

DIRECT INSTRUCTION AND APPROPRIATE INTERVENTION FOR CHILDREN WITH LEARNING PROBLEMS

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ABSTRACT

This paper made reference to some experimental and quasi-experimental studies that have been conducted with special education populations using direct instruction over the last decade. Evaluation research is a relatively new area in education and particularly in special education, while the focus on individualization of instruction and warring awareness of standardized tests often create strong resistance to typical evaluation research design. As the researchers confronted the research studies and documentation activities of many direct instruction projects, it seemed as important to highlight and pinpoint roadblocks, conceptual problems, and technical difficulties encountered by the researchers and share their findings. Therefore this article is a little of both ending with some ideas for small scale evaluation of research projects that can and should be undertaken in the near future.

INTRODUCTION

The phrase direct instruction evolved out of the experience of Engelmann, Becker, Carnine and their colleagues' work in the field of compensatory education, most of the early conceptualizations (Becker, 1977; and Berliner, 1978) focused on the educational concerns of learning disabled children of the primary schools. The last ten years have witnessed a growing realization that many of the principles and concepts of direct instruction have wide relevance for special education populations (Bellamy, 1979; and Carnine, 1977). This process was no doubt accelerated by the publication of several direct instruction programmes targeted for special students (e.g., Corrective Reading and Arithmetic series).

Direct instruction shares many features with the task analytic, behavioural approaches commonly utilized in special education, viz: the use of task analysis, a belief in the utility of structured curricula materials, a concern with reinforcement, modeling and shaping of correct responses, and periodic assessment of student performance. Yet there are certain features that distinguish direct instruction from other behavioural approaches. These include, (i) the teaching of "general" case problem solving strategies ;(ii) a maximal use of oral instruction as opposed to written worksheets ;(iii) the emphasis on small group as opposed to individualized instruction;(iv) a systematic technology of correction procedures to transform student errors into constructive learning experiences. Programmes falling under the rubric "direct instruction" always put emphasis on the curricula materials as well as the teaching procedures.

Usually, one of the samples is designed as the experimental sample and is taught with the instructional programme of interest (in this case direct instruction) and the other sample receives more traditional instruction and is labeled a comparison group. This type of study, to offer any valuable information, the tests used must be valid, reliable and sensitive to the goals of the instructional programmes (Fullan, 1980). Also, it is extremely important that the evaluation monitor to what extent the programme is really being implemented in the experimental classes (Gall, 1977) otherwise; the study may be assessing the impact of a non-event (Jones, 1973). There should also be some monitoring of the comparison classrooms (Carnine, 1979) to ensure that the classes are not using the experimental teaching method.

Past studies on Direct Instruction among pupils with learning problems have shown that the method is very useful among children with difficulties in learning. Research reports indicated that instruction method is used effectively in many countries of the world to improve learning rate among primary school pupils with learning problems.

Objectives of the Study

The objective of this study is to find out if direct instruction will be an appropriate intervention for primary schools pupils in Pakistan with learning problems. The following research questions guided the study.

- i) To what extent can direct instruction improved pupils' performance in maths, reading and social studies?

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- ii) What is the extent of improved learning rate among these pupils as a result of the intervention and is that extent statistically significant?

METHODOLOGY

Subjects: A total number of thirty primary school students / pupils with learning problems were taken from three primary schools in Gujrat- Pakistan. They were all certified by special educators as children with learning problems. They were all in class three and their ages range between 9-12 years.

Instruments: Three sets of tests were administered to the subjects in order to see the effect of direct instruction.

- a) Pre-treatment test;
- b) Immediate post-treatment test;
- c) Delayed post-treatment test.

Procedure: The subjects were randomly assigned to experimental and comparison groups respectively. There were 15 subjects in each group.

- i) Two groups were pre-tested on maths, reading in English and social studies selected from their primary III text books.
- ii) The experimental group was given an intensive three weeks treatment in maths, reading and social studies using the direct instruction approach.
- iii) The comparison group was not given any treatment. They were to read on their own for the same period. The researchers were assisted by two other research assistants to prevent any interaction between the two groups. The two groups were also separated from one another by a school wall.
- iv) At the end of the three weeks treatment by direct instruction. The two groups were given post-treatment tests in maths, reading and social studies in order to see the effect of direct instruction.
- v) A delayed [post test was also given to the two groups to ascertain that the result is not based on chance but on the treatment which is direct instruction.

RESULTS

Table1: Showing the Pre-Treatment Test Results for Experimental and Comparison Groups

Subject Areas	Experimental N=15		Comparison Group N=15		T	R
	X	SD	X	SD		
Maths	3.6	0.8	3.6	0.7	0.9	NS
Reading	3.5	0.9	3.5	0.8	0.4	NS
Social Studies	3.3	0.6	3.4	0.9	0.9	Ns

P.05 level=T=2.70
NS= Not Significant

The results of table 1 show that the two groups were the same before the treatment. There was no difference in their performance in three areas.

Table 2: Showing a t-test Comparison between the Experimental and Comparison Groups in Post-Treatment Test

Subject Areas	Experimental N=15		Comparison Group N=15		T	R
	X	SD	X	SD		
Maths	5.1	0.9	3.6	0.8	5.1	S
Reading	5.2	0.7	3.5	0.7	5.3	
Social Studies	5.0	0.9	3.5	0.7	5.0	

P.05 level=T=2.70
S = Significant

Table 2 shows the performance of the experimental and comparison groups. The result shows that the experimental group performed significantly better in maths, reading and social studies than the comparison group.

Table 3: Showing a t-test Comparison between the two groups in Post Delayed Test

Subject Areas	Experimental N=15		Comparison Group N=15		T	R
	X	SD	X	SD		
Maths	5.0	0.8	3.4	0.7	4.1	S
Reading	5.1	0.7	3.3	0.7	4.3	
Social Studies	4.8	0.9	3.5	0.8	3.8	

P.05 level=T=2.70

S = Significant

The result of the delayed post-treatment test still shows that experimental group performed statistically better than the comparison group as a result of the treatment.

The result of Post Hoc test shows that the experimental group improved learning rate were 0.75, 0.86 and 0.77 respectively in maths, reading and social studies. This improved learning rate is important educationally for children with learning problems.

DISCUSSION

The purpose of this study is to find out if direct instruction will be an appropriate academic intervention for children with learning problems. The results of the data analysis show that direct instruction assisted the pupils / students to improve their learning rate. This finding agrees with the findings of Magas (1993) and Liyod (1994) where learning rate of children with learning problems improved by 0.60 and 0.56 respectively. In this study the subjects improved their learning rate as a result of inbuilt teaching and learning formats in direct instruction. These inbuilt strategies and learning formats in direct instruction. These inbuilt strategies are task analytic approach, feedback, modeling, reinforcement, shaping and monitoring of correct responses. As stated by Gestein (1979) direct instruction students will always do better in reading and maths because the direct instruction approach is very useful in teaching these two subjects. This study also shows that direct instruction is also useful in the teaching of social studies among primary school pupils who have learning problems. The results of post immediate and delayed tests show that pupils / students taught with direct instruction approach did better than the comparison group. This is to show that the performance is reliable and not due to chance. This is an important educational result to all teachers of primary school pupils / teachers who will surely have primary school pupils / students with learning problems in their classrooms.

RECOMMENDATIONS

On the basis of the findings of this study it is recommended that the direct instruction should be used for pupils / students who may not have serious problems with learning. The method should be used in primary schools where teachers are anxious to see that their pupils / students increase their learning rate regularly.

The researchers are convinced that if this method is not yet introduced to primary schools, there is the need to allow teachers teaching primary school pupils / students with learning problems to be aware of the strategies in this method. The primary school pupils with learning problems will surely benefit from primary education if they are taught by experts in direct instruction approach.

Finally the researchers are recommending the use of direct instruction in both developed and developing countries of the world. The teaching approach has been used successfully in America, Australia, Canada, Nigeria, Ghana and Sieraleone. The researchers are encouraging primary school teachers to be familiar with this method. The method works a lot of educational magic among primary school pupils with learning problems.

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