For example, a learning disability is student-centered and may create an obstacle to reaching certain academic standards. Cognitive strategies are useful tools in assisting students with learning problems. The term "cognitive strategies" in its simplest form is the use of the mind (cognition) to solve a problem or complete a task. Cognitive strategies may also be referred to as procedural facilitators (Bereiter & Scardamalia, 1987), procedural prompts (Rosenshine, 1997) or scaffolds (Palincsar & Brown, 1984). A related term is metacognition, the self-reflection or "thinking about thinking" necessary for students to learn effectively (Baker, Gersten, & Scanlon, 2002).

Cognitive strategies provide a structure for learning when a task cannot be completed through a series of steps. A cognitive strategy serves to support the learner as he or she develops internal procedures that enable him/her to perform tasks that are complex (Rosenshine, 1997). Reading comprehension is an area where cognitive strategies are important. A self-questioning strategy can help students understand what they read.

AIM OF THE STUDY: To study the effect of intervention in improving reading skills that help in cognitive development of grade 3 children with reading disability.

METHODOLOGY:

Locale and Sample: The present study was conducted in four government schools of Hyderabad. A sample of 80 students with reading disability were identified and purposively selected for the study. Out of 80 students 40 students were treated as experimental group and given intervention , whereas remaining 40 reading disabled students we treated as control group without exposing to any kind of intervention.

Tool: Grade Level Assessment Device developed by Narayan.J (1997) to find out the level of academic performance upto Class IV level. This was developed based on standard curricular content of State and Central Syllabus which assess academic achievement.

Intervention: Intervention programme was planned for the period of 10 months for the Reading Disabled students. Intervention was conducted in 3 phases as cognitive strategies utilized are different in each phase of instruction. Phase 1 consisted of 20 sessions where phonemic awareness enhancement, words and sentence reading through cognitive strategies. Phase II from 21-40 sessions included enhancing sentence and paragraph reading skills through cognitive strategies and phase III i.e 41- 60 sessions comprised enhancing comprehension of paragraphs through cognitive strategies.

RESULTS AND DISCUSSIONS

Table 1 Demographic profile of students N=160

Profile	Frequency	Percentage
Age		
8-9 years	63	39.3%
9.1-10 years	97	60.6%
Gender		
Boys	99	61.8%
Girls	61	38.12%

The present study was conducted only for grade three children as grade three has academic significance. During grade 3 learn decoding words start using knowledge of the alphabet to read and learn.

The profile of the subjects indicates that 60.6 percent 1.e 97 subjects of the selected sample were in the age group of 9-10 years and nearly 39.3 percent i.e 63 subjects of them were in age group of 8-9 years. When gender was considered the selected sample comprised of 61.8 percent boys i.e, 99 subjects and 38.12 percent girls i.e 61 subjects. The government schools selected had more of boys population in comparison to girls.

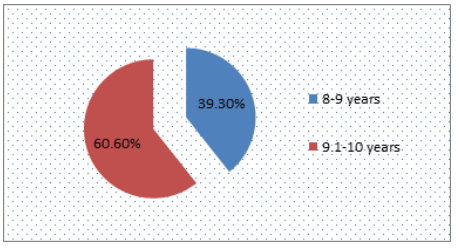


Fig 1-Age wise distribution of sample

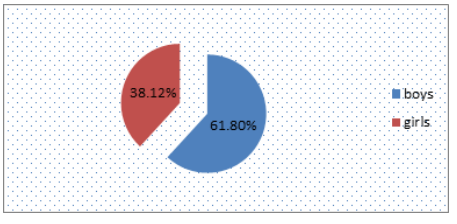


Fig-2 Gender wise distribution of sample

Table 2: Showing Pre, mid and post intervention scores of experimental and control group R on GLAD Reading Test

Groups	Experimental group R			Control group R		
Terms	Pre	Mid	Post	Pre	Mid	Post
Mean	42.45	46.25	52.975	44.75	44.775	45.275
SD	5.370	5.544	6.467	6.456	6.64	6.22
f ratio	34.041			0.084		
p value	0.000*			0.919		

p<0.01 level of significance R= Reading disabled

As shown in Table 2 the experimental group R mean score in pre test was 42.45 SD=5.3, in mid test he mean score was 46.25 with SD= 5.5 and in post test the mean score was 52.9 SD= 6.4. The calculated 'f' value was 34.04 for Reading Experimental Group which shows a significant difference between the three mean scores with p=0.00. The control group pre and mid mean scores remained same with 44.7 and SD=6.4, in post test the mean score was 45.2 SD=6.2.The f value obtained for Control Group was 0.084 and 'p' value 0.084 which indicated that there is no significant difference between the pre, mid and post test scores. F ratio was computed to find the difference between the mean scores of experimental and groups. The high f ratio for experimental group (R) indicates the significant differences between the three mean scores. It can be seen that there was a gradual increase in the mean scores on reading achievement from pre to mid and post intervention due to the intervention effect. The f ratio of control group was found to be very low indicating that there was no significant differences between the pre, mid and post test scores as this group was not exposed to any intervention.

Table 3: Shows Mean differences for pre, mid and post scores of reading skills assessment between experimental group and control group*

Group	Term	Mean	SD	t value	p value
Experimental group (R)	Pre	42.5	5.3	-1.75	0.08 NS
Control group (R)		44.7	6.4		
Experimental group (R)	Mid	46.25	5.5	1.1042	0.273 NS
Control group (R)		44.75	6.6		
Experimental group (R)	Post	52.9	4.75	6.66	0.001*
Control group (R)		45.27	6.22		

p<0.01 level of significance, NS- Not significant R= reading disabled

Table 3 gives the comparison of scores of experimental and control group on reading assessment in order to know the impact of intervention on the reading skills. From the results of analysis it was clearly evident that the pre mean score of experimental group was 42.5 (SD=5.5) and control group mean was 44.7 (SD=6.6) did not show significant difference. The 't' value obtained was 1.1 and p=0.273. The mid assessment of the mean scores of experimental group was 46.25 and SD= 4.75 where as the mean scores of control group remained almost same. 't' value was found to be 1.10, not significant at 0.01 level. However a significant difference between experimental and control group was not found. Intervention seems to be not effective in both pre and mid condition for improving Reading skills when GLAD was taken.

In post intervention assessment the score of experimental group showed a marked progress (mean=52.9, SD=4.75) where as the control group mean scores was found to be 45.27 and SD=6.22.

When test of significance was taken into consideration for both the groups the t values in the post test (t= 6.61, p<0.01) showed a significant difference between the groups. Hence it was clear that cognitive intervention given in experimental group improved the reading skill of dyslexic children.

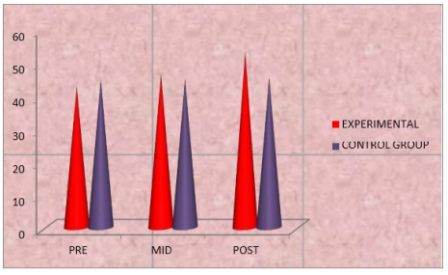


Fig 3 Comparison of mean scores of experimental and control group (R)on reading assessment in three terms

The results of the study accepts the hypothesis that Significant difference will be found between reading scores of experimental group children receiving intervention and control group children with learning disabilities not receiving any intervention. In a similar study by Yussof, Y.M., Jamian,A.R. RoslanS., Hamzah,Z., KabilanM.K,(2012), who conducted a quasi-experimental study involved 45 students(experimental group) receiving treatment via graphic and cognitive strategies The study showed that the Cognitive and Graphic Intervention is much more effective in enhancing the Reading Comprehension compared to the use of conventional method. In another similar study by Jumani,N.B.,Rahman,F., Dilpazir.N., Chishti,S. and Malik,S. (2011) aimed to find out the effectiveness of remedial techniques on the performance of the students suffering from dyslexia Results concluded that the mean score of students taught by the remedial techniques was higher than the mean score of the students taught by ordinary method

CONCLUSION

A cognitive approach to learning disability is child centered and recognizes the role of high order control process in learning. This approach emphasizes what children bring to learning situation based on the experiences and meaning that was constructed from these experiences. From the study it can be concluded that the intervention had its impact on the reading skills of learning disabled child. The study further reveals a highly significant difference of mean scores on reading assessment between the experimental and control group proving that cognitive intervention strategies had effect on reading skills of learning disabled child.

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