

Effect of Literacy Interventions on Achievement of African American Male Elementary Students

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Abstract

Literacy interventions were implemented with one group (n = 8) of African American male elementary students while a similar group (n = 8) did not receive the interventions. The participants met specific criteria: (a) African-American male; (b) in 3rd grade or 4th grade; and (c) below grade level in reading by at least one year. All students receiving the nine-week intervention were on free/reduced lunch. A quantitative quasi-experimental method was chosen to discern how literacy interventions might improve academic achievement. Pre-tests were given before the intervention and compared to post-test results after the nine-week intervention. The Developmental Reading Assessment (DRA) was used for both pre- and post-tests. Participants in the experimental group made statistically significant ($p < .05$) progress in literacy improvement while the control group did not make statistically significant progress. Findings suggest that explicit literacy interventions may help bridge the literacy achievement gap for struggling elementary students.

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All children, no matter what race or ethnicity, are entitled to receive a free and appropriate education in the United States. However, African American males are facing serious challenges in education. Many are not obtaining the basic skills needed to succeed academically and graduate from high school. The national graduation rate for African American males is 47% compared with 53% who drop out (Aud et al. 2011).

Inadequate literacy skills are major contributors to the educational crisis involving school-age African American males. Additionally, illiteracy and crime are closely related. One in three African American males can expect to enter the United States prison system during his lifetime (Kerby, 2012).

Ellis (2012) reported that 85% of all students who interface with the juvenile justice system are functionally illiterate, and 70% of inmates in the prison system cannot read above the fourth grade level. However, academically successful school programs can contribute to decreasing the disparity currently plaguing public education.

This study was implemented to determine if explicit literacy interventions, when applied with fidelity, would have a significant impact on growth in literacy achievement of African American male elementary students. The study followed theory set forth by Fountas and Pinnell (2011) and included the following fifteen elements: (1) daily group instruction; (2) research driven approach; (3) low student-teacher ratio; (4) accelerated process with entry and exit points; (5) framework that is structured and systematic; (6) fast paced lessons that are well designed and sequenced; (7) explicit teaching method for reading fluency; (8) explicit teaching method for comprehension; (9) well designed plan for phonics and word study; (10) writing component that involves reading; (11) leveled text library with selection that is engaging; (12) assessment, progress monitoring, and record keeping that is systematic; (13) connection with classroom for students and teachers; (14) at home connection with parents and school; (15) professional development for all teachers (Fountas & Pinnell, 2011). The underpinning for the intervention was based on Montessori's belief that students need to use their hands during the learning process. Further, Montessori posited that students want to learn from the adults in the world around them (Blount, 2007).

The quantitative quasi-experimental study method was chosen for this study because it allowed the researcher to build a holistic picture of how interventions can help students overcome literacy deficiencies. The design utilizes an experimental and a control group to determine how literacy interventions and intense vocabulary development correlate with achievement. Findings from the study contributed to the knowledge base and added to the field by providing an examination of the factors that contribute to African American male low academic performance and the literacy interventions needed to remedy low performance across all contents. The study provides a foundation for educators and leaders

in education with the necessary tools to make academic improvements within the African American community.

Background Literature

African American boys are completing elementary school without the necessary literacy skills needed to be successful at the next level of their education. Furthermore, African American males are dropping out of high school at higher rates than other races. Black males are least likely to graduate from high school in 33 out of 50 states (Schott Foundation Report, 2010). Unfortunately, too little attention has been given to solving the problem; rather much attention has been given to documenting the cause of the problem (McGuire, 2005). The research instead offers what seems like a lost cause based on several issues such as policy, environment, society, and economics. Current research presents a clear pattern concerning African American males mirrored in society in places such as the workplace and criminal justice system (Gordon, 2005).

Literacy Development

Literacy development begins at birth. As babies hear sounds, words, sentences, and music, neurons in their brains make connections that will become permanent if those sounds are continually repeated. Thus, the home environment and child care provided in the early years is extremely important (Morrow, 2012).

Phonemic awareness is the best predictor of a kindergarten child's beginning reading success. It is a stronger predictor than intelligence quotient scores or any other measure. Proficiency in phonemic awareness is even more important than the type of reading instruction received by a first grader, whether the instruction is whole language or phonics based (Settlow & Jacovino, 2004, pg. xi). Students need direct instruction in phonemic awareness incorporated into their classrooms to facilitate their academic success.

According to the National Reading Panel (2001), phonics, vocabulary, comprehension, and fluency in addition to phonemic awareness are the elements most important to reading. Children with

access to proficient preschool and kindergarten programs will experience instruction relating to the reading components, and thus, have an advantage over those students lacking such instruction.

Children in poverty may not have access to successful literacy programs. In fact, the largest group of at-risk children are those in poverty. Poverty is a growing problem for the United States, and the bigger the problem gets the more literacy deficits will become evident (Strauss, 2011). African American children in particular are at most risk, with the risk being three times higher for African American children in poverty. Children living in poverty are twice as likely not to read on grade level (Children's Defense Fund, 1994; Kao & Tienda, 1995).

Historically, children enter school with unique histories based on their particular backgrounds. Interactions around literacy will propel some students toward immediate success in school, whereas others may be less prepared and not immediately successful in school (Morrow, 2012). African American males currently have the lowest performance on all standardized tests administered by the state of Texas (NCES, 2007). African American children at age nine compared to White children were behind by 26 points in reading in 2004.

Literacy Interventions

All students come to school with an ability to learn (Thomas & Bainbridge, 2001). It is the job of the school to provide quality instruction and interventions if necessary. Even students who have had limited experience in literacy prior to kindergarten can become successful readers. The school can make the difference (Fountas & Pinnell, 2009).

A growing number of literacy interventions are available to help children of all ages advance their reading achievement. Reading Recovery (Clay, 1987), for one, has been shown effective as an intervention for first grade students. Computer software, such as Imagine Learning (2014), Imagine Learning Espanol (2014), or Waterford (2014), is used by some schools to help advance students' early literacy learning.

High quality educational programs that have built in strong literacy instruction, language, and story-telling have been very beneficial to students for long term reading success. Excellent reading instruction married with a powerful intervention program makes it possible for all learners to become literate and successfully acquire reading skills needed for academic success (Fountas & Pinnell, 2009).

Struggling readers may need early literacy interventions in small groups or individually. The intervention should be intense and short term for students to be able to make accelerated progress and benefit from classroom instruction. High quality instruction can help in closing the gap (Fountas & Pinnell, 2009) and building momentum for children and schools.

Methods

A quantitative quasi-experimental method was chosen for this study in order to discern how literacy interventions might improve academic achievement. The control group design allowed for identification of the variables that correlate with achievement. The model allows for independent variables (literacy interventions and parental involvement) and a dependent variable (academic achievement). A t-test was conducted to account for the impact of each variable.

The Developmental Reading Assessment (DRA) developed by Pearson (2012) was chosen as the pre- and post-test of reading achievement because its development was based on existing literature identified as including key traits and behaviors of effective readers. The following reliability analyses were conducted: (1) internal consistency reliability, (2) passage equivalency, (3) test-retest reliability, and (4) inter-rater and expert rater reliabilities. The DRA has been noted as a valid measure of accuracy, fluency, and comprehension as evidenced by these measurements: (1) criterion-related validity, (2) construct validity, and (3) content validity.

There were two groups. Group A was the experimental group, and Group B was the control group. Each group had eight students. Group A received daily interventions for 30-45 minutes a day for a period of nine weeks. Group B was not provided with interventions from the researcher. Students in Group B received regular, daily instruction including Read 180 Interventions. Read 180 is the standard

intervention the school currently provides.

Students in Group A received interventions which consisted of literacy and vocabulary instruction. During the first intervention the students read a leveled book to determine current reading levels. Second, the researcher administered a vocabulary assessment. After reading and vocabulary levels were determined, students read, were read to, answered questions about the readings, and were introduced to vocabulary words found in text. They also wrote, decoded text using phonics, and participated in word study during the 30-45 minute intervention. In short, the intervention plan included emphases as follows: phonemic awareness, phonics, reading, writing, vocabulary development, word work, and ongoing assessment.

During the nine weeks of interventions, students were given a weekly reading assessment, and the data were analyzed weekly. Assessments available from Raz-Kids (2014) software were used weekly. At the end of the nine weeks, all the students in Groups A and B were given a post-test to assess their reading skills and vocabulary knowledge. The data collected from the pre-test and post-test were analyzed using SPSS. Data from Group A were compared to data from group B to determine if the early literacy interventions were effective in promoting student achievement for African American males in the grade levels identified.

Parents of the participants responded to a questionnaire developed by the researcher (See Appendix). The questionnaire contained 12 questions pertaining to literacy emphasis in the home. For example, question one asked, "How often do you read to your child?" Fifteen of the sixteen parents responded to the questionnaire.

Participants

The participants for this study came from a low-socioeconomic elementary school in a large urban school district. There were 16 students in the study (8 from each class). The participants in the experimental group met specific criteria: (a) African-American male; (b) in 3rd grade or 4th grade; and (c) below grade level in reading by at least one year. Additionally, candidates selected might have a

Below Reading 0 (BR0) assessment on either Read 180 or the Scholastic Reading Instrument as their reading level. A convenience sample was used to select the student participants.

The study was conducted in a school district that was 80.6% economically disadvantaged with 64% at risk (TEA AEIS Report, 2011). The student demographics were 26.2% African American, 61.9% Hispanic, and 7.8% Caucasian. The elementary school that was chosen for the study had a population of 54% Hispanic and 46% African American. One hundred percent of students were on a free or reduced lunch plan with 75% of those students being at-risk (TEA AEIS Report, 2011).

Data Analysis

According to comparison between pre- and post-tests administered to both experimental and control groups, the experimental group (A) made statistically significant ($p < .05$) literacy improvement while the control group (B) did not make statistically significant progress.

On average, students in the experimental group learned six new words per day. Other improvements were noted as follows for each child in Group A: (1) 35-45 books read; (2) 42-48 sight words learned; (3) increase in fluency; (4) increase in reading comprehension (5) increase in reading level; (6) increase in mastery of phonics and phonemic awareness for decoding.

According to Table 1, all students in the experimental group made at least 1-2 grade level improvements in reading, with over 50% reaching grade level reading equivalency. Originally, all students selected were 1-3 grade levels behind in reading. The data in Table 1 show evidence of the intervention being effective with all students ($n = 8$) making at least a 2-16 reading level increase. The intervention was effective and statistically significant at the $p < .05$ level. Table 2 represents the results for students in the control group.

Table 1

DRA Results for Experimental Group

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Participant	Grade	Pre-test	Post-test
1	3	28	38
2	3	28	38
3	3	16	20
4	3	16	18
5	4	24	34
6	4	16	32
7	4	20	30
8	4	10	20

Note. DRA= Developmental Reading Assessment. The reading levels per grade are defined: 1st Grade Reading Level-4-16 DRA; 2nd Grade Reading Level-18-28 DRA; 3rd Grade Reading Level-30-38 DRA; 4th Grade Reading Level-40 DRA.

Table 2

DRA Results for Control Group

Participant	Grade	Pre-test	Post-test
1	3	2	2
2	3	4	14
3	3	4	6
4	3	28	30*
5	4	34	40*
6	4	40	50*
7	4	30	38*
8	4	28	38*

Note. DRA= Developmental Reading Assessment. The reading levels per grade are defined: 1st Grade Reading Level-4-16 DRA; 2nd Grade Reading Level-18-28 DRA; 3rd Grade Reading Level-30-38 DRA; 4th Grade Reading Level-40 DRA.

*indicates at least one grade level increase in reading.

Students represented in Table 2 (control group) did not make significant growth in reading.

Three out of the four students in the third grade control group (n=8) stayed on a first grade reading level.

Only one student moved from a second grade level to a beginning third grade level. The fourth grade students in the control group all moved up by at least one grade level.

The mean of both experimental groups was examined using the pre-DRA results. Four students were third graders, and four students were fourth graders. The mean for the pre-test for the first experimental group was 22.00 (SD = 6.92) and for the second experimental group was 15.50 (SD = 5.97)

Responses to the parent questionnaire did not indicate statistically significant differences between literacy emphasis in the homes of students in Groups A or Group B. Generally, minimal parent involvement in literacy was noted.

Extension of the Interventions

Interventions were provided to students who attended an urban, economically disadvantaged school district in Texas. This study indicated educators can essentially do more with less, and in a system that is constantly facing budget cuts, doing more with less is becoming more appealing. Reaching as many students within the time constraints of a school day is essential to failing schools and schools with high concentrations of low socio-economic students.

As a result of its effectiveness, the study was expanded and replicated with grades pre-kindergarten, kindergarten, first, second, and fifth grade and the results were just as successful as for the third and fourth grade students. The researcher trained all teachers how to effectively provide interventions using the framework and met with teachers on a weekly basis during their professional learning communities to discuss the progress of the interventions throughout the weeks, strategies being used, level of fidelity, and assessments.

The interventions continued throughout the entire school year in order to assist students who were reading below grade level. This campus had over 450 students, and the overall goal for this campus was to have all students reading at and/or above reading level by the end of the school year. At the middle of the school year, 80% of the students met the goal set forth in the intervention plan.

Implications and Recommendations

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Results indicate that interventions implemented with fidelity across an elementary campus can increase the literacy success rate of elementary students while building momentum for the entire school. It is recommended that school leaders explore interventions that are based on credible research like the plan developed by Fountas and Pinnell and implemented by a school leader who can train teachers on the campus to implement the interventions. Since research suggests that parent involvement can increase academic achievement of students, it is recommended that literacy interventions be paired with parent involvement to help students reach even greater achievement levels. When parents are involved, important adults may encourage the continuation of literacy learning, so that students continue the path toward literacy achievement. Further research using this particular intervention in different settings is recommended since the number of participants in this study was small and focused on African American males in a low-income school.

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