

Effect of Cognitive Strategies on Enhancing Phonemic Awareness of Children with Dyslexia

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Abstract

Children with dyslexia experience a range of problems that are associated with literacy and sometimes numeracy. Such difficulties permeate their learning, and some students leave school with minimal qualifications. Contrary to the praxis in education where labeling is intentionally avoided, the label of dyslexia has been used to support affected learners, secure resources, provide specialist teaching, and award access arrangements. Cognitive strategy can improve the reader's comprehension if the information conveyed in the text matches the general knowledge of the reader. Phonemes are the smallest units, including spoken language. Phonemes combine to form syllables and words. Acquiring phonemic awareness is significant because it is the foundation for spelling and word recognition skills. Phonemic awareness is one of the best predictors of how healthy children will acquire to read during the first two years of school instruction. The present study aimed at investigating the dyslexic children of primary school. The sample consisted of 65 dyslexic children from 4th standard primary schools located in the Coimbatore district. The results revealed a significant difference between pre-test and post-test of phonemic awareness of Reading comprehension of children with dyslexia.

Keywords: Phonemic awareness, Reading comprehension, Cognitive strategy, Dyslexic children, Skill, Primary school

Introduction

Dyslexia is described as a condition where individuals experience problems in the acquisition of literacy. It is a silent learning difficulty that can leave children feeling frustrated about their incapability to learn things such as spelling, reading, or writing, which their classmates find easy. In the learning process of reading, teachers should present and train students to utilize suitable strategies in the comprehension of reading texts. So, teachers need to direct student activities to get to know and use the correct reading strategy. A cognitive strategy is an internal process as a way to change and regulate the learning process. The strategy gives or becomes the basic structure for learning. With this approach, students try to overcome difficulties or problems faced. The cognitive strategy of the learner always evolves in line with their success in education. These developments are the development of ways to improve the regularity of the internal processes associated with knowledge. The cognitive approach deals with how to learn, how to remember, and how to convey ideas reflexively and analytically. If the learner masters the internal process well, they will be able to self-learn (self-instruction) and study independently. They will be able to solve complications and convey ideas well.

Elementary school teachers could play a crucial role in identifying dyslexia early and creating awareness about learning disorders in the community. Dyslexic children need a different approach to learning a language that can be employed in regular classrooms. They need to be taught, gradually and thoroughly, the basic components of the language- the sounds and the letters correspondence, phonology, phoneme, and vocabulary. Cognitive neuroscientists believe dyslexic children's brains have problems understanding fast-changing syllables like "ba" and "da" because their brains are wired differently. Dyslexic children have not received sufficient consideration in developing countries. So there is a big task for those Elementary school teachers to improve the dyslexic children's phonemic awareness of reading comprehension. For that, a study has to be undertaken to determine the effect of cognitive strategy on phonemic awareness of children with dyslexia who need psychological attention in the process of teaching and learning.

Review of Literature

Children who ended up with reading difficulty despite low early cognitive risk had minor cognitive skills, more task avoidance, reading less than children without reading difficulty and low reasoning risk. In summary, lack of task avoidance seemed to act as a protective factor, which underlines the importance of keeping children interested in schoolwork and reading (Eklund & Kenneth Mikael, 2013). Both auditory temporal processing and working memory and significantly involved in reading among dyslexic readers, and dyslexic readers might use more different reading strategies than usual readers do, who are not included in auditory temporal processing and working memory while reading (Fostick & Leah et al. 2012). The intervention-based solutions to low classification accuracy might reduce false-positive risk classifications (McAlenney & Athena Lentini, 2011). A difference was found in children's perception of a synthetic speech contrast (ba/wa) when it is established on the speed of the degree of change of frequency information (formant transition duration) versus the speed of the rate of conversion amplitude modulation (rise time). The study showed that children with Dyslexia have excellent

phonetic discrimination based on formant transition interval but poor phonetic discrimination based on envelope cues. The results explain why phonetic discrimination may be allophonic in progressive Dyslexia (Serniclaes et al., 2004).

Significance of the Study

The art of actually hearing syllables, separating the dyslexic children, and then repeating them is vital to the process of learning to read. The ability to analyze sounds quickly, particularly speech, is the most significant component of comprehension. The use of cognitive strategies affects the reader's achievement in comprehending the content of the text. This means that using the right approach can enhance the results of phonemic awareness of reading comprehension.

The findings of this study have significant benefits for language teaching, especially for reading comprehension knowledge. These findings are essential for all educators because phonemic awareness is the foundation for all other learning in school: dyslexic children cannot understand, enjoy, or respond to literature without actual reading comprehension; likewise, dyslexic children cannot collect new information from science, math, or social studies texts when they don't understand what they read. By keeping the above-said facts, the investigator has undertaken a study on the effect of cognitive strategy on phonemic awareness of children with dyslexia.

The Objective of the Study

To determine the significant difference between pre-test and post-test of phonemic awareness of Reading comprehension of children with dyslexia.

Research Hypothesis

Cognitive strategies will significantly influence the phonemic awareness of Reading comprehension of children with dyslexia.

Research Method

The investigator has employed a single group experimental design for the present study.

Population and Sample

The population of the present study was dyslexic children studying 4th standard in the Coimbatore district. Non- probability purposive sampling technique was used for selecting the sample from the population. The size of the sample was 65 dyslexic children studying the 4th standard.

Tool Used

- A test for phonemic awareness of Reading comprehension prepared by the investigator was used for the study.
- Word formation game and Syllable activities were prepared by the investigator as Cognitive strategies to improve dyslexic children’s Phonemic awareness of Reading comprehension.

Statistical Technique Applied

For analyzing the data, the investigator used a t-test as a statistical technique.

Data Analysis

Hypotheses Testing

Null Hypothesis: There is no significant difference between pre-test and post-test of phonemic awareness of Reading comprehension of children with dyslexia.

Table 1: Mean and Standard Deviation of the Pre-test and Post-test Scores of Phonemic Awareness of Reading Comprehension

S. No.	Test	N	Mean	S. D.	t- Value
1	Pre-test	65	2.32	1.19	32.66
2	Post-test	65	7.02	1.60	

*significant at 0.01 level

From the table, it may be inferred that, the value acquired (32.66) is greater than the table value (2.000), the difference in performance between the Pre-test and Post-test scores is significant at 0.01 level. Thus, the null hypothesis is rejected, and the research hypothesis is accepted. Hence, Cognitive strategies significantly influence the phonemic awareness of Reading comprehension of children with dyslexia.

Table 2: Mean and Standard Deviation of the Pre-test and Progressive-test Scores of Phonemic Awareness of Reading Comprehension

S. No.	Test	N	Mean	S. D.	t- Value
1	Pre-test	65	2.32	1.87	22.32
2	Progressive-test	65	4.91	1.47	

*significant at 0.01 level

From the table, it may be inferred that, since the value obtained (22.32) is greater than the table value (2.000), the difference in performance between the Pre-test and Progressive-test scores is significant 0.01 level. Thus, Cognitive strategies significantly influence the phonemic awareness of Reading comprehension of children with dyslexia.

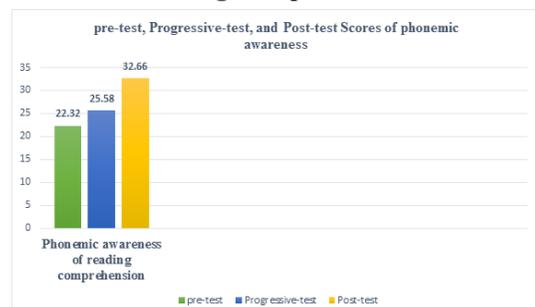
Table 3: Mean and Standard Deviation of the Progressive-test and Post-test Scores of Phonemic Awareness of Reading Comprehension

S. No.	Test	N	Mean	S. D.	t- Value
1	Progressive-test	65	4.91	1.47	25.58
2	Post-test	65	7.02	1.60	

*significant at 0.01 level

From the table, it may be inferred that, since the value attained (25.58) is greater than the table value (2.000), the difference in performance between the Progressive-test and Post-test scores is significant 0.01 level. Thus, Cognitive strategies significantly influence the phonological awareness of Reading comprehension of children with dyslexia. Therefore, the null hypothesis is rejected, and the research hypothesis is accepted.

Graph showing Pre-test, Progressive-test, and Post-test Scores of Phonemic Awareness of Reading Comprehension



Finding

There is a significant difference between pre-test and post-test of phonemic awareness of Reading comprehension of children with dyslexia.

Conclusion

The results of this study conclude that in phonemic awareness of comprehension of the Reading text, dyslexic children use specific cognitive strategies. The diversity of the test score is due to the self-factor and student involvement in reading, and the features of the text being read. Also, the teaching of reading comprehension abilities, suitable cognitive strategies needed to be selected that match the self and condition of the learner because these approaches have a significant impact on improving the phonemic awareness of reading comprehension of the reader. The ability to read is crucial. Thus, learning to read well plays an essential role in achieving success in both study and life.

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