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Keywords

USING DIRECT READING INSTRUCTION TO INCREASE THE READING ACHIEVEMENT OF STUDENTS WITH DISABILITIES: A CASE STUDY

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Abstract

Reading was one of the areas targeted by most states for assessment because it not only is a critical area in academics, but also an area where most students were not showing gains. The National Education Association (NEA, 2004) prescribed reading as the catalyst for both learning and achievement. Reading difficulties typically being in the primary grades and become more profound by the time a child reaches high school (Fisher & Frey, 2007). However, questions regarding how exactly to formulate, deliver, sustain, and manage secondary-level interventions remain to be addressed, as do issues of validation, school resources, and cost (Kamps & Greenwood, 2005). New state and federal mandates are holding all students and educators to higher academic standards. Schools are becoming more inclusive and more collaborative despite existing organizational barriers that often interfere with effective practice.

Introduction

No Child Left Behind prompted states to look into their methods and resources for teaching in order to close achievement gaps for all students. The populations that were specifically targeted by *NCLB* were low socioeconomic groups and children with disabilities who typically experienced poor assessment results when compared to so-called traditional students from moderate socioeconomic backgrounds. Children who do not acquire appropriate reading skills in the formative years face poor trajectories in latter grades and well into their adult lives.

The goal of this research study was to monitor the effectiveness of the direct reading instruction program for special education students by using data collection modules, progress monitoring, and assessment. Poor reading ability and disabilities can significantly impact an individual throughout their entire life (Connor, Alberto, Compton & O'Connor, 2014). Although direct instruction models have been proven to work for children with reading comprehension (Ryder, Burton & Silberg, 2006) if followed explicitly, it was not immediately clear how the results are broken down among key demographic groups, including exceptional children. This research study identified the target populations, implemented the instructional program, and examined the results.

Review of the Literature

Decades of research has been dedicated to understanding the struggling reader (Richards, 2008). Despite the teachers' best efforts and the willingness of students to learn, students continue to struggle with reading comprehension (Beck, McKeown, Hamilton, & Kucan, 1998). This can be even more complicated for students who have been identified as special needs and who have historically not had much success in the classroom. The role of the classroom teacher is becoming even more multidimensional as teachers are being asked to accommodate for students with more diverse academic and behavioral needs in the general education setting.

Educators have debated for decades about the best way to teach reading. While school systems revamp curriculum, habitually replace programs that have not been implemented for more than a year or two, and make feverish attempts to interpret *No Child Left Behind*, students

continue to fall short of grade-level expectations. To further compound the issue, increasing numbers of students with disabilities are now receiving a large percentage of their instruction within the context of general education (cited by Rea, McLaughlin, & Thomas, 2002). As a result, curriculum is needed that is both stable and diverse in order to meet the needs of all students. Literacy skills are critical components needed for students to access the general curriculum and succeed academically (Harris, 2007). Literacy, as defined by the National Center for Education Statistics (2013), is based on one's ability and proficiency to use written information.

The Pros and Cons of Reading Programs

The National Reading Panel (2004) recognized that recommendations for instructional strategies must be evidence-based. Students in this study were enrolled in the direct reading instruction program because of their low state testing scores and their historical failure to reach grade-level expectations in reading. Factors identified as barriers to student success are marginal or low expectations, uninspiring and a restricted curriculum that emphasizes rote learning and skill-and-drill, a complete disconnect from the general education curricula, and negative student attitudes resulting from academic failure and stigmatizing segregation (Rea, McLaughlin, & Thomas, 2002).

Student Lexile Levels

The pretest given to students in the program was used to determine their Lexile levels. According to MetaMetrics (2014), the Lexile is a scientific approach to reading and text measurement. The Lexile measure is a reading ability or text difficulty followed by an "L" (e.g., 850L). Lexiles provide more than a way to pick the right book for students to read. They are a powerful tool for targeting. Lexiles range from below 200L for beginning readers and text to above 1700L for advanced readers and text. Students' education status (regular education vs. special education) was not given any consideration when determining level, so it was possible for a student to receive special services and have a high Lexile score.

Individualized Instructional Support

Although the program was designed for students who were Level 1 and 2 based on Lexile score results, there were some exceptional students who were allowed into the program with readability at beginning stages.   This proved even more challenging because of the individualized aspects of the program. Resource materials were incorporated that would accommodate these particular students individually and increased opportunities for one-on-one support were included into the instructional day as much as possible.

Once students were tested and scored on their initial placement test, the data was used to arrange them in groups according to their areas of weakness and strength. The groups started out homogeneous, where all Level 1 students (Lexile 200-450) were grouped together, Level 2 students (Lexile 400-700) were grouped together, and Level 3 students (Lexile 600-900) were grouped together. The small percentage of students who placed on Level 4 (Lexile 800-1100) was included with the Level 3 groups. After two weeks, data was analyzed and students were regrouped according to their areas of need. For example, students who needed more help on main idea were grouped together and students who needed help on compare and contrast were grouped together. It was important to note that those students who came into the program receiving special education services made up were over 50 percent of the Level 1 groups.

Program Components

In its final report, the NEA's Task Force on Reading (2008) conceptualized that a complete reading program was simultaneous with a balanced diet. The direct instruction model

(See Figure 1) used for this program consisted of rotations where students cycled through three areas of focus: independent reading, small group instruction, and computer-based activities during a 60-minute period.

Independent Reading

Self-selected reading is designed to encourage students to engage in and practice reading behaviors (Mahlberg, 2012). Students were placed with text that is grade-level and reading level appropriate. Students read for 20 minutes a day and filled out reading logs that documented the number of pages read and provided an opportunity for them to make notes about their reading. A four-point rubric scale was used to determine whether reading log entries sufficiently detailed what was read. Most students spent very little time reading independently because, as struggling readers, they were reluctant to do so. Repeated efforts were made to encourage the selection and completion of the books from the reading library, but these efforts were met with resistance. Students failed to document their reading, often had to be redirected for talking during this time period, and received a low-score when taking quizzes related to their books.

The researcher generated questions about the novels students read as a means of further assessing comprehension. Students' abilities to connect to the literature are often indicative of their ability to comprehend the text (Olukolu, 2013). Students responded to both literal and inferential questions, higher order thinking skills established to meet 21st century learning goals based on state standards (Thurlowe, 2010), basal reading series, and standardized tests. The following skills were emphasized: vocabulary development, main idea, plot, theme, characterization, and literary analysis. Those students who did read during the allotted time experienced success on their quizzes and tended to take more quizzes as a result.

Small Group Instruction

Small group instruction produced larger effect sizes on reading than individual instruction or classroom instruction, albeit in an unanticipated fashion (National Reading Panel, 2000). Each reading lesson was preceded with the students being given background information pertaining to the stories from the lesson. The building of related background information was done to for the purpose of building student schema for reading. The small group component encouraged interaction among students that was facilitated through discussions, guided work periods, and independent work sessions. Modeling was done to demonstrate how the assignment was to be worked through and completed. .

Computer-Based Activities

Students used the computers as part of their instructional rotation cycle. Computer-based activities focused on three areas: reading decoding, reading comprehension and word study. Based on their results from the pretest, the activities were chosen according to each individual's instructional level, which did not necessarily align with their grade level. The computer-based component was used to further support other aspects of program, not as an isolated resource and promote the student's 21st century learning skills through the use of technology. As Olukolu (2013) pointed out, young readers need to be able to meet 21st century learning demands in order to become literate citizens who are able to compete in a global society.

Word Study

Word study is largely non-existence in the middle and high school curriculum (Harris, 2007). The importance of word study has long since been recognized as a required component when developing foundational reading skills (Connor, Alberto, Compton & O'Connor, 2014). Further, explicit instruction also requires that the meanings of words be directly taught and practiced so that they are accessible when children are reading text.

Methodology

The guiding research question for this study was: will exceptional education students who participate in a direct reading instruction program demonstrate significant reading comprehension gains?

Participants

A random sample was used from the 68 high school students enrolled in the direct reading instruction program. Thirty-five exceptional students participated in the study, with the most common specifications for these students being specific learning disability. These students had a history of low scores on state reading competency tests and read well-below grade level.

Setting

The high school in which this study took place comprised of 880 students. Because of the nature of the study, students were not sub-categorized according to race, gender, or grade level. No identifying information was included in this research for the purpose of insuring students' anonymity. The program used for this study was highly structured, consisting of direct, explicit instruction (Edmonds et al., 2009) that included the use of graphic organizers (Erickson, Hanser, Hatch & Sanders, 2009), computer-based activities, and guided practice opportunities to facilitate learning for poor readers.

Research Design

A qualitative case study approach (Creswell, 2013) was used for this study to explore the phenomenon. Qualitative inquiry, as described by Gall, Borg & Gall (1996), is an exploratory investigation constructed through individual interpretations of events and situations. A pretest (Kamil et al., 2008) was given to assess the students' individual reading level in order to correctly place them in the program, direct them towards reading materials on their reading levels, and direct small group instruction. The pre-test was set "well-below" grade level, which theoretically would allow students to complete the test without concern for frustration or fairness since there were wide ranges of levels represented in the classroom. Progress was measured through a series of reports that included: grading report, comprehension skills report, and reading progress report. In addition, formal and informal assessments were used to monitor comprehension of weekly skills taught. These assessments included quizzes, class discussions, writing samples, and workbook completion. A posttest was given to determine whether the students with disabilities showed an increase in reading skills compared to their mainstream peers. Like the pre-test, the posttest was set "well below grade level."

Results

Within Group Pretest

A direct reading inventory was used as the pretest for this study because it measured student's reading ability. The score, also known as the Lexile (See Table 1), determined how students would be placed and grouped in the program. Lexiles were calculated based on the length of sentences and words that each student was able to read. A baseline for each grade level was pre-determined. The decision was made by administration to set the test below student's grade level in an effort to obtain more accurate results of student ability rather than proceed under the assumption that all students were within grade-level-range.

The inventory was taken on the computer and all students were allowed extended time to complete the assessment, which worked well with meeting the needs of the students. The test consisted of four passages and subsequent multiple choice questions. Lexile scores for the test were then calculated based on student results.

Table 1
Lexile Levels, Scores and Grade Equivalent

Lexile Levels	Scores	Grade Equivalent
1	200-400	Well Below Grade Level
2	400-700	Below Grade Level
3	600-900	Grade Level
4	800-1100	Above Grade Level

The results for the scores placed only 1% of the students at above grade level (above grade level); 7% scored on grade level (grade level); 42% scored below grade level (below grade level); and 50% scored far below grade level (well below grade level). The one student that scored above grade level was identified as an exceptional education student, though the nature of the disability was not disclosed; four exceptional education students scored proficient; 13 exceptional students scored below grade level; and 17 exceptional students scored far below grade level. The average mean score for exceptional students was 553, which placed then below grade level.

Between Group Pretest

The performance of the treatment group was compared to scores from their mainstream classmates. None of the regular classroom students scored above level; two students scored on grade level; twenty-three students scored below grade level; and twenty-five students placed far below grade level. The average mean score for regular education students was 563.88, which placed them below grade level, though slightly higher than the exceptional education students.

Comparison of Posttest Results

The results of the posttest revealed that all students in the group benefited from the explicit nature of the program. The mean average for regular education students was 77.22 (SD= 12.69). By comparison, the mean average for students identified as learning disabled was 74.85 (SD=13.20). The results of an unpaired t-test conducted between the treatment group and the average of the non-treatment group was t=1.45, SD=12.1. The probability of this result, assuming the null hypothesis is 0.152.

Twenty-three of the students identified as having an IEP reached the benchmark of 70 which indicated a passing score. By comparison, twenty-seven of the regular classroom students passed the posttest. The results of the posttest showed that students with learning disabilities made just as much progress as regular education students.

Fidelity

Other scores were gathered in addition to those from the pretest and posttest. These include word study (including vocabulary and decoding), reading comprehension and teacher-created tests to determine whether students were progressing as they moved through the program. Most of the students showed marked gains in reading comprehension skills, with only nine of the exceptional students still showing deficiencies (less than 70%) in reading comprehension skills.

Reliability

　　　　Lexile scores from the pre-test and scores that students received on
reading benchmark tests administered by their language arts teachers were used to measure
reliability. The scores from both assessments were compared to see if students' pretest scores
gave an accurate measure of their readability.

Discussion

　　　　Reading has become an area of concern across the country, The NEA's Task Force
(2008) pointed out that reading achievement is best achieved through differentiated instruction
using ratios that are not always equal. State assessments are showing that more students are
reading below grade level compared to students a decade ago. Most of the research conducted
thus far has focused primarily on regular education children who are not meeting Adequate
Yearly Progress (AYP).   Relatively few studies have been devoted to exploring effective
practices for struggling readers or students with disabilities (Brownell et al., 2007). However,
more students labeled as learning disabled are being placed in remediation classes in hopes of
increasing their reading levels on state exams. Examining the degree of effectiveness applicable
to an intervention described as inclusive education or mainstreaming is complicated by factors
associated with individual participants (e.g. severity or persistence), intervention definition and
the type of methodology used to evaluate the process (e.g. case study, correlational research,
comparison groups) (Lindsay, 2007).

　　　　The goal of the direct instruction program used in this study was to implement a rotation
routine that would give students intensive instruction in word study (vocabulary and decoding)
and reading comprehension for 20 minutes per session (Flores & Gantz, 2009). A pretest was
given in order to place these students on appropriate levels in the computer-based component,
pair them with books on their readability level, and group them for instructional intervention.

　　　　During the course of the nine-week period, students improved their reading
comprehension. The benchmark for success in the computer-based component was 70 or above
in the areas of word study (vocabulary and decoding) and reading comprehension. Student scores
on teacher-created tests that covered material from small group instruction did not show any
significant gains. This is likely attributed to the fact that the program has been structured to
accommodate the student's Lexile reading level while the teacher-created test was not.

　　　　It is important to note the limitations to any reading program. Despite great interest in and
increasing use of packaged programs and software for reading instruction in middle and high
schools, there is little experimental or quasi-experimental research demonstrating the
effectiveness of that work (National Reading Panel, 2004). Sometimes the realities of schools
and teachers make it impossible to randomly assign students, so researchers have to use quasi-
experimental designs, assigning treatment and control conditions to already existing groups.

Conclusion

　　　　The results of this study were not compared to those of students in other reading
remediation programs. Furthermore, no comparisons were made in regards to race, gender or
grade level of students participating in this direct reading instruction program.
A correlational relationship was established between the use of the direct instruction program
model and reading gains achieved by the participants (Flores & Gantz, 2009), including those
with disabilities. Because there are so many disabilities, school systems face the challenge of
creating curriculum that meets the needs of all students, as learning disabilities account for over
half of all special education placements (Banks, 2007). A separate issue concerns the relative
effectiveness of different educational approaches (Lindsay, 2007) as more research is needed to

explore best practices for reading remediation for struggling readers, specifically those with disabilities who have not achieved significant measures of success because of persistent deficits that began early in their academic experiences.

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