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Outcomes of the Saturday School: A Church-based Approach to Enhance Achievement in Reading & Mathematics

Abstract: *Excellence in reading and math enable children entry to all of the professions. This is especially true for the nursing profession. Therefore, the purpose of this paper is to provide background information on the national crisis in reading and math achievement among school children, present the methodology of the Saturday School church-based approach to enhance reading and math skills, and the seven year outcomes.*

Key Words: *Saturday School, Math, Reading, Tutoring, Achievement, Church-based*

Reading and math skills provide the crucial foundation for acquiring knowledge and skills in all professions and every aspect of life. These reading and math skills are highly associated with the attainment of higher education, increased lifetime salaries, and access to the higher reaches of society at the local, state, national and even international levels. However, in the United States, critical masses of children do not acquire reading and math skills at grade appropriate levels. In 2002, the Saturday School, a pilot intervention, was initiated to develop and implement a church-based approach to assist families to improve their children's achievement in reading and math.

ASSESSMENT OF THE NEED

The need for this intervention was well documented from the literature and experiences of church members. For example, over the past thirty years, the National Assessment of Educational Progress (NAEP) has assessed and reported the reading and math skills, including science, U.S. history, civics, and geography of students in the United States (Lee, Grigg, & Donahue, 2007). NAEP categorizes ability as below basic, basic, proficient, and advanced. The basic level indicates that the student has achieved "...partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at a given grade. Proficient represents solid academic performance... Advanced represents superior performance" (Lee, Grigg, & Donahue, 2007, p. 6).

For fourth graders, these categories are based on test scores that range from 0 to 500. Scores ranging between 208 and 237 reflect basic achievement in reading. Reading test scores between 238 and 267 indicate proficient ability, and scores of 268 and higher denote advanced achievement. For

the years 1998, 2002, 2003, 2005, and 2007 the average reading scores for fourth grade students in the United States were 213, 217, 216, 217, and 220 respectively (Lee, Grigg, & Donahue, 2007). Some states had significantly higher fourth grade reading scores than others. For example, between 1998 and 2007, fourth graders in the state of Massachusetts scored higher in reading than students in all other states that participated in the reading assessment. By contrast, states with the lowest average fourth grade public school reading scores varied according to year. For instance, in 1998 Hawaii had the lowest average reading scores. In 2002 and 2005 Mississippi reported the lowest average reading scores (Lee, Grigg, & Donahue, 2007). During the years 2003 and 2007, New Mexico and Louisiana respectively had the lowest scores of 203 and 207 (Lee, Grigg, & Donahue, 2007). In Oklahoma, average fourth grade public school reading scores decreased slightly from 219 in 1998 to 217 in 2007 (Lee, Grigg, & Donahue, 2007). Generally speaking, none of the states reported having average fourth grade public school reading scores at the minimal proficient level of 238 (Vanneman, Hamilton, Baldwin-Anderson, & Rahman, 2009).

In addition to the state differences in fourth grade reading scores, there were racial differences as well. Specifically, achievement gaps in reading scores between white and African American fourth graders ranged from 34 points in 2000 to 27 points in 2007 (Lee, Grigg, & Donahue, 2007). In fact, the gap in scores for African American and white students decreased. By comparison, Hispanic students had similar gaps with their white counterparts. For example, during the same time period, the achievement gap between Hispanic students and white students decreased from 35 points to 26 points (Lee, Grigg, & Donahue, 2007; Vanneman, Hamilton, Baldwin-Anderson, & Rahman, 2009). However, average reading scores for African American and Hispanic students continued to be significantly lower than the scores for white students.

Without a doubt, it is likely that the racial differences are more related to socioeconomic status than race. In an effort to determine socioeconomic status, NAEP uses eligibility for free lunch. Students from families with documented low incomes receive are eligible for free school lunches. On the other hand, students from families with higher incomes are not eligible (Lee, Grigg, & Donahue, 2007). Between 2003 and 2007, the achievement gap between those students that were eligible for a free lunch ranged between 30 points and 29 points respectively. Moreover, fourth graders that were eligible for a free lunch had average reading scores of 199 and 203 between the years 2003 and 2007. In comparison, average reading scores for fourth

graders that were not eligible for free lunches were 229 in 2003 and 232 in 2007 (Lee, Grigg, & Donahue, 2007).

Without a doubt, poverty exerts a pervasive negative effect on achievement in math as well. In fact, the poverty status of a child highly correlates with lower math achievement scores. For example, students enrolled in schools with the highest concentrations of poverty had lower average scores on math achievement than students in schools with lower concentrations of poverty (Perie, Grigg, & Dion, 2005). In viewing the data on race and math achievement, it is significant to note that approximately 66 percent of African American students were from families with incomes at 130 percent of the poverty level (Perie, Grigg, & Dion, 2005). By contrast, only 20 percent of white students were from families with a similar poverty status (Perie, Grigg, & Dion, 2005; Vanneman, Hamilton, Baldwin-Anderson, & Rahman, 2009). Almost 50 percent of African American and Hispanic students attended schools with the highest concentrations of poverty (Vanneman, Hamilton, Baldwin-Anderson, & Rahman, 2009). Furthermore, African American students from low-income families were more likely to receive instruction from a teacher with less optimal teaching experience (Guarino, Hamilton, Lockwood, & Rathbun, 2006).

In terms of early childhood education, African American and students from low-income families begin kindergarten with achievement gaps in both reading and math. According to the National Center for Statistics in Education, risk factors, such as low maternal education, family poverty, having only one parent in the home, and having parents whose primary language is not English, are predictors of low math and reading achievement in the future (Zill, & West, 2001).

In summary, basic proficiency in reading and mathematics is a foundation for later success in schooling, but not all children master the fundamental skills needed for proficiency at the same rate in their early years. Many factors contribute to low performances in reading and math.

INITIAL SATURDAY SCHOOL DEVELOPMENT

An assessment of the church congregations' willingness to make a commitment to the Saturday School intervention revealed overwhelming support from the leadership and the membership. The members of the congregation affirmed that they had a moral obligation to assist children in gaining mastery in their reading and math skills. As a result, a group called the Action Committee Teaching Support (ACTS) organized to plan and implement the Saturday School.

The primary purpose of the Saturday School was aimed at providing support to family members to enhance their children's reading and math skills. To be clear, the Saturday School served as addition to the efforts of the schools and the family. In essence, offering an additional day of study and learning. Therefore, the goals of the Saturday School included: 1) to increase the reading scores from baseline to grade appropriate and or higher levels of each student enrolled in the Saturday School, 2) to increase the math scores from baseline to grade appropriate and or higher levels of each enrolled student, 3) to increase the frequency that each enrolled student uses a stress management tool for decreasing frustration and increasing appreciation for self and others, 4) to increase each enrolled student's cultural knowledge, awareness, and skills in communicating with culturally diverse persons, 5) to create a caring learning environment and 6) to provide meals on Saturday to the participants.

THE SATURDAY SCHOOL APPROACH

Several strategies were used to accomplish the objectives. First, all Saturday School volunteers and family members of the students receive an intensive orientation that includes information about the objectives, mentoring and learning approaches to math and reading, training in stress management,

rationale for field trips, and nutritious meal planning and cooking.

To achieve the first and second objectives, each student receives a base line assessment of his/her reading and math skills. Next, the student is assigned a mentor. The mentor works with ACTS to develop the learning strategies for each assigned student. Based on the assessment, the student works at the reading and math levels that his/her assessment indicates and advances to the next levels as mastery is achieved. Evidenced-based strategies provide the basis for teaching math and reading. For example, the Saturday School uses a structured organized approach to math and reading skilled development (Honig, 2001; Honig, 2008; Honig, Diamond, & Gutlohn, 2008). Reading includes oral discussion, phonemic awareness, print awareness, syntactic awareness, letter recognition, sound/symbol correspondence, recognizing word families, decoding/word attack, and recognizing high frequency words, spelling, vocabulary, and independent reading. (Honig, 2001). Beginning readers are encouraged to read 300 storybooks in year. School aged students are asked to read 24 to 25 books a year outside of their regular school work. Daily reading facilitates comprehension and fluency. In addition, students receive small monetary rewards for weekly and mile stone achievements. Math enhancement approaches include mastery of mental math facts, decimals, fractions, ratios/proportions; mastery of addition, subtraction, multiplication, division, algebra, geometry, and introductory calculus. Math tutoring incorporates daily. Students are assigned homework, and they are rewarded for completing daily math worksheets that require 15 to 20 minutes of work at home. Ideally, students practice math concepts at the Saturday School prior to receiving instruction at school. For example, students studying algebra spend several months learning the basics of algebra prior to enrolling in the course at school. This has been a highly effective strategy because students are already familiar with the basic concepts. Also, multiple approaches are designed to meet the individual needs of the student.

To meet objective three, students receive stress management instruction of deep breathing and silent prayer. The devotion at the beginning of the Saturday School incorporates this stress management tool, and students are reminded to practice deep breathing and silent prayer as they begin their work.

To achieve objective four, culturally appropriate learning materials are used to infuse cultural knowledge and awareness. Students participate in field trips to the Sam Noble Natural Museum of Science and History, the Art Institute, the Red Earth Native American Festival, The Children's Museum. In addition, students attend events that feature local and national leaders. To accomplish objective five, ACTS members provide orientation on this objective and emphasize the reasons for the caring learning environment. Volunteers and students receive recognition for their contributions. Students, volunteers, and ACTS members are encouraged to consistently show appreciation for each other. For example, students are asked to appreciate their mentors. Likewise, mentors are asked to appreciate the students at the beginning of the learning session. In addition, students receive financial incentives for their accomplishments. Several parties and celebrations are held throughout the year. These positive gestures and acts of kindness build caring relationships.

The intention of objective six is to provide nourishment and build positive interactions between the students, parents and volunteers. A light breakfast and lunch are served. Offering food is an important ritual in the African American tradition and presents an opportunity for fellowship for all the participants.

SEVEN YEAR OUTCOMES

Over the past seven years, 42 students have participated in the Saturday School. Currently, 22 students are enrolled in

the Saturday School. In the seven year history of the Saturday School, 23 students participated at least three years or more. Because the Saturday School was organized as a long term approach to reading and math skill development, this report focuses on the accomplishments of the students that have participated in the Saturday School for three or more years. Objective one, to increase the reading scores from baseline to grade appropriate and or higher levels of each student enrolled in the Saturday School, has been highly successful. To illustrate, 100 percent of the students (n=23) have achieved this objective. In particular, students (n=3) that started in the Saturday School at age 4 and participated for 6 years, demonstrate advanced reading proficiency of 6 grade levels above their actual grade. In addition these students scored in the 95th percentile on the Oklahoma mandated test for reading.

In terms of high school graduation and college attendance, the Saturday School participants (n=8) have a 100 percent high school graduation rate and 88 percent college enrollment rate. Objective two, to increase the math scores from baseline to grade appropriate and or higher levels of each enrolled student, has been achieved. For example, 100 percent of the students (N=23) have improved their math scores at least one grade level above their baseline scores. However, success in math appears to be related to starting at an early age and the number of years that the student participated in Saturday School. For instance, students that started in the Saturday School at age 4 (n=3) and participated for 6 years demonstrate advanced math proficiency skills of 3 grade levels above their actual grade level. In addition, students (n=7) that participated 3 or more years had a 100% pass rate on the Oklahoma Mandated Test for Algebra I. Objective three, to increase the frequency that each enrolled student uses a stress management tool for decreasing frustration and increasing appreciation for self and others, has been highly successful. Mentors noticed that when students practiced the stress management tool, they were able to enjoy their lessons even when they were challenged. Students reported that when they practiced stress management before taking tests, speaking in class and at home with parents, they were usually able to manage their emotions and behavior. In terms of school behavior, 100% of the students have favorable classroom decorum reports and none of the Saturday School students have ever been suspended or expelled from school.

Objective four, to increase each enrolled student's cultural knowledge, awareness, and skills in communicating with culturally diverse persons, was met. This objective was measured by group discussions that indicated their knowledge and satisfaction with the activities. One particular field trip to the Oklahoma History Center to meet the late historian, Dr. John Hope Franklin in 2007, made a significant impression on the students. Dr. Franklin signed copies of his book, *Mirror to America: The Autobiography of John Hope Franklin*, for each student.

Objectives five and six are closely linked. Caring is the core of the Saturday School, students achieve when it matters to someone else. The meals offered the opportunity for the students to focus on learning and not their hunger. The volunteers, students, and parents consistently demonstrated kindness and appreciation for each other. The act of honoring the students and parents, likewise, students honoring the volunteers was consistently practiced. It is a firm belief that individuals are motivated by appreciation, commitment, and loyalty to achieve success.

CONCLUSION

The Saturday School is an example of what a small church congregation can contribute to improving student achievement. Over the past seven years, many lessons have been learned by the participants. Although, the numbers are small, the achievements of these students are highly commendable. The

individualized and small group focus of the Saturday School enhanced the academic outcomes of these students.

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