Effectiveness of Remedial Programme on Improving Word Recognition Skills of Children with Dyslexia

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Abstract: The instant study examined the effectiveness of remedial programme on improving word recognition skills of children with dyslexia. The researcher has made the study single group experimental and conducted pre-test and post-test on word recognition to know the effectiveness of remedial programme. The sample comprised 50 dyslexic students of fifth standard studying in Government Primary Schools of Belagavi city, this sample was drawn with the help of Rutter’s Proforma-B (1967). The researcher has developed remedial programme based on English Text book prescribed by DSERT Karnataka state for the fifth standard and remedial programme has been conducted on the selected sample. In this study Performance on word recognition was Dependent Variable, whereas remedial programme was an independent variable and gender was treated as a moderator variable. The findings of the study reveal that the remedial programme is effective on improving the skills of word recognition among children with dyslexia.

Keywords: Word Recognition, Dyslexic Children and Remedial Programme.

I. INTRODUCTION

Reading consists of a complex set of skills which includes recognition of word, determining of words, phrases, guessing the meaning of words which are similar, making use of them in the correct context and coordinating the meaning with the general theme of the text.

A child with dyslexia has severe difficulty in learning to read the components of words and sentences and derive meaning from it. Hence, children with dyslexia require specific kinds of teaching tactics and strategies.

It is important for the teacher to have an understanding of the ‘science of reading.’ The teacher must assess each student individually and have sufficient techniques and strategies available at their fingertips to better meet out the emerging and challenging learning needs of students with dyslexia.

Dyslexia

Numerous definitions of the word dyslexia exist and while they contain many similarities they can also lead to a great deal of confusion. The word itself is derived from the Greek “dys” meaning difficulty and “lexia” meaning written words. It was originally named as “congenital word blindness” when it was first diagnosed as a medical problem at the end of the 19th century.

Symptoms of Children with Dyslexia

Student may have dyslexia or a learning disability if they have one or more of the following symptoms:

- Letter or word reversals when reading. (Such as was/saw, b/d, p/q)
- Letter or word reversals when writing.
- Difficulty in repeating what is said to them.
- Poor handwriting or printing ability.
- Reversing letters or words when spelling words that are presented orally.
- Difficulty in comprehending written or spoken directions.
- Difficulty with right - left directionality.
- Difficulty in understanding or remembering what is said to them.
- Difficulty in understanding or remembering what they have just read.
- Difficulty in putting their thoughts on paper.

Remedial Programme

After children’s reading difficulties have been identified each child is then matched with a programme to provide remediation. A major characteristic of remedial word recognition programme is that the content of the programme is predetermined by the children’s performance on a set of sub-skills. Each child’s tutorial consists of a series of activities that focus on various sub-skills, such as Phonological Awareness, De-Coding and Sight Recognition.
Significance of the Study
Since dyslexia can’t be diagnosed until the child has been failing in school for at least two years by that time constant failure may have produced aversion towards the school, undermined self-esteem, self confidence and would have created psychological problems. Treatment becomes effective if earlier diagnosis is made. Hence remedial programme for children with dyslexia studying in V standard is included in the study.

By remedial programme, the teachers and parents could become aware of Dyslexic condition and make the necessary considerations required for children with Dyslexia.

The need to identify such children at an early stage who are totally ignored and left bewildered in the regular class-rooms made the researcher to choose the present study.

Objectives of the Study
Keeping in mind the need, nature and scope of the study as discussed, the following objectives were specified as objectives for the study
1. Identification of the children with dyslexia, studying in V standard of government primary schools in Belagavi city.
2. Development of the remedial programme on word recognition in reading skills for V standard students.
3. Assessment of the word recognition and its dimensions in reading skills of students with dyslexia studying in V standard.
4. To study the effectiveness of remedial programme on improving word recognition in reading skills of children with dyslexia studying in V standard.

Hypothesis
1. There is no significant difference between pre-test and post-test mean scores of performance of children in word recognition.
2. There is no significant difference between pre-test and post-test mean scores of performance of children word recognition component that is Phonological Awareness.
3. There is no significant difference between pre-test and post-test mean scores of performance of children reading comprehension component that is De-Coding.
4. There is no significant difference between pre-test and post-test mean scores of performance of children reading comprehension component that is Sight Recognition.
5. There is no significant difference between boys and girls children with respect to pre-test and post-test mean scores of performance of children in word recognition.

II. DESIGN OF THE STUDY
Experimental design is the most useful and powerful method to identify the effectiveness of any programme. Hence the investigator has incorporated the single group experimental design to find out the Effectiveness of Remedial Programme for improving word recognition in reading Skills among Children with Dyslexia.

Population, Sample and sampling technique
The population of the study was children with dyslexia studying in primary schools. Identification of dyslexic children is not appropriate in first and second standard as they would have not received enough reading instructions. While in seventh standard or more, a two year reading activities or practices might not indicate severity in reading problems. The sample comprised 50 children with dyslexia from the fifth standard. A purposive sampling technique was adopted to select the sample (children with dyslexia) enrolled in government schools in Belgaum city.

Variables
The variables of the study are as follows;
   a) Dependent Variable: Performance on word recognition
      b) Independent Variable: Remedial Programme
      c) Moderate Variable: Gender

Data Collection Procedure
The entire procedure of the study can be divided into two parts, Screening of the children with dyslexia and remedial programme

Screening of the Children with Dyslexia
The success of any educational research depends on the methods adopted for carrying out the research. In the present study the experimental procedure has been followed. The researcher has made the present study confined to Belagavi city for children with dyslexia. For identification of children with dyslexia researcher has approached Block Education Officer (BEO) to take permission to visit the schools and discussed about the nature of his study, what the researcher was going to carry out. The researcher collected the list of primary schools located in Belagavi from Block Resource Centre (BRC) and then researcher has approached Assistant Programme Coordinator (APC) of Sarva Shikshana Abhiyana (SSA) to find out various interventions conducted for children with special needs but for children with dyslexia were neither identified nor have been treated with...
remedial programme. They were treated as normal children in schools. Therefore identification of dyslexic children was a Herculous task in the beginning. Based on the study of research reviews conducted on dyslexic children, the researcher planned to use Rutter’s Proforma – B. (1967) to identify the children with dyslexia with the help of language teacher in various schools of the study. The researcher and the language teacher of the school together have identified the children with dyslexia with the help of Rutter’s proforma.

The researcher has administered Pre-test on word recognition skills. Based on the performance in the pre-test the remedial programme has been developed depending on the reading skills.

## III. REMEDIAL PROGRAMME

Remedial programme has been developed on word recognition based on the following components of reading skills and collected the data before and after remedial programme that is pre-test and post test.

### A. Phonological Awareness: To identify the Phonological Awareness, the following steps were followed;

- Made to understand how to identify, segment and blend the sounds in spoken words when auditory and visual cues are used in the classroom.
- Started with continuous sounds that are easier to blend.
- Stretch out and connect sounds rather separate them.
- Made to learn relationship between letters and sounds in more advanced phonemic awareness tasks.
- Feel that subject is easy because it progresses from easier to complex task and from smaller to larger unit.
- If opportunities are provided, include new sound-letter relationship.
- Get opportunities early and often to apply his/her phonetic knowledge to pronounce words that are similar in meaning.
- Turn to dictionaries for pronunciation when coming across new words in the English reading.
- Guess the meaning of new words by analyzing their roots or prefixes or suffixes.
- Overlook the sentences with complicated structures.

### B. De-Coding: To identify the De-Coding, the following steps were followed;

- Learn upper case and lower case forms of letters.
- Have the opportunity to experiment with and manipulate letters to make words.
- Practice sound-letter relationship at different rates.
- Introduce sound-letter relationship in daily lesson.
- Use context to confirm the meaning of words he/she has identified by applying his/her knowledge of sound letter relationship.
- With structural analysis practice as a way to identify word parts and multisyllabic words.
- Identify a set of regular words in a reasonable order.
- Identify a set of regular high frequency words in a reasonable order and cumulatively review them.
- Move from his / her own invented spellings to correct spellings.

### C. Sight Recognition: To identify the Sight Recognition, the following steps were followed;

- Able to identify the words that occur frequently in print, even those are decodable.
- Learn decodable, highly frequent words by attending to their sounds rather than just by memorisation.
- Able to identify that high frequency words are memorized because of their irregular spelling.
- Able to develop sight word recognition from wide, independent reading of book and by the exposure of classroom word walls.
- Follow regular sound-symbol pronunciations in many irregularly spelled words.
- Able to identify sources of irregularly spelled sight words in reading books.
- Able to solidify deep learning of sight words as they are introduced through flash cards or word lists.
- Able to identify sight new words from the introduction of the lesson.
- Able to learn sight words by repetition and exposure through the games like ‘go fish’ or ‘Bingo’.
- Able to learn effectively the sight words by spelling the words aloud.

### Testing the Hypotheses

**Hypothesis-I:** There is no significant difference between pre-test and post-test mean scores of performance of children in Word recognition.

To test this hypothesis, the paired t-test was applied and the results are presented in the following table.

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean Diff.</th>
<th>SD Diff.</th>
<th>Paired t-value</th>
<th>p-value</th>
<th>Signi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>43.00</td>
<td>3.91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
that a significant difference was observed between pre-test and post-test scores of performance of children in Word recognition (t=−67.1019, p<0.05) at 0.05% level of significance. It can be concluded that, the post-test performance of word recognition mean scores are higher when compared to pre-test performance of word recognition scores. In another words, the student’s performance showed improvement in post-test in word recognition after remedial teaching when compared to pre-test.

**Hypothesis-2:** There is no significant difference between pre-test and post-test scores of performance of children in component of word recognition i.e. phonological awareness

To test this hypothesis, the paired t-test was applied and the results are presented in the following table.

**Table: Results of Paired t-test Between Pre-test and Post-test Scores of Performance of children in component of word recognition i.e. phonological awareness**

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean Diff.</th>
<th>SD Diff.</th>
<th>Paired t-value</th>
<th>p-value</th>
<th>Signi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>14.10</td>
<td>1.50</td>
<td>-21.82</td>
<td>3.1147</td>
<td>-49.5356</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
<tr>
<td>Post-test</td>
<td>35.92</td>
<td>3.06</td>
<td>-21.56</td>
<td>2.9008</td>
<td>-52.5551</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
</tbody>
</table>

From the results of the above table, it is observed that, a significant difference was observed between pre-test and post-test scores of performance of children in component of word recognition i.e. phonological awareness (t=−49.5356, p<0.05) at 0.05% level of significance. It can be concluded that, the post-test performance of children in phonological awareness scores are higher when compared to pre-test performance of children in phonological awareness scores. In another words, the student’s performance showed improvement in post-test in component of word recognition i.e. phonological awareness after remedial teaching when compared to pre-test.

**Hypothesis-3:** There is no significant difference between pre-test and post-test scores of performance of children in component of word recognition i.e. de-coding

To test this hypothesis, the paired t-test was applied and the results are presented in the following table.

**Table: Results of Paired t-test Between Pre-test and Post-test Scores of Performance of children in component of word recognition i.e. de-coding**

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean Diff.</th>
<th>SD Diff.</th>
<th>Paired t-value</th>
<th>p-value</th>
<th>Signi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>14.26</td>
<td>1.72</td>
<td>-21.56</td>
<td>2.9008</td>
<td>-52.5551</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
<tr>
<td>Post-test</td>
<td>35.82</td>
<td>2.46</td>
<td>-21.26</td>
<td>2.3283</td>
<td>-64.5678</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
</tbody>
</table>

From the results of the above table, it is observed that, a significant difference was observed between pre-test and post-test scores of performance of children in component of word recognition i.e. de-coding (t=−52.5551, p<0.05) at 0.05% level of significance. It can be concluded that, the post-test performance of children in de-coding scores are higher when compared to pre-test performance of children in de-coding scores. In another words, the student’s performance showed improvement in post-test in component of word recognition i.e. de-coding after remedial teaching when compared to pre-test.

**Hypothesis-4:** There is no significant difference between pre-test and post-test scores of performance of children in component of word recognition i.e. sight recognition

To test this hypothesis, the paired t-test was applied and the results are presented in the following table.

**Table: Results of Paired t-test Between Pre-test and Post-test Scores of Performance of children in component of word recognition i.e. sight recognition**

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean</th>
<th>S.D.</th>
<th>Mean Diff.</th>
<th>SD Diff.</th>
<th>Paired t-value</th>
<th>p-value</th>
<th>Signi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>14.64</td>
<td>1.64</td>
<td>-21.26</td>
<td>2.3283</td>
<td>-64.5678</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
<tr>
<td>Post-test</td>
<td>35.90</td>
<td>2.15</td>
<td>-21.26</td>
<td>2.3283</td>
<td>-64.5678</td>
<td>&lt;0.05</td>
<td>S</td>
</tr>
</tbody>
</table>

From the results of the above table, it is observed that, a significant difference was observed between pre-test and post-test scores of performance of children in component of word recognition i.e. sight recognition (t=−64.5678, p<0.05) at 0.05% level of significance. It can be concluded that, the post-test performance of children in sight recognition scores are higher when compared to pre-test performance of children in sight recognition scores. In another words, the student’s performance showed improvement in post-test in component of word recognition i.e. sight recognition after remedial teaching when compared to pre-test.

**Hypothesis-5:** There is no significant difference between boys and girls children with respect to pre-test and post-test scores of performance of children in word recognition

To achieve this hypothesis, the impendent t test was applied and the results are presented in the following table.

**Table: Results of t test between boys and girls children with pre-test and post-test scores of performance of children in word recognition**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Mean</th>
<th>SD</th>
<th>SE</th>
<th>t-value</th>
<th>p-value</th>
<th>Signi.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Boys</td>
<td>43.08</td>
<td>4.14</td>
<td>0.84</td>
<td>0.1433</td>
<td>0.8867</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>

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### Findings

1. The student’s performance showed improvement in post-test in word recognition after remedial teaching when compared to pre-test.
2. The student’s performance showed improvement in post-test in component of word recognition i.e. phonological awareness after remedial teaching when compared to pre-test.
3. The student’s performance showed improvement in post-test in component of word recognition i.e. decoding after remedial teaching when compared to pre-test.
4. The student’s performance showed improvement in post-test in component of word recognition i.e. sight recognition after remedial teaching when compared to pre-test.
5. A non-significant difference is observed between boys and girls children with respect to pre-test scores of performance of children in word recognition.
6. A non-significant difference is observed between boys and girls children with respect to post-test scores of performance of children in word recognition.
7. A non-significant difference is observed between boys and girls children with respect to change in pre-test to post-test scores of performance of children in word recognition.

### IV. SUMMARY AND CONCLUSION

The educational needs of children with Dyslexia are unique in nature. Teachers who are working in schools should have adequate knowledge and training on how to handle these children’s reading problems. Without specific training in this area they may not be able to teach language effectively. This remedial programme confirms that with concentrated instructional skills on word recognition, these children will return to the regular class-room instructions and apply these word recognition skills on reading and eventually begin to improve reading skills.

### Limitations of the Study

The study was restricted to the following limitations;

- It is limited to children with dyslexia studying in fifth standard only.
- It is limited to government primary schools of Belagavi city only.
- It is limited to find out the effectiveness of remedial programme on improving word recognition only.
- It is limited to know the effectiveness of remedial programme on reading skills only.
- It is limited to know the effectiveness of remedial programme through single group experimental study.

### Suggestions for further Research

- The similar study may be conducted in schools located in rural area.
- The same study may be conducted on a large sample.
- The similar study may be conducted on two groups that is control and experimental group.
- The similar study may be conducted on writing difficulties.
- The similar study may be conducted on other languages.

### V. REFERENCES


