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ABSTRACT

A study investigated whether direct instruction, used as a main instruction strategy, with a concentrated curriculum, can help students quickly improve their basic reading skills. Subjects, 18 students (age 7 to 15 years) with reading problems, received individualized treatments for 3 weeks (or 12 hours). Pre-test, treatments, and posttest was the basic design. Results indicated that after the treatments, the students made significant gains in their basic reading skills, with an average Grade Equivalent gain of 1.5. The findings suggest that when used appropriately, direct instruction (in an integrated approach) can be both effective and efficient in helping students improve their basic reading skills. (Contains 17 references.) (Author/RS)

Use Direct Instruction to Quickly Improve Reading Skills

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Paper presented at the 7th National Conference on Creating the Quality School, Arlington, VA, March 26-28, 1998.

Abstract

The study was designed to investigate whether direct instruction, used as a main instructional strategy, with a concentrated curriculum, can help students quickly improve their basic reading skills. 18 students (age 7-15) with reading problems received individualized treatments for 3 weeks (or 12 hours). Pre-test, treatments and posttest was the basic design. Results indicated that after the treatments, the students made significant gains in their basic reading skills, with an average Grade Equivalent gain of 1.5. The findings suggest that when used appropriately, direct instruction (in an integrated approach) can be both effective and efficient in helping students improve their basic reading skills.

Use Direct Instruction to Quickly Improve Reading Skills

Learning to read is one of the most important skills children in elementary schools need to accomplish. After entering middle elementary years, they begin to spend much of their time learning knowledge presented in text. Without the necessary reading skills, they are bound to encounter huge difficulties in their future academic endeavors.

Facing the reality that a high percentage of school children are below their grade level in reading, educators and researchers have been searching for effective ways to help these children learn reading skills. Based on a research literature review of the effectiveness of reading-for-comprehension strategies at the primary and intermediate levels, Shepley (1996) noted that direct instruction, metacognitive strategies, visualization and repeated reading were effective strategies for teaching reading comprehension. Another literature review covering the last 15 years by McCormick and Becker (1996) also furnished evidence that direct word instruction led to reading improvement for pupils with learning disabilities; word knowledge instruction not only promoted word learning, but could heighten the comprehension of these students.

Researchers have also been trying to help classroom teachers improve teaching skills in the reading area. To equip teachers with research-based effective teaching methods, Winn and Mitchell (1991) proposed to use a direct instruction based staff

development model to help teachers improve reading instruction. They believe that effective staff development should use the best of what we know about effective teaching.

Current research literature on the effectiveness of the direct instruction strategy has supplied data on various reading skills of diverse student groups. The effect of direct instruction on increasing the basic reading skills of 3rd-grade students from a low socioeconomic background was studied by Wrobel (1996). Pre- and posttest results from the Iowa Tests of Basic Skills indicated that there was a significant change in the gains of the raw scores in 9 of the 10 reading achievement categories for the direct instruction group. Dowdell (1996) examined the effect of direct instruction on reading achievement of 6th-grade minority students. Results indicated that on the Iowa Tests of Basic Skills the experimental group's gain within the school year was 1.06 (stanines), and that for the control group was .45.

Direct instruction has also been applied to teach higher level reading skills. Stevens, Slavin and Farnish (1991) investigated the impact of direct instruction on students learning reading comprehension strategies. The students were assigned to instructional treatments on strategies for identifying the main idea of passages. Treatments involved cooperative learning with direct instruction, direct instruction alone, and traditional instruction control. It was found that students in the two instructional treatments which incorporated

direct instruction performed significantly better than control students. The effects of direct instruction in teaching deductive reasoning to students in grades 7 through 12 was investigated by Grossen, Lee and Johnson (1995). Results from a MANOVA test indicated a significant treatment difference favoring the conspicuous strategy group. Direct instruction has also been used to teach high school students how to summarize study materials (Wood, Winnie & Carney, 1995). The students were trained to use information that was analogous and transferable to study passages. It was found that students benefited from explicit instruction in summarization skills, including greater strategic knowledge about the structure of summaries. Casazza (1993) reported similar findings.

Research literature has also supplied knowledge on the effect of using direct instruction to help students with disabilities improve reading skills. A comparison study of six reading intervention approaches for students with mild disabilities was conducted by Marston, Deno, Kim, Diment and Rogers (1995). Thirty seven special education teachers and 176 students with mild disabilities participated in the project. Higher student achievement was found in the direct instruction group, the computer-assisted instruction group and the reciprocal instruction group. To improve the reading skills of 56 students with learning disabilities in grades 5 through 8 in a rural school, a direct instruction program was implemented (Stephens, 1993). Results of intervention indicated that over 55% of the

students gained two or more grade levels in reading. The discrepancy between students' estimated ability and reading achievement was reduced by 41%. When direct instruction was used to train children with dyslexia to learn letter-sound correspondence, large generalized achievement gains were also found (Lovett et al, 1994).

The direct instruction strategy was implemented for rapid improvement of literacy level of youth in juvenile detention facilities. Significantly increased skills were found in composition, vocabulary, mechanics and spelling for 75% of the young adult inmates at a penitentiary (Hodges, Giuliotti & Porpotage, 1994). Amer (1992) conducted a study of 70 fourth graders studying English as a foreign language. Results indicated that direct instruction in story grammar helped students abstract a story's episodic sequence and metastructure.

As the current research literature shows, direct instruction has been applied to teaching basic reading skills and higher level reading skills to diverse student bodies. Its effectiveness in various experimental studies has been reported. The purpose of this study was to investigate whether direct instruction, used as a main instructional strategy, with a concentrated curriculum, could help students quickly improve their basic reading skills.

Method

The study was designed to help students experiencing severe reading difficulties (1 to 4 grade levels below their actual grade level) and conducted in the form of a summer remedial

program. None of the students had received special education services in school before. A faculty member (project director) of special education in a college located in the Appalachia Mountains area organized the project as a free program. The basic design of the study took the form of pre-test, treatments, and post-test.

Subjects

Eighteen students (10 girls, 8 boys, age range--7 to 15 years old) participated in the program. Each student was referred by his/her mother, because the child was having problems in reading. These children were from middle or lower middle class, Caucasian families.

Teachers

The participating teachers were the pre-service teachers (4th and 5th year) in the special education program of the same college located in the Appalachia Mountains area, who volunteered to help a student improve reading skills.

Treatments

This program utilized a one-on-one approach--one teacher helping one student. In the program, each student received focused treatments (mainly instructions) in the problem areas she /he exhibited--decoding, meanings of words and spelling of words.

Direct instruction was used as the main instructional strategy in this project. The teachers also applied the following: review, clarification, summarization, repeated instruction, concentrated practice and drill, continuous

monitoring of each student's progress and adjustment of teaching method and instructional content. The teachers made efforts to maintain a rapport with each student throughout the project. Positive reinforcements, such as using tangibles and praise, were also among the treatments.

The instructional materials used in the project were selected by each teacher based on the assessment results of each student. Basically, the materials were selected according to the present reading level and problem areas of each student.

Procedures

The project lasted for five weeks (four days a week). The first week was used for teacher training--preparing the participating teachers on: how to assess a student's present reading level; how to use direct instruction as a main instructional strategy to teach a student learn basic reading skills; how to produce an instructional plan (including the selection of instructional materials) for a child. The duration of the training was two hours (completed in one day). Two days were used for assessing the students. One day was used by each teacher to design an instructional plan. The next three weeks were for treatments. The fifth week was used for post-testing, summarizing the program and briefing (in the form of written report) the parents on the results of the project.

Each teacher designed an instructional plan for the student she/he helped. Each plan was examined by the project director before it was implemented. During the treatment period, the

project director provided feedback to the teachers on how to make necessary adjustments to the instructional methods and content. The teachers made such changes to ensure effective learning of each student.

Each child received mostly one hour treatments a session (sometimes 30 minutes a session), and four hours treatments per week. The treatments lasted for 3 weeks or the program provided a 12-hour individualized remedial instruction to most of the students in the program. A few students received 5 to 6 hour treatments a week, because several teachers would like to spend more time for the student she/he was helping. However, all treatments were provided within the three weeks. What occurred in each instructional session was recorded by each teacher as a monitoring procedure.

Instrument

The reading and spelling sub-tests of the Wide Range Achievement Test-R (WRAT-R) were administered by the teachers to each student for pre- and post-test. Each teacher also designed a simple, brief test. The test items were designed by each teacher according to the problems shown by each student in the WRAT-R testing. The teacher-made test was given to each student to check on whether the problems a student showed on WRAT-R test were similar to what each teacher found on the teacher-made test. This was to make sure whether a student really had such problems.

Term definition

Reading skills in this study included decoding skills,

knowledge of word meaning, the use of words learned and spelling skills.

Direct instruction is defined as an instructional sequence that includes demonstration, controlled practice with prompts and feedback, independent practice with feedback (Mercer, 1997, p. 277). This method comprises all the six features defined by researchers at the University of Oregon (Mercer, 1997, pp. 275-76).

Results

After a three-week concentrated treatments, a post-test was administered by each teacher to the students. Every student in the program made notable progress. A summary report of the program was sent to each student's parents, and suggestions were made to them on the necessity of providing follow-up help to their child. A Dependent t test was conducted to examine to effectiveness of this project. Main findings follow.

A comparison of the pre- and post-test raw scores of this group of children indicated significant gains with the post-test results. For the spelling sub-test, the comparison yielded a t value at 11.02, with $p < .000$, 2-tailed. With the reading sub-test, a t value at 13.91 was obtained, with $p < .000$, 2-tailed.

The average Grade Equivalent (GE) scores also showed improvement: For the reading sub-test, the average GE score for the pre-test was 2.39, that for the post-test was 3.67. For the spelling sub-test, the average GE for the pre-test was 2.0, and that for the post-test was 3.74.

Discussion

The direct instruction method applied in this study should be considered only as part of the program. A highly controlled curriculum was also integrated. Without a curriculum that matched the student's knowledge and skills level and focused instructions /treatments, it is unlikely that the students could improve their reading skills within such a short time frame. The approach (direct instruction with a curriculum design) used in this study is similar to the definition of Kameenui, Jitendra and Darch (1995) for "Direct Instruction."

It is to be clear that other treatments were also integrated in the program, with direct instruction being the main one. The secondary treatments also played important roles in this program. Thus the direct instruction approach applied in this study needs to be considered an integrated approach, not an isolated teaching method. The approach has the following features: direction instruction being the main instructional strategy; teachers being trained; with a curriculum design (appropriate for each child); instructions being structured and focused; feedback to the teachers on adjusting instructional methods and content. The same approach was applied to teaching children with problems in basic math skills and similar gains were also found with the post-test results (Din, 1998).

Although the participating teachers in this study were 4th and 5th year college students, it is possible to train parents with college or high school level education background to provide

remedial instructions to (their) children with poor basic reading skills. It would be interesting to implement this program with parent volunteers and see whether similar results can be generated.

Even though decoding, spelling and meaning of words were the skills the students worked on in the study, they also learned on how to use the words correctly. Read and understand meaningful materials was also part of the training for the students. However, WRAT-R does not measure such skills. No improvement information on such variables is available.

WRAT-R has been applied for research purposes for a long time. It is easy to learn to administer. But it only provides information on the level of a child's decoding skills. In terms of what specific decoding skills a child has learned, the test does not supply such information. For a young child who learns and improves slowly in decoding, WRAT-R may not be the right tool to use, because it does not measure the learning of specific phonics skills but level of improvement.

Conclusion

In this study, direct instruction, used as a main instructional strategy, with a controlled curriculum (an integrated approach) was implemented to help students improve reading skills. Results showed that the students made notable improvement in their basic reading skills after receiving the treatments for three weeks. The findings suggest that when used appropriately, direct instruction (in an integrated approach) can

be both effective and efficient in helping students improve their basic reading skills.

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