



THE EFFECT OF PROGRAMMED INSTRUCTION MATERIAL ON THE ACADEMIC ACHIEVEMENT OF DYSLEXIC CHILDREN A CASE STUDY

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Abstract

As every finger in human hand is unique, so is every child is unique. No two children are equal in every aspect. The first thing that teachers and parents must do is to "accept the child as it is". We compare children with peers and draw conclusions on their abilities and performance in academics, sports etc. Dyslexia is one of the Learning Disabilities found in children. It can affect children regardless of their inherent intelligence. It is a disorder and not a disease. It is a lifelong disorder. There is no ready-made cure, which can remove Dyslexia. Early intervention in education is a must for Dyslectics. They must be handled carefully with love, care, affection and warmth. Only under such circumstances they will also blossom like any other child. Dyslexia children need special Education, i.e., they must be given individualized instructions. Programmed instruction Material (PIM) has to be prepared based on the textbook the child refers and must be taught using the same. By this they will also be educated like other children. Dyslexia is a learning Disability in Children which many people are not aware of. Many teachers are also not able to understand this disorder. Dyslexics are normally treated as children who are lazy and careless. No special efforts are taken to teach them. Dyslexia can affect boys and girls alike. In fact it is not gender based. Any girl who is not learned may be exploited, made to do menial jobs. May be lured into indecent activities from which she may never be able to come out of. Education, therefore, plays a very important role in shaping the lives of individuals. The researchers have reviewed a number of articles and references material, of Dyslexia and on teaching Dyslexics, available in books, magazines and the World Wide Web. A number of case studies conducted both within India and abroad have been thoroughly studied to identify possible educational interventions fro Dyslexics. The researchers have been speaking to friends, family members and counselors alike on this topic to gather further information. Programmed Instructional Materials were developed to teach dyslectic children. After teaching through PIL and improvement in the academic performance of children was found. The researchers were convinced about the effect of Programmed Instruction on the academic achievements of dyslexics. With this in mind and to help the dyslexic students to get good education the researchers decided to take up this case study of 6 students.



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Introduction

As every finger in human hand is unique, so is every child is unique. No two children are equal in every aspect. The first thing that teachers and parents must do is to “accept the child as it is”. We compare children with peers and draw conclusions on their abilities and performance in academics, sports etc.

Dyslexia is one of the Learning Disabilities found in children. It can affect children regardless of their inherent intelligence. It is a disorder and not a disease. It is a lifelong disorder. There is no ready-made cure, which can remove Dyslexia. Early intervention in education is a must for Dyslectics. They must be handled carefully with love, care, affection and warmth. Only under such circumstances they will also blossom like any other child.

Albert Einstein, Winston Churchill, Bill Gates, Abhishek Bachchan are some of the celebrities who were dyslexic in their younger years. Aren't they intelligent? Aren't they successful? Aren't they famous? It is , therefore, wrong to generalize and state that all dyslexic children will be failures in life. They may be slow but they are steady.

They need special education, i.e., they must be given individualized instructions. Programmed instruction is a special method of individualized teaching, which is very helpful for these children. Programmed instruction Material (PIM) has to be prepared based on the textbook the child refers and must be taught using the same. By this they will also be educated like other children.

Need and Importance of the Study:

Dyslexiz is a Learning Disability in children which many people are not aware of. Many teachers are also not able to understand this disorder. Dyslexics are normally treated as children who are lazy and careless. No special efforts are taken to teach them.

The dream of the common man is to make his son/daughter a learned person, earn a handsome salary, lead a happy life and bring a good name to the family. This becomes even more difficult when the children do not respond positively to the education given to them. It becomes the responsibility of the educationalists to fulfill this dream of the common man.

Dyslexia can affect boys and girls alike. In fact it is not gender based. Any girl who is not learned may be exploited, made to do menial jobs. May be lured into indecent activities from which she may never be able to come out of. Education, therefore, plays a very important role in shaping the lives of individuals.

In India the Government is implanting the Right to Education Act, (2009) to ensure basic education to all children. The rural masses would benefit greatly from this well intended Act. It will provide a platform through which rural India can come to be on par with

their urban counterparts. Dyslexia is a disorder, which affects about 5 to 6 percent of the total school going children. The more number of children go to school will help identify a larger pool of dyslexics. Under these conditions there must be some method by which teachers should be able to easily teach any student irrespective of their learning difficulties.

The researchers have seen many children, who, because of lack of education have not been successful in life, lived their lives miserably, got exploited and have committed suicide.

The researchers have reviewed a number of articles and references material, on Dyslexia and on teaching Dyslexics, available in books, magazines and the World Wide Web. A number of case studies conducted both within India and abroad have been thoroughly studied to identify possible educational interventions for Dyslexics. The researchers have been speaking to friends, family members and counselors alike on this topic to gather further information.

Programmed instructional materials were developed to teach dyslexic children. After teaching through PIL an improvement in the academic performance of children was found. The researchers were convinced about the effect of Programmed Instruction on the academic achievements of dyslexics. With this in mind and to help the dyslexic students to get good education the researchers decided to take up this case study of 6 students.

Statement of Study:

“The effect of programmed instruction material on the academic achievements of dyslexic children” a case study.

Objectives of the Study:

The objectives of the case study are detailed below:

- To identify the Dyslexic children studying in the 6th standard. The children were studying in CBSE syllabus.
- To prepare programmed instructional material, for the subject ‘Physics’ for the 6th standard to teach the same to the selected Dyslexic students.
- To analyze the achievement levels of the selected Dyslexic students before and after the implementation of PIM.
- To compare the academic achievements of the selected Dyslexic students with that of normal children (Students of 6th standard) in learning the subject ‘physics’

Delimitations of the Study:

- The number of children selected for the Case study is limited only to 6 students all of them studying in the same class.

- These children had to be assessed for at least 2 years for their behavior, learning problems, academic achievements and general development.
- The parents of only these Dyslexic children were counseled

Precautions Taken:

- The researchers selected children who have poor academic performance in the 6th standard.
- The children were observed to identify if problems other than Dyslexia existed for e.g. hyperactivity, low IQ, disinterestedness in scholastic studies, and very poor socio-economic conditions of their home.
- Administration of special tests like criterion-Referenced tests, spelling tests, reading and copying from textbook to confirm that the child is Dyslexic was done. Researchers could identify the children with Dyslexia to take up special education.
- The researchers concluded that the programmed instruction Material was best suited to teach Dyslexics. The researchers prepared programmed instruction Material (PIM) Based on the lessons in physics for the 6th standard, CBSE syllabus.
- Necessary collection of Data and sufficient analysis were performed to establish inferences.
- Based on performance in the Pre-tests and Post-tests the researcher was able to assess improvements in academic and therefore conclude that PIM was indeed a remedial intervention for teaching Dyslexic students.

Variables:

In this case study there are two categories of variables.

Academic Scores: The marks of the quarterly exam, third monthly test, Pre-test and post test Final test, long answer test and the Annual Exam constitute the academic scores.

Pre-Test and post-Tests are tests conducted before and after Instruction through PIM.

Behavioral Changes: The overt behavior of the children is observed and any analysis of their motivation to learn is made before and after the implementation of Programmed instruction.

Research Questions:

The Case Study was conducted to answer a number of questions around Dyslexia. A detailing of the Research Questions is below.

- Is the regular class teacher able to identify the Dyslexic children in a class?
- Is the class teacher able to prepare programmed instruction Material?

- Is there any difference in the achievement level of the Dyslexic students before and after the implementation of PIM?
- Is there any difference in the achievement level of these students from that of normal children?
- What are the possible causes for this particular study?
- Whether the academic achievement scores of the Dyslexic children will increase if they are taught using programmed instruction?

Methodology:

The Researchers undertook the “Case Study” method for conducting research. The case study method is a type of “Descriptive study” in this case study the problems of dyslexic children are recognized. They are helped to learn the regular school syllabus by giving special type of instructions. The researchers selected the cases (Students) by direct observation, interviews, objective tests, and cumulative and anecdotal records. The accuracy of the data was verified before proceeding to the next step. The academic scores in all the tests and examinations were obtained for a period of two years.

Sample:

The children under investigation are from the same class in the same school. The sample size is SIX with each student studying in 6th standard.

All the students have been tested for dyslexia and were confirmed cases.

Tools and Techniques

Technique: personal observations and anecdotal reports.

Achievement Test administered before PIM and after PIM

Programmed instructional Material, prepared by the researchers, was administered to the selected dyslexic children.

The purpose of preparing PIM was to suggest a tool that could be used to improve the learning level of these children.

Programmed Instruction Material (PIM)

The researchers prepared the learning material in such a way that the textbook is kept intact and the programmed instruction material on the same topic was supplied as a separate unit.

The researchers meticulously followed the steps in the development of the Adjunctive programming as follows:

- Content analysis

- Instructional objectives in behavioral terms
- Task analysis
- Preparation of Frames (in Linear style of Programming)

Data Collection:

Observation method was used to collect Data about Behavioral changes and Academic scores are taken before and after administering the PIM by the researchers.

Analysis and Interpretation:

Post data collection; the researchers' analyses the data through techniques such as Graphical charts, data comparison, T scores etc.

Table No 1 showing the size of the sample, Group, Mean value, SD, t value and significant level of Pre-tst and post test scores Dyslexic students.

Group	Size of the sample	Mean value	SD	t value	Significant level
Pre-Test	06	32.8	3.02	24.33	Significant**
Post –test	06	80.6	3.75		

The obtained t value is more than table value at both the levels of significance. Hence it is concluded that programmed Instruction material used to teach Dyslectic students is more effective.

Table No2 showing the size of the sample, Group, Mean Value, SD, t value and significant level of Post test scores Dyslexic students and Normal Students.

Group	Size of the sample	Mean value	SD	t value	Significant level
Dyslectic Students	06	8.06	3.75	1.80	Not Significant
Normal Students	06	77.16	2.79		

The obtained t value is less than table value at both the levels of significance. (At 0.05 levels the table value is 2.23 and at 0.01 levels the table value is 3.17) Hence it is concluded that there is no significant differences in the Academic achievement scores of Dyslectic students and Normal students.

Findings of the Study:

The major findings of the case study are described below:

- Low academic scores were the major criteria for the selection of the students to test for dyslexia.
- Dyslexia was confirmed through tests in writing, reading and spelling.

- The dyslexic students needed a lot of motivation, revision and practice lessons before taking up any exam or test.
- Exams were taken more seriously than the tests. Therefore they usually score more marks in an exam than in a test.
- Imparting special Education using programmed instruction Material to dyslexic children is effective. This was confirmed from the comparison of the Pre-Test and Post-Test marks. The post test scores were higher revealing the teaching dyslexics through PIM was indeed effective.
- Improvement in academic scores brought a change in their attitude and behavior, they were confident of facing any exam.
- There is no significant difference in the academic achievement scores of Normal students and Dylsectic students.

Educational Implications

The section details the important educational implications achieved from this case study.

It increases the awareness about dyslexia among teachers. Any teacher must give importance to the children who have low academic scores she/he must tabulate the average of these children along with the class average to allow for comparison of scores.

Teachers while teaching low scoring students will be alert. They can motivate and encourage children to perform better. This tabulation should be done for a minimum period of 2 years and the scoring should be monitored.

Along with this overt and covert behavior of the children towards learning must also be noted down. Parents need to cognizant of their child's performance.

If the performance of the child does not improve after observation and constant effort over 2 years through tuitions, extra homework, practice etc., then, and the teacher may infer that these children have special learning disability (SLD).

Any regular school teacher can recognize dyslexic children in the class.

It is at this juncture the class teacher must start "Special Education" to these children. This must be conveyed to the parents also.

Suggestions for further study:

The researchers have conducted study only on 6th standard students on the subject science in CBSE syllabus. The following are the researchers' suggestions for further study.

- Research must be conducted in all subjects, across grades/standards and in all syllabuses (State, CBSE etc).

- Programmed instruction Material to be prepared to teach long answer type questions.
- Preparation of PIM for the teachers.
 - Instructional objectives in behavioral outcomes have to be clearly depicted/written along with teaching and evaluation frames.
- Preparation of PIM for the students
 - Instructional objectives in behavioral outcomes have to be clearly depicted/written along with practice and test frames.

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