THE EFFECTS ON STUDENT ACHIEVEMENT AS MEASURED BY THE TENNESSEE COMPREHENSIVE ASSESSMENT PROGRAM (TCAP) READING TEST SCORES OF A STRATEGIC TUTORING PROGRAM DELIVERED BY PRE-SERVICE TEACHERS.

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Gregory K. Brown

The Effects on Student Achievement as Measured by the Tennessee Comprehensive

Assessment Program (TCAP) Reading Test Scores of a Strategic Tutoring Program

Delivered by Pre-Service Teachers.

A Field Study

Presented to

The College of Graduate Studies

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In Partial Fulfillment

Of the Requirements for the Degree

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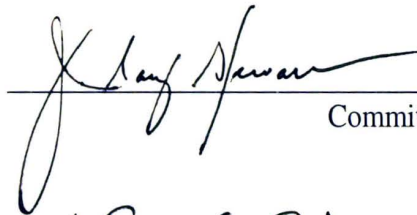
Gregory K. Brown

August 2012

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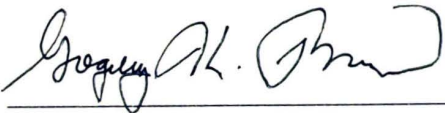
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ABSTRACT

GREGORY K. BROWN. The Effects on Student Achievement as Measured by the Tennessee Comprehensive Assessment Program (TCAP) Reading Test Scores of a Strategic Tutoring Program Delivered by Pre-Service Teachers (under the direction of DR. BENITA BRUSTER).

Purpose: The purpose of this study was to determine if participating students from a high poverty school with reading difficulties showed an improvement in their reading/language arts Tennessee Comprehensive Assessment Program (TCAP) scores after being tutored. This study attempted to answer the overarching question, is one-to-one, strategic tutoring an effective strategy for reaching at-risk students. The study methodology used was a quantitative, causal-comparative research design using archival TCAP data. There were 44 participants in this study, which consisted of fourth and fifth grade students at a public elementary school in a city in the southern United States during the 2010-2011 and 2011-2012 school years. Participants took part in a strategic tutoring program conducted by undergraduate students in a readings method course over a 16-week semester. The study failed to reject the null hypothesis and had insufficient data to show statistically significant gains in TCAP reading achievement in a one-to-one, strategic tutoring program. Reading gains for the participating at-risk students remained similar to the reading gains of the control group at-risk students. The results from this study are similar to results by Bender, Giovanis, and Mazzoni (1994) that found students who attended only 8-15 tutoring sessions (mid-range of attendance) had grade averages that remained stable. The small number of tutoring hours (10-hours) from this study seemed to be the greatest limitation of the study, and the leading indicator as to why the

study was not able to reject the null. A recommendation for further study is research to determine the amount of tutoring hours needed to see an improvement in reading achievement.

<center>Chapter I</center>

<center>INTRODUCTION</center>

Statement of the Problem

Reading crisis.

After the release of *The Nation's Report Card: Reading 2011* (National Center for Educational Statistics [NCES], 2011) by the National Assessment of Educational Progress (NAEP) which reported fourth grade reading scores the same as 2009 and that eighth grade reading scores had increase by a single point over the 2009 scores, the headlines in the national media read fairly consistent. *The Christian Science Monitor* ran an article entitled, "Education report card: Flat reading scores are 'deeply disappointing'" (Paulson, 2011, para. 1) while *The New York Times* article headline read, "Stagnant national reading scores lag behind math" (Dillon, 2010, para. 1) echoing a similar title in the *U.S. News & World Report* which referred to reading scores as stagnate (Koebler, 2011). The NAEP found fourth grade student's average reading scores showed no improvement, with scores that remained unchanged for the last three reporting periods (2007, 2009, and 2011). The average reading scores for eighth grade students increased by a single point since the last report in 2009 and remained unchanged in the 2011 report.

Years earlier, in the 1983, similar findings were reported in *A Nation At Risk: The Imperative for Educational Reform*, which highlighted the challenges in reading and literacy that America faced. The report found that "13 percent of all 17-year-olds in the United States can be considered functionally illiterate. Functional illiteracy among minority youth may run as high as 40 percent" (U.S. Department of Education, 1983, Indicators of Risk section, para. 4). Study findings reported that business and military

leaders were spending millions on remedial reading, writing, and spelling programs because the work force they were receiving from high schools in American were not able to read the written instruction manuals and safety instructions written at a ninth grade level. A 2007 report by the National Endowment for the Arts found that "employers now rank reading and writing as top deficiencies in new hires" (p. 27) with only one in five workers able to read at the skill level required to meet their job requirements. Additionally, the estimated costs for remedial reading and writing training was $3.1 billion for corporations, and $221 million for state government employees. Thirty-eight percent of adults who read at a basic level, and 70% of adults who read below a basic level, reported that their level of reading skills limited their job opportunities.

A Nation Accountable: Twenty-five Years After A Nation At Risk found two-thirds of fourth graders still not proficient readers "despite the fact that Americans spend more money per student than almost any other country in the world" (US Department of Education, 2008, p. 9). Out of twenty children born in 1983, only six would have become proficient readers by the fourth grade. In 1997 out of the twenty children born, only seven out of twenty would have become proficient readers by the fourth grade. In a report that documents the decline of reading in America society, *Reading At Risk: A Survey of Literary Reading in America* (National Endowment for the Arts, 2004) relates,

> More than reading is at stake. As this report unambiguously demonstrates, readers play a more active and involved role in their communities. The decline in reading, therefore, parallels a larger retreat from participation in civic and cultural life. The long-term implications of this study not only affect literature but all the

arts – as well as social activities such as volunteerism, philanthropy, and even political engagement (p. vii).

Forty-five percent of adults in the United States are functionally illiterate and "probably do not have the skills necessary to read many types of literature" (p. 15), those with a grade school education are 60% less likely to read literature, and those with some high school education but no degree are 35% less likely to read literature.

The National Association of State Boards of Education (NASBE) used even stronger language describing reading as a basic human right and went on to state "an inability to read in today's world is to be consigned to educational, social, and economic failure—an existence entirely devoid of meaningful life, liberty, or the pursuit of happiness" (National Association of State Boards of Education [NASBE], 2006, p. 4). The report found that 70% of adolescents struggle to read and these poor reading skills are linked to "higher dropout rates, entrance into the juvenile justice system, and unemployment. Indeed, one-third of all juvenile offenders read below the fourth grade level and about two-thirds of prison inmates are high school dropouts" (p. 4).

The reading crisis in the United States is not due to a lack of funds or money. It is well documented that the United States leads the world in the total amount of annual spending per child in education (Aud et al., 2012; Children's Defense Fund, 2011; US Department of Education, 2008; "US education spending," 2011) yet our comparisons in international reading scores do not reflect our preeminence in spending. The United States ranked 17th in reading scores compared to industrialized countries (Children's Defense Fund, 2011). A comparison of the United States' reading scores to literacy in the rest of the world, by the Program for the International Student Assessment (PISA),

found the United States had reading literacy scores that were not measurably different (in essence tied with) sixteen countries, and scored below nine countries who had better reading literacy scores. The comparison was with 64 participating nations from both Organization for Economic Co-operation and Development (OECD) countries and non-OECD countries (Fleischman, Hopstock, Pelczar, & Shelley, 2010). The United States' reading scores were relatively unchanged from the results reported by the PISA in both 2000 and in 2003 (Organization for Economic Co-operation and Development [OECD], 2004) meaning the United States reading scores have stayed around the OECD average during the lasts three reports (2000, 2003, 2009).

Poverty and reading.

While the national and international reading information is disappointing, it is especially tragic for students in poverty. "Children accounted for 35.5 percent of people in poverty, but only 24.4 percent of the total population" (DeNavas-Walt, Proctor, & Smith, 2011, p. 17). A 2006 report by the NASBE "estimated that about half of the incoming ninth graders in urban, high-poverty schools read three years or more below grade level" (p. 4). This is alarming because with the economic downturn of the last several years the number of school age children in poverty has dramatically increased. The Children's Defense Fund (2011) found between 2000 and 2009 the number of children who lived in poverty increased by four million, a 28% increase. One in three Black and one in three Hispanic children lived in poverty compared to one in ten White children in 2009. Sixty percent of children in poverty lived in single-parent households and the number of homeless students enrolled in school has increased by 43% in the last two years. Data analyzed by the US Census Bureau found that children (defined as being

under 18 years old) who lived in poverty rose from 20.7% in 2009 to 22% in 2010, with

the total number of people living in poverty being at the highest point since the Census

Bureau has been collecting data on poverty. The increase in poverty was particularly

noticeable in the two largest, school age minority populations groups in America, the

Black and Hispanic. The Black poverty rate increased from 25.8% in 2009 to 27.4% in

2010, and in that same time period the poverty rate among the Hispanic population grew

from 25.3% to 26.6% (DeNavas-Walt et al., 2011). A 2010 report, *Status and Trends in

the Education of Racial and Ethnic Minorities*, found 34% of Black and 27% of Hispanic

children were living in poverty (Aud, Fox, & KewalRamani, 2010). In a 2012 report

from the National Center for Educational Statistics (NCES), Hispanic and Black children

had a higher percentage of children attending high poverty schools than White or Asian

Students (Aud et al., 2012). This is significant to education because, according to the

2011 report on reading by the NCES, there is a 46% average variation between the test

scores of students receiving free or reduced lunch and those who do not, in fourth grade

reading scores (National Center for Educational Statistics [NCES], 2011). The 2009

international comparison by the Program for the International Student Assessment (PISA)

found that in U.S. public schools, where half or more of the students were eligible for the

Free or Reduced Price Lunch (FRPL), students scored below the OECD countries

average for reading literacy, as well as scored below the U.S. average reading scores

(Fleischman et al., 2010).

In a report *Double Jeopardy: How Third-Grade Reading Skills and Poverty

Influence High School Graduation* (Hernandez, 2011) found dire consequences for

students the have not mastered reading by the end of the third grade. One in six will not

graduate from high school, 23% will drop out or fail to finish high school if they are below basic proficiency in reading, 11% of third grade students in poverty who were proficient readers still do not finish high school. "For children who were poor for at least a year and were not reading proficiently in third grade, the proportion that don't finish school rose to 26 percent. That's more than six times the rate for all proficient readers" (p. 4). A report by the Educational Testing Service, *An Uneven Start: Indicators of Inequality in School Readiness*, found Socio-Economic Status (SES) effected all areas of childrens' reading proficiency, with children in a higher SES more proficient in *all* (emphasis added) reading tasks then children in a lower SES classification (Coley, 2002). The most succinct summary of the relationship between at risk students and poor reading achievement is provided in an analysis of the NAEP data, "one notes [a] very good correlation between student reading scores and the percent of students in a state eligible for the National School Lunch Program. The more poor students [sic], the lower the reading test scores ("Reading scores vs. poverty," 2009, para. 4). These statistics are carried over into adulthood. Barton (1994) found that 43% of adults who read at the lowest level are in poverty and only 4% of adults who read at the highest level are in poverty.

The *USA Today* headline read, "Moms' poor vocabulary hurts kids' future" (Peterson, 2001, para. 1). The author details an interviewed Farkas, a co-author of the study, who analyzed data from 3,500 White and 3,300 Black children and found that "if a child comes from an economically deprived home with a mom who has a poor vocabulary, by the age of 3 his fate just may be sealed: He will possibly never catch up in school and have lifelong struggles with learning" (para. 1). The research by Farkas and

Beron (2001) also found that when living in poverty "the spoken vocabularies of African-American children grow at only half the rate of White children, leading to a White-Black vocabulary gap which is never made up in later life" (p. 27). These findings are supported in research by Hart and Risley (2003), "by age 4 the average child in a welfare family might have 13 million fewer words of cumulative experiences than the average child in a working-class family" (p. 8). When comparing a child from a welfare family, to a child from a professional family, the number of words grew to 32 million fewer words. This word gap highlights the added difficulty that children in poverty face in this growing reading crisis because research has shown a student's vocabulary is a primary limiting factor in reading success (Becker, 1977; Carroll, 1971). Research by Senechal (2006) found that "kindergarten vocabulary and early literacy were particularly strong predictors of reading comprehension" (p. 78) in the fourth grade. Stanovich, Nathan, and Valarossi (1986) reported similar results in research with third and fifth grade students. Other research has found that the size of a child vocabulary is good predictor of reading comprehension (Langenberg, 2000; Rosenshine, 1980) and a strong correlation between vocabulary knowledge and reading comprehension (Daneman, 1988; Langenberg, 2000; Stanovich, 1986).

Minorities and reading.

"Black and Hispanic children are not only more likely to live in poverty, they also are more likely to live in neighborhoods with concentrated poverty and low-performing schools" (Hernandez, 2011, p. 9). The 2010 US Census showed that 27.4% of the Black population lived below the poverty line and 26.6% of Hispanics (DeNavas-Walt et al., 2011). Minority children in the Black and Hispanic communities still have many

indicators that place their children in the at-risk category for reading difficulties (Gill, 1992; Patterson, Kupersmidt, & Vaden, 1990; Snow, Burns, & Griffin, 1998). "Children from poor families, children of African American and Hispanic descent, and children attending urban schools are at much greater risk of poor reading outcomes than are middle-class, European-American, and suburban children" (Snow et al., 1998, p. 27).

Children from minority backgrounds start out at a disadvantage in reading before even entering school. "While 71 percent of White kindergartners - and 80 percent of Asian kindergartners - could recognize letters of the alphabet when they started in the fall, just 59 percent of Black and 51 percent of Hispanic kindergartners could do so" (Barton, 2003, p. 2). Conley (2002) recorded similar findings on letter recognition in his report, *An Uneven Start: Indicators of Inequality in School Readiness*, but in addition found Hispanic and Black children entering kindergarten also performed lower than their White and Asian counterparts in understanding the beginning sounds of words, understanding the ending sounds of words and in recognizing common words by sight. Hernandez (2011) found that 25% of Hispanic and Black students who were not reading proficiently by the end of third grade did not graduate from high school compared to 13% of all other students. Of those Hispanic and Black student who were reading proficient, 6% of Black and 9% of Hispanic students still did not graduate from high school. For students who spent at least one year living in poverty and do not read at a proficient level, 26% do not graduate from high school. "The rate was highest [higher] for poor Black and Hispanic students, at 31 and 33 percent respectively - or about eight times the rate for all proficient readers" (Hernandez, 2011, p. 9).

It is not surprising that "the percentage of Black students below Basic [reading

achievement] in 2011 (51 percent) was higher than the percent ages of White, Hispanic, and Asian/Pacific Islander students below Basic" (NCES, 2011, p. 14). Hispanic students have been found to be twice as likely to be reading below grade level compared to all other ethic groups (Snow et al., 1998). The National Association of State Boards of Education (NASBE) found that a tremendous literacy gap still exists among racial and ethnic groups in the United States, with half of the Hispanic and Black students reading below the basic reading level in the eighth grade. "Only 13 percent of Black, 16 percent of Latino, and 17 percent of Native Americans are reading at or above proficient level compared to 41 percent of white eight graders" (NASBE, 2006, p. 11).

The Nation's Report Card: Reading 2011 reported a "25-point scoring gap between White and Black students in 2011…(and a) 24-point score gap between White and Hispanic students" (NCES, 2011, p. 11) in the average reading scores for forth grade students. The average reading scores for eighth grade students reflected a 25-point gap between White and Black students and a 22-point gap between White and Hispanic students. These test scores reflect a difference of about two grade levels ("Achievement gap," 2011). Barton (2003) notes, "the most striking and troubling fact about reading and literacy in the U.S. is the wide differentials between racial and ethnic groups, beginning in kindergarten and continuing through school and into adulthood" (p.10). Snow et al. (1998) found "the association of poor reading outcomes with poverty and minority status no doubt reflects the accumulated effects of several of these risk factors" (p. 4).

Purpose of the Study

The purpose of this study was to determine if participating students from a high poverty school with reading difficulties showed an improvement in their

reading/language arts Tennessee Comprehensive Assessment Program (TCAP) scores after being tutored. This study attempted to answer the overarching question, is one-to-one, strategic tutoring an effective strategy for reaching at-risk students.

Significance of the Study

This study had educational benefits for two main groups. First, to the school and school district administration who had an interest to see if this program raises student test scores in the reading/language arts portion of the Tennessee Comprehensive Assessment Program (TCAP). Second, to the University's College of Education to determine if literacy training in strategies and assessment had an impact on pre-service teachers as they worked with struggling readers.

Research Question

This study was guided by the following research question: Will a one-to-one strategic tutoring program be an effective strategy for teaching at-risk students as measured by the Tennessee Comprehensive Assessment Program (TCAP) reading/language scores?

Limitations of the Study

1. The small size of the sample of fourth and fifth grade students influenced by the small number of pre-service teachers involved in the tutoring program.

2. Student who received the tutoring treatment could have received additional help in reading through other interventions or programs.

3. Teacher bias could have resulted from the teacher's selection of the students who received the tutoring treatment (if a classroom teacher had two student with the same

low scores, but the teacher was only allowed one student for the study which did the teacher choose?).

4. The space limitations at the elementary school had the tutoring sessions taking place not in a classroom setting but in special rooms, the library, hallways, the cafeteria, or any other space the pre-service teacher finds available. While every effort was made to assist pre-service teachers in finding an optimal tutoring environment, distractions from the location were an uncontrolled variable.

5. The disposition and knowledge level of the pre-service teachers varied. A student who was tutored by a less prepared pre-service teacher would be expected to receive less of a benefit from the tutoring, resulting in less of a positive effect on their TCAP reading scores.

6. Variance of materials and teaching techniques was left up to pre-service teacher. Some materials might be better suited for a particular student's learning style than others.

7. The 10-hours of tutoring is a relatively small amount of time and may be an insufficient amount of time to show a great effect from tutoring.

Definition of Terms

Advanced Reading Achievement Level: Fourth grade students performing at the advanced level should be able to make complex inferences and construct and support their inferential understanding of the text. Students should be able to apply their understanding of a text to make and support a judgment. Eighth grade students performing at the advanced level should be able to make connections within and across texts and to explain causal relations. They should be able to evaluate and justify the

strength of supporting evidence and the quality of an author's presentation. Students performing at the advanced level also should be able to manage the processing demands of analysis and evaluation by stating, explaining, and justifying (National Center for Educational Statistics [NCES], 2011).

At-risk: Students at-risk have an increased probability for not meeting the annual grade level expectations due to factors such as poverty, race, ethnicity, or language barriers ("Center for Research," n.d.).

Basic Reading Achievement Level: Fourth grade students performing at the basic level should be able to locate relevant information, make simple inferences, and use their understanding of the text to identify details that support a given interpretation or conclusion. Students should be able to interpret the meaning of a word as it is used in the text. Eighth grade students performing at the basic level should be able to locate information; identify statements of main idea, theme, or author's purpose; and make simple inferences from texts. They should be able to interpret the meaning of a word as it is used in the text. Students performing at this level should also be able to state judgments and give some support about content and presentation of content (NCES, 2011).

Functional Illiteracy: Reading below a fourth grade reading level.

Organismic variable: A preexisting characteristic of a subject or a variable defined by the nature of the subject such as IQ, age, and gender.

Proficient Reading Achievement Level: Fourth-grade students performing at the proficient level should be able to integrate and interpret texts and apply their understanding of the text to draw conclusions and make evaluations. Eighth-grade students performing at the proficient level should be able to provide relevant information

and summarize main ideas and themes. They should be able to make and support inferences about a text, connect parts of a text, and analyze text features. Students performing at this level should also be able to fully substantiate judgments about content and presentation of content (NCES, 2011).

Strategic Tutoring: This is a tutoring plan that is developed based on the diagnostic assessment of a student's needs and based on the recommendations outlined in the *Reading Next* report (Biancarosa & Snow, 2006) using intensive writing, diverse texts, and word work.

Tennessee Comprehensive Assessment Program (TCAP): This is the state mandated achievement test for the state of Tennessee and is given annually every spring to students in the third through eigth grade. The assessment is timed, multiple choice and covers the content curriculum in the areas of reading, language arts, social studies, science, and mathematics ("Tennessee Department," n.d.).

Chapter II

REVIEW OF THE LITERATURE

Tutoring and the Reading Crisis

The *U.S. News & World Report* headline read "finding depressing education news is easy . . .[with] flat national reading scores and mediocre showings on international education rankings" (Whitmire & Rotjerham, 2010, para. 1). The depressing news the article referred to was from *The Nation's Report Card: Reading 2011* which found average reading score for fourth grade student unchanged for the last three reporting periods (2007, 2009, and 2011) and eighth grade average reading scores that had gained a minuscule single point since the last report in 2009 (NCES, 2011). International comparisons of reading scores of Organization for Economic Co-operation and Development (OECD) and non-Organization for Economic Co-operation and Development countries placed the United States in the middle, relatively unchanged since 2000 (Fleischman, Hopstock, Pelczar, & Shelley, 2010), average at best, while having above average spending, the highest educational spending of any country in the world (Aud et al., 2012; Children's Defense Fund, 2011; US Department of Education, 2008; "US education spending," 2011). Students in poverty (Coley, 2002; Fleischman et al., 2010; Hernandez, 2011; NASBE, 2006; NCES, 2011) or from a minority background ("Achievement gap," 2011; Barron, 2003; Hernandez, 2011; NASBE, 2006; NCES, 2011; Snow et al., 1998) had even more gloomy news as children from these categories have even lower average reading achievement scores than their peers.

The ray of sunshine amidst the gloom and despair is that there is an effective, research-based strategy that works. A 2001 report issued by the U.S. Department of

Education stated,

> Research has consistently shown that well-designed tutoring programs that use volunteers and other nonprofessionals as tutors can be effective in improving children's reading skills. Students with below-average reading skills who are tutored by volunteers show significant gains in reading skills when compared with similar students who do not receive tutoring (p. 3).

Tutoring continues to be an essential instructional strategy especially for use with students deemed at-risk (Rheinheimer, Grace-Odeleye, Francois, & Kusorgbor, 2010). Research by the Mid-continent Research for Education and Learning (McREL) Corporation, on effective strategies that work with at-risk and low achieving students, synthesized twenty-three studies and found tutoring to be an effective approach with at-risk students especially in early literacy (Snow, 2003).

Tutoring was identified as a key component to improve reading achievement for adolescents. *Reading Next*: *A Vision for Action and Research in Middle and High School Literacy* (Biancarosa, & Snow, 2006) recommended fifteen components to improved reading achievement, in an effort to meet the needs of the "eight million young people between fourth and twelfth grade [who] struggle to read at grade level... (and the) 70 percent of older readers [who] require some form of remediation" (p. 3). Tutoring was one of the key researched-based components identified in this report to improve reading achievement, but while this report focused on adolescents, tutoring has been shown to be effective for all ages of at-risk students (Bender, Giovanis, & Mazzoni, 1994; Center for Prevention Research and Development, 2009; Invernizzi, Rosemary, Juel, & Richards, 1997; Juel, 1991; Morris, 2006; Osborn et al, 2007; Rheinheimer, Grace-Odeleye,

Francois, & Kusorgbor, 2010; Rimm-Kaufman, Kagan, & Byers, 1999; Snow, 2003).

Brief History of Tutoring

In a "History of Tutoring in the United States" (Andrews, n.d.) tutoring was described as "an age-old practice dating back to the days of hunting and gathering, tutoring has [now] become an ingrained part of our society and culture" (para. 1) and listed the first known recorded instance of tutoring as being when the 13-year old Alexander the Great was tutored by Aristotle in 343 B.C. Others credit Aristotle's teacher, Socrates (470-399 B.C.), and his "Socratic Method" of guided questioning to help students arrive at truth, as being the earliest example of tutoring (Lasiewicz, 2008). Wagner (1982) writes that the Romans adopted the Greek model of education often using Greek slaves as tutor. During the Middle Ages tutoring was used as the primary instructional strategy for royalty and was used quite extensively in the early European colleges. Lasiewicz (2008) suggested though common people typically received no formal education that their education primarily involved tutoring.

> Children from less wealthy families often became apprentices to learn a craft or skill from a master, another one-to-one form of teaching. Even to become a knight, a young man had to first serve as a squire so that he might learn his craft from the expert he served (para. 1).

In the 18th century one of the first recorded instances of peer tutoring was found, based off the experiences in 1797 of the Reverend Dr. Andrew Bell while in India working with children of illegitimate or orphaned British soldier and native women. Bell (1803) described how "each class is paired off into Tutors and Pupils. Thus, in a class of twelve boys, the six superior tutor the six inferior" (p. 10). His method became known as

the "Madras System" and was also called the "Monitorial System," "Mutual Instruction" or as the "Bell-Lancaster method." A man named Joseph Lancaster in 1801 independently developed a similar system to Bell's, but Lancaster developed his method as an education system for the poor (Dabkowki, 2000). In the 18th century, in the United States, tutoring varied depending on whether you lived in the North or the South. Andrews (n.d.) noted,

> At the end of the 18th century, particularly within the North during the colonial
> era, academic institutions offering a similar setting to that of private schools
> (classes rather than one-on-one tutors) came to be more popular than individual
> tutors (para. 7) ... Southern families as compared with Northerners, demonstrated
> a greater reliance upon tutors. The reason for this was that the South was
> undergoing a time of plantation living. Thus, the area was more spread out and
> more difficult to establish collective school facilities" (para. 10).

Tutoring in the 19th and 20th centuries took a backseat, largely ignored during the major education reforms of the Common School Movement and subsequent reform movements. "The schooling bias against tutoring has historic roots. The rise of the common school replaced tutoring in the home as the basis of American literacy. The use of a tutor is [was] a step backward" (Gordon, 2004, p. 3). But this bias rapidly changed in the twenty-first century with the passing of the No Child Left Behind (NCLB) Act of 2001.

> The role of the tutor and tutoring has been given new prominence by the No Child
> Left Behind (NCLB) Act of 2001. The proposed use of 'supplemental services'
> has increased the interest level in tutoring on the part of both schools and parents

(Gordon, 2004, p. 1).

The Private Tutoring Business

One of the many mandates of the NCLB was the requirement to provide supplemental educational services, such as tutoring, to students from low-income families in Title I schools, when their school failed to meet state standards for at least three years. A *New York Times* news article reported, this led private companies to start tutoring services to compete for the federal dollars in the estimated "$2 billion-plus tutoring market" (Dillon, 2004, para. 4). The estimates in 2011 for "supplemental education" services were $5 billion dollars (Sullivan, 2011) for the United States, with the price tag globally estimated at $54 billion (Global Industry Analysts, 2011). "The global private tutoring market is projected to surpass $152 billion by the year 2015, driven by the growing desire of parents to secure children's future through supplementary education" (PRWeb, 2010, para. 1).

Money like this has lead to fraud, waste and abuse according to the Star Tribune, which ran an article headlined, "Fraud, mismanagement hijack federal tutoring program" (Meitrodt & Burnette, 2012, para. 1). This report documented private tutoring companies that were incompetent, with unskilled and poorly trained staff, sometimes with online tutors located in foreign countries. Thousands of cases were discovered of students dropping the tutoring program without completing the program, sometimes without completing a single lesson, while the city was billed for the services that were never rendered. Students waited as long as six months for their first tutoring session, received tutoring at the wrong grade level and for the wrong course, and tended to repeat course work they have already mastered. Frustration over this kind of wide-spread abuse with

private tutoring companies has caused leading educational researchers like Diane Ravitch (2012) to write,

> An exposé in the Minneapolis Star-Tribune uncovered fraud, waste, and incompetence in the federal program for tutoring called Supplementary Educational Services. This program is part of No Child Left Behind, and it created the equivalent of a voucher program for after- school tutoring. Instead of encouraging schools to provide trained and certified teachers for the extra tutoring that low-performing students need, NCLB inspired the creation of a tutoring 'industry'…why do we keep wasting money on private vendors instead of providing our public schools with the resources they need to give students intensive tutoring? At least, we would have the assurance that the services were supplied by certified teachers rather than profit-seeking amateurs (para. 1).

The *New York Times* (Dillion, 2004) detailed further problems associated with tutoring conducted by private companies. Additional problems detailed in the article included the tremendous administrative burden on a school district to oversee the programs. Tutors were unable to hold the students' interest, to control student's behavior, attendance. The requirement to withhold twenty percent of Title I funds diverted money from the schools already struggling and in the greatest need of help was just another distraction to success. The *New York Times* reported that some school districts were even being faced with the difficulty decision of having to lose teachers to gain the tutors required by the federal mandates. While tutoring by private companies is a growing trend, this kind of tutoring with poorly trained, unprepared tutors has lead one researcher to write

Just as novice soldiers without combat experience can be overwhelmed in the streets of a foreign country, the novice tutors face a similar task when confronting unruly students forced into an after-school curriculum. As a result, the tutoring ranks quickly thin and classes see a parade of different faces (Trelease, 2007, para. 13).

This seems to contradict statements by leading education researchers like Slavin (2006), "one-to-one, adult-to-child tutoring is one of the most effective instructional strategies known, and it essentially solves the problem of appropriate levels of instruction" (p. 290). Instead of contradicting Slavin, these reports provide evidence that not all tutoring is equally effective, and private tutoring seems especially inefficient and ineffective. The key to the tutoring dilemma lies in a 2001 report issued by the U.S. Department of Education. "Research has consistently shown that *well-designed* [emphasis added] tutoring programs ... can be effective" (p. 3).

Effectiveness of Tutoring

Gordon (2004) wrote in *The State of Tutoring in America: Changing the Culture about Tutoring*, "tutors can be effective regardless of their training and education by just giving students more personal attention" (p. 6). Other research supported this claim. In a 1982 meta-analysis of 65 research studies by Cohen, Kulik, and Kulik found that in seven out of nine studies that reported on student self-esteem, students being tutored had a more favorable self-concept about themselves, and eight studies that reported on students attitude found students being tutored had increased positive attitudes towards the subject in which they received tutoring. Bloom (1984) analyzed studies by two graduate students who looked at student learning under three conditions (a) a conventional classroom, (b)

Mastery Learning: Where student are given the conventional classroom instruction but given feedback, corrective procedures, and formative assessment in a cycle until students have mastered the subject matter, and (c) tutoring (one-to-one or small group). Instruction was given over a three-week time frame and consisted of 11 periods of instruction "with four different samples of students at grades four, five, and eight and with two different subject matters (p. 4). Bloom found that student's attitude and interest were most positive with tutoring out of the three conditions of instruction and that student's time on task was 90+% with tutoring (Master Learning was at 75% time on task and conventional instruction was at 65% time on task). Bloom found

> The average student under tutoring was about two standard deviations above the average of the control class (the average tutored student was above 98% of the students in the control class)…90% of the tutored students and 70% of the mastery learning students attained the level of summative achievement reached by only the highest 20% of the students under conventional instructional conditions (p. 4).

Tutoring increased student achievement. A meta-analysis by Rosenshine and Furst (1969) reviewed 13 research studies that focused on student achievement and found "six studies were presented in which posttest achievement scores for tutored pupils were found to be, in statistical terms, significantly superior to scores of control groups" (p. 22). Another study, with no control group, showed "reasonable progress" in reading. Another meta-analysis by Cohen, Kulik, and Kulik (1982) focused on the educational outcomes of tutoring. In 45 of the 52 studies evaluated, students who received tutoring had higher achievement scores on either a locally developed or a standardized evaluation, than

students who received no tutoring and received only conventional classroom instruction. In 1990 the US Department of Education established a grant-funding program (one-year grants) for tutoring and mentoring projects to improve academic achievement for school districts in urban and rural communities. Pringle, Anderson, Rubenstein, & Russo (1993) assessed the effectiveness of this program and evaluated 13 of the 31 programs and found tutoring "can positively affect the academic achievement (as evidenced by improvements in test scores, grade point averages, and course pass rates) and social integration (as evidenced by improved attendance and student testimonials about their attitudes towards school) of program participants" (p. 5).

The effectiveness of tutoring on student achievement is enhanced with greater participation. Bender, Giovanis, and Mazzoni (1994) reported on the results of an after-school tutoring program for at-risk middle school students. Tutoring was conducted using small groups. The first year one tutor worked with four or five students, during the second and third years tutors worked with one to two students. "The [end of] quarter grades of language arts, mathematics, social studies and science were averaged together for the first and second quarter" (p. 10) to establish the baseline grade average for each student. These were then compared to the grade average for the second half of the school year (third and fourth quarters averaged together). They found students with a high level of participation (students who attended at least one time a week) had a significant increase in grades over the academic year; students with mid-range of attendance (8-15 sessions) had grade averages that remained stable. Students with low participation and students in the control group (non-participants) experience a significant decline in grades. Result remained consistent in year two and three in those students with high participation

experiencing significant gains, those with moderate participation remained stable and those that did not participate or had low participation significantly declined. Springer, Pepper, Ghosh-Dastidar, and Urban (2009) reported success with significant increases in student achievement reported when students had consistently high levels of participation in the tutoring program. Springer et al. found a significant positive effect in math test score gains for students who participated regularly in tutoring session (99% of the tutoring sessions) during a one school year period (the study reported students rarely attended the Special Educational Services [SES] tutoring for more than one year). Positive but not statistically significant gains were reported in reading for a high level of participation. The study looked at the SES, or free tutoring, mandated by NCLB to low-income students in underperforming schools. "SES are provided through a variety of entities including for-profit, non-profit, local community, school district, and college and university tutoring programs" (p. 2). Springer et al. looked at longitudinal data over a five year period from school year 2003-2004 to school year 2007-2008. "In total, our sample includes approximately 143,801 continuously enrolled student-year observations in mathematics and reading nested in 121 elementary and middle schools" (p. 18).

Hock, Pulvers, Deshler and Schumaker (2001) found after-school tutoring to be effective in raising junior high school students mathematics quiz and test scores and "four of the six students maintained their performance 4 to 5 weeks after strategic tutoring support ended" (p. 183). Participants had failed two or more academic subjects and were already enrolled in an after-school program that "could best be described as assignment-assisted tutoring…that is, students received help from tutors in completing homework assignments" (p. 175). Students' attended tutoring sessions two to three times a week for

30 minutes, for four to twelve weeks. A strategic tutoring model was implemented where students were assessed to determine the individual student's difficulties and then an individual remediation plan was developed to target those specific difficulties. Two studies that looked at this revised after-school program found three students being tutored in one study and six students in the other study (different students participated in the two studies, a student was not allowed to participate in both studies) increased at least one letter grade in the tutored subject. Students had earned D's and F's for semester in the baseline semester, and at the beginning of the semester being tutored. Hock et al. found, at the end of semester grades, all but one student received a grade of a C or a B (the one student who did not attain a C had additional problems such as low attendance, missing test and quiz scores and low homework grades). A study by Rothman and Henderson (2011) examined the effect of tutoring on standardized math and language arts test scores of borderline students and found tutoring raised standardized test scores. Borderline students were defined in the study as "students who had scored in the *near-passing* [emphasis added by the study authors] range on either the language arts or mathematics aspect of a standardized test at the end of seventh grade" (p. 1). One hundred and two, eighth grade students received tutoring in either math or language arts (one or the other but not both). Participants consisted of 23 students in the language arts tutoring group, 20 students were tutored in math and 37 borderline students were randomly to serve as the control group. The study provided 48-hours of after school tutoring between October and March. Tutoring was conducted in small groups with one math or reading teacher for every four students, and students received a different curriculum than what was taught during the normal school day. "Students who were tutored in language arts significantly

outperformed the control group on the language arts section … (and) students who were tutored in math outperformed the control group on the math section" (p. 6) of their standardized math and language arts test.

Not only has tutoring been found to be effective in more traditional subjects like reading and math, but Heron, Welsch and Goddard (2003) reported tutoring had positive student achievement in specialized curriculum subjects such as music, health and safety and horticulture. Heron, Villareal, Yao, Christianson, and Heron (2006) reported academic achievement in tutoring programs working with students with disabilities. While tutoring has been shown to be effective across the curriculum, a significant portion of that research conducted to date has focused on the positive effects of tutoring on reading skills and achievement.

Tutoring and Reading

According to Lyon (1998), the lead author of the Reading First sub-element of NCLB (section 1201-1251), the research base of NCLB suggested all that was needed to improve a student's reading score was better instruction by the classroom teacher. During congressional testimony Lyon made the claim that "for 90% to 95% of poor readers, prevention and early intervention programs that combine instruction in phoneme awareness, phonics, fluency development, and reading comprehension strategies, provided by well trained teachers, can increase reading skills to average reading levels" (Lyon, 1998, p. 7). Allington, a leading reading researcher, and past president of the International Reading Association, vehemently disagreed. Allington examined the two studies cited in Lyon's testimony and found the results "misrepresented and exaggerated what the research shows about effective classroom reading instruction and early reading

interventions" (Allington, 2004, p. 22). Allington's examination of the two studies cited by Lyon (Torgesen, Wagner, & Rashotte, 1997; Vellutino et al. 1996) led him to conclude these two studies in particular, and in all subsequent research found on the subject, came no where close to supporting these claims. "There is no evidence that classroom instruction of any sort can come close to meeting the needs of the readers who struggle the most. Research *does* show [emphasis by Allington] that expert individual tutoring produces on-level reading achievement with many struggling readers" (p. 22).

A study by Wasik and Slavin (1993) reviewed 16 different studies of one-to-one using one of five different reading tutoring programs: (a) Reading Recovery, (b) Success for All, (c) Prevention of Learning Disabilities, (d) the Wallach Tutoring Program, (e) and the Programmed Tutorial Reading. The researchers used a combination technique that blended the traditional narrative reviews with elements of a meta-analysis called a best-evidence synthesis. They discussed all the methodological issues in a narrative review and then the studies outcomes were analyzed. The criteria for inclusion into the study was: (a) one-to-on instruction from a certified teachers, adult volunteer or paraprofessional, (b) the studies lasted at least four weeks and compared tutoring to traditional instruction in first grade, (c) and measured using experimental and control conditions. The results found one-to-one tutoring to be an effective strategy with "substantially positive [results] in nearly every case" (p. 196) for all five tutoring models.

A meta-analysis by Elbaum, Vaughn, Hughes, and Moody (2000) determined the effectiveness of one-on-one tutoring interventions given by adults to elementary students with low reading skills. Elbaum, et al. reported on 42 samples of students, in 29 different studies, with a total of 1,539 student observations. Students increased achievement

corresponding to a move from the 50th percentile to the 65th percentile after receiving one-to-one instruction when measured using a standardized test measurement. The authors interpreted this move as significant enough to avoid academic failure but not significant enough raise performance to within grade level expectations for reading or to eliminate the need for further intervention. The greatest benefits were found when trained volunteer tutors worked under the supervision of a qualified teacher or reading specialist and were either college students or "reliable community volunteers" (a term not defined in the study). The study also reported that small group instruction (defined as groups of 2 to 5 students) resulted in the same effect as one-on-one instruction. The study reported that students in the *Reading Recovery* intervention program performed similarly to students receiving one-to-one instruction that used programs other than *Reading Recovery*. The effectiveness of interventions based on a standardized test verses a researcher constructed measurement had results that were statistically unreliable.

The purpose of a study by Morris (2006) was to determine if community volunteers or paraprofessionals (noncertified tutors) were effective in improving low reading scores for elementary grade students. The author cited research by Allington (2002) that questioned the effectiveness of noncertified tutors beyond providing the students with extended reading and writing practice and which also concluded that noncertified tutors were not able to produce substantial growth in reading skills with elementary school at-risk readers. Morris (2006) disputed these claims and stated Allington based his conclusions on questionable and limited evidence and looked at five tutoring studies using noncertified volunteers of paraprofessional to dispute Allington's

findings. The Morris study summarized data on five tutoring programs that had the following similar components:

(1) engaging reading materials that are carefully graded in difficulty, (2) a sequenced word study or phonics curriculum, (3) regularly scheduled tutoring sessions (at least two sessions per week), (4) a committed group of noncertified tutors (paraprofessionals or community volunteers), and (5) a knowledgeable reading teacher who provides ongoing supervision to the tutors (p. 352).

Morris averaged the effect size and found that tutored students outperformed the control groups in all areas of comparisons. Based on his averaging of the test score, students who were tutored by noncertified tutors outperformed comparison groups by close to one standard deviation in the three reading categories of comprehension, word recognition and passage reading.

Osborn, et al. (2007) evaluated the effects of the HOSTS (Help One Student To Succeed) and Reading-Tutors programs, on student achievement of students with reading disabilities. The two programs were used to supplement the regular classroom reading instruction and were administered over the course of one school year. Both reading intervention programs focused on one-to-one tutoring, diagnostic reading assessment, and individualization that targets a student's specific reading difficulties (identified through the diagnostic assessments) and were the key components of Project MORE (Mentoring in Ohio for Reading Excellence). The HOSTS program used a combination of guided reading instruction using leveled texts, word recognition (fluency and comprehension), vocabulary development and specific reading skill development. The Reading-Tutor program supplied on-line "developmentally appropriate resources for instruction and

provide[s] opportunities for repeated practice" (p. 470). Students with reading disabilities were defined in this study as receiving Title I services, had State assessed reading scores in the lower one-third, and had been classified as having either cognitive disabilities (CD) or as having a specific learning disability (SLD). The study defined CD students as having "demonstrated significantly subaverage [sic] general intellectual functioning (i.e., IQ of 70 or below), existing concurrently with two or more deficits in adaptive behavior manifested during the developmental period, that adversely affected [the] student's educational performance" (p. 469). The study defined students with a SLD as having "demonstrated achievement not commensurate with his or her age and ability levels or the IEP team found that a student evinced a severe discrepancy between achievement and intellectual ability" (p. 469). Each tutee had 30-minutes sessions, three to four times a week, with a variety of tutors (the study felt this had benefits a different tutor brought various and differing experiences). Tutors were volunteers solicited by the school from the community and included some high school students. Prior to working with a tutee, tutors underwent a two-hour training session and received additional guidance and feedback on a consistent basis from the program coordinator. The program coordinator developed the individualized lesson plans tailored specifically to target the tutees reading needs, which the mentors then conducted. Two standardized reading assessments were used for the pretest and posttest, the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) and the Woodcock-Johnson III Reading Achievement Battery. A total of 43 elementary schools were Project MORE schools and 21 schools were used in the comparison group. Schools in the comparison group did not provide any sort of one-to-one tutoring in reading. "A total of 86 Project MORE 2nd grade students and 130

comparison 2nd grade students who were receiving Title I services participated in the study" (p. 469). The study reported three significant results: (a) reading gain for students involved in the Project MORE averaged out to more that a one-month gain for every month the tutee was involved in one of the tutoring programs. The study place special emphasis on this point "because students with Specific Learning Disabilities, students with Cognitive Disabilities, and students in Title I reading typically make achievement gains at a rate well below the average of their normally achieving peers" (p. 473) although no research was cited to support this claim; (b) project MORE students showed a statistically significant increase in post-test reading achievement scores as compared to the comparison group. "In 6 out of the 9 group mean comparisons, Project MORE students statistically significantly outperformed comparison students. Thus, over 66% of comparisons favored Project MORE students to a significant degree" (p. 473), and (c) the study did not find a single group mean comparison where the control group outperformed the Project MORE students and found only one comparison that was not statistically significant.

Burns, Senesac, and Silberglitt (2008) studied the long-term effectiveness of the HOSTS (Help One Student To Succeed) volunteer tutoring program in improving reading comprehension and reading fluency. The 100 students that made up the population for this study were drawn from ten public elementary schools and were in the first through sixth grade, and had participated in a previous study several years earlier, designed to gauge the effectiveness of the HOSTS program with at-risk students conducted by Burns, Senesac, and Symington (2004). The schools involved in the original study were five schools that had participated in the HOSTS program during the 2001-2002 school year,

and had been randomly selected. Students in the control group were selected from five schools that had not participated in the HOSTS program but were similar to the HOSTS schools in "total student enrollment, percentage of students receiving free or reduced lunch (FRL), average student to teacher ratio (STR), and percentage of students who scored in the proficient range on the fourth-grade tests of the state's accountability testing" (p. 30). For this study, the same ten schools located students from the previous study (Burns et al., 2004). Students who had moved or had advanced to a grade not included in the school were excluded. This study was able to locate and receive the required permission from 47 students from the previous study who had participated in the HOSTS program and 53 who had not participated in the HOSTS program but had been part of the previous study's control group, or 34% of the students involved in the previous study. It was also noted that none of the schools used as a control group school had implemented the HOSTS or other volunteer based tutoring program in the ensuing time. For both studies (Burns, et al., 2008; Burns, et al., 2004) the Gray Oral Reading Test (4th ed.) (Wiederholt & Bryant, 2001) was used as the test instrument for both reading fluency and reading comprehension. The study concluded that, two years after the initial findings, at-risk students involved in the HOSTS tutoring program "demonstrated higher fluency, comprehension, and reading progress" (Burns et al., 2008, p. 34) than the at-risk students who had not participated in the HOSTS tutoring program. The students who participated in the HOSTS tutoring program did so only for the 2001-2002 school year and did not participate any additional years. The study also identified

A standardized norm-referenced score that remains somewhat constant [which] suggests that the students progressed at a rate that was consistent with the

expected growth rate of the norm group, whereas the gap in reading skills between children in the control group and the norm group widened (p. 35).

A meta-analysis of 21 studies by Ritter, Barnett, Denny, & Albin (2009) found volunteer tutors had a positive impact on student performance in reading. "Students who work with volunteer tutors are likely to earn higher scores on assessments related to letters and words, oral fluency, and writing as compared to their peers who are not tutored" (p. 31).

Tutoring With Pre-Service Teachers

Jones, Stallings, and Malone (2004) found positive gains in fourth and fifth grade reading scores in a study to determine the effectiveness of a tutoring program using pre-service teachers. The participants for the study were fourth and fifth grade students from four urban North Carolina elementary schools with a high population of at-risk students. Schools used in the study were classified by the state as "near low-performing based on the end-of-grade tests that are part of the statewide accountability program" (p. 102). Random selection of participants was not possible due to school policy that "required some discretion in selecting students who received the service" (p. 103). The study attempted to work with the same students for a full two-year period [four semesters], from the fall semester of the fourth grade until the end of the spring semester of the fifth grade, but reported that only 19 students were involved in the program for a full two years, with an even smaller number that participated for four full semesters. Reasons cited in the study were the 'students' families moving and extremely poor school attendance" (p. 103). The smaller number of four semester students was not provided by the authors. Participants were evaluated using the state's four level proficiency scale

(with 4 being the highest, and 3 or 4's are a passing score) using the End of Grade

(EOG) level tests from the previous school year. The population was drawn from the

lower two levels, with level 2 students preferred because pre-service teachers (college

students) did not have enough training to "be expected to provide the support and

coaching necessary to benefit the lowest-scoring students as effectively as professional

educators could" (p. 103). The authors of the study did not provide a break down of the

number of level 2 and level 1 participants. Teachers selecting the participants were asked

not to select students who were already receiving additional educational services outside

of the regular classroom setting, in an attempt to isolate the effect of the tutoring program

on the students' achievement. The tutoring program was written by professional

elementary school educators and reading specialist designed specifically for at risk

students in the fourth and fifth grade. The program included lessons in math and reading

and the undergraduates tutored both subjects. Tutors were all undergraduates enrolled in

a university teaching certification program. The tutors worked with the same participant

student for an entire semester and visited the school twice a week, with tutoring sessions

lasting from 30 to 45 minutes in length. Tutors were provided with training, with site-

based assistance, and as specified above, used a standardized program created for at-risk

students. Individual diagnostic information was provided on each participating student

and tutors selected lessons based on specific skills the participating student needed to

work on (with input from the classroom teacher or received site-based assistance if the

classroom teacher was unavailable). To provide consistency for the tutors and to ensure

critical elements of instruction were covered during the lesson, guidelines discussed in an

article by Wasik (1997) on the essential components of a volunteer tutoring program

were followed (e.g. ongoing training and feedback for the tutors, structured tutoring sessions, ongoing assessment of participating students, etc.). Test scores in math and reading were compared between scores of non-tutored students (labeled by the authors as the comparison group) and students who had been tutored for a full school year (two semesters). The comparison group students were chosen "independently" from the same and were "paired with tutored children based on ethnicity, gender, grade, and EOG test scores from the school year before tutoring" (p. 107). The End of Grade (EOG) tests are administered annually to students in the third to eighth grades a few weeks before school ends. The study measured the differences in score growth between the control (comparison) group and the experimental group (tutored students) in order to estimate the amount of the growth the students gained from being tutored, compared to the regular classroom instruction (in the control or comparison group). The analysis of the comparisons of the data found only two groups with any statistical significance, being the 1998-99 fifth grade reading control/comparison group and the 1999-2000 fourth grade reading group. However because of the small size of these two groups (n= 4 and n= 12) the authors' conclude the numbers are just too low "to assume any actual programmatic deficiencies or successes with confidence" (p. 110).

A dissertation by Lipsey (2009) studied the effectiveness of an early reading intervention program with at-risk students using minimally trained undergraduate and graduate level college students (pre-service and in-service students enrolled in an education degree method's course at a university). The program was labeled as an early reading intervention program because it did not try to correct student's identified reading difficulties, but rather to prevent reading difficulties from occurring in children that were

identified as at-risk (intervention not remediation). In other words, this program was designed to give students a "double dose" of reading instruction (p. 4) to keep students from falling behind. Participating students were selected from a public school that had 100% of children classified as economically disadvantaged (qualifying for free or reduced lunch), that in 2006 and 2007 failed to meet the required annual progress outlined in the No Child Left Behind (NCLB) legislation and was classified a targeted school. Tutors worked with each participating student (kindergarten through the fourth grade) for a minimum of eight weeks and the selected participants were "students who were reading one to two book levels below the school district's beginning-of-the-year benchmark" (p. 53). Tutoring sessions were conducted twice weekly, lasted for 30 minutes, and used research-based interventions individualized for each participating student and based on the individual participants identified (by the tutor) areas for improvement. Lipsey's results indicated positive results for a tutoring intervention program and students who participate in a minimum of 30 lessons or more had the most significant gains

Summary

The research presented indicated a significant impact on student achievement and especially on reading achievement (Burns, et al., 2004; Burns, et al., 2008; Lipsey, 2009; Morris, 2006; Osborn, et al., 2007; Wasik & Slavin, 1993) and fully supported Slavin's (2006) claim that "one-to one adult-to-child tutoring is one of the most effective instructional strategies known, and it essentially solves the problem of appropriate levels of instruction" (p. 290). Some studies indicated inconclusive gains (Allington, 2002; Jones, et al., 2004; Munoz et al., 2008; Springer et al., 2009) or small gains (Elbaum et

al., 2000) in student achievement, but no study found that tutoring harmed or showed evidence of a decrease in student achievement. This review of literature indicated significant positive gain and agrees with the conclusion by Elbaum et al. (2000),

> One-to-one instruction, provided as a supplement to classroom teaching, is generally considered to be the most effective way of increasing students' achievement. The effectiveness of one-to-one instruction has been validated by empirical research, especially for students who are considered at risk for school failure or have been identified as having reading or learning disabilities (Bloom, 1984; Jenkins, Mayhall, Peschka, & Jenkins, 1974; Juel, 1991; Wasik & Slavin, 1993) (p. 605).

Chapter III

METHODOLOGY

Restated Purpose

The purpose of this study was to determine if participating students from a high poverty school with reading difficulties showed an improvement in their reading/language arts Tennessee Comprehensive Assessment Program (TCAP) scores after being tutored. This study attempted to answer the overarching question, is one-to-one, strategic tutoring an effective strategy for reaching at-risk students.

Null Hypotheses

There will be no statistically significant difference between students who are tutored in reading compared to students who have received no reading tutoring on TCAP reading/language arts achievement test scores.

Research Design

This study used a quantitative, non-experimental, causal-comparative research design using archival TCAP data. The causal-comparative design was chosen because it best fit the studies focus on the difference between two groups, in this case the differences between the group who received individual tutoring and the group that received only classroom instruction. The independent variable was the weekly tutoring by pre-service teachers and the dependent variable was the students' reading/language arts performance on the Tennessee Comprehensive Assessment Program (TCAP) state mandated achievement assessment. Individuals in a causal-comparative research study are not randomly assigned to a treatment group because they are already in an established group, in this case a groups of students selected by school administrative officials to

receiving individual tutoring. These groups were already formed for the pre-service teachers to work with, were not influenced or formed based on any input of the researcher, pre-service teachers, or the College of Education. The grouping variables (socio-economic status and grade level), and the organismic variables, (age, gender, and ethnicity) could not be manipulated making the causal-comparative research ideal for this research study.

Participants

The participants for this study consisted of students at a public elementary school in a city in the southern United States. Census figures for 2010 placed the population of the city at 132,929 (United States Census Bureau, 2012). In the 2011-2012 school year the total school enrollment was 630 students in pre-Kindergarten to fifth grade with 38% of the student population Black, 42% of the students White, and 16% of the students Hispanic ("Demographic information," 2012). Only students in third grade through fifth grade take the state mandated TCAP achievement test. The school had a high population of at-risk students enrolled and was classified as a high poverty school. The National Center for Educational Statistics (NCES, 2012) defines a public school in high poverty as having 76% or more of students eligible for the free or reduced-price lunch (FRPL) program. According to the National Center for Educational Statistics (n.d.) during the 2010-2011 school year 80% of the students in attendance at this school were eligible for the FRPL program. The participating students were all classified as being at least one grade level behind in reading/language arts based on TCAP and benchmark testing, were considered at-risk for school failure, and had a low socioeconomic status as identified by the school district administration. Students were selected by the school principal and

classroom teachers, were paired with pre-service teachers and received weekly, one-hour

tutoring sessions in reading/language arts. The control group population and the

experimental group were matched but due to the small sample size generalizations will be

confined to students who have the same low reading achievement profile; and are

similarly matched by race, gender and socioeconomic status. Table 1 summarizes the

population demographics.

Table 1
Study Population Demographics

n = 44	Male	Female	Free or reduced lunch	No free or reduced lunch
Black	16	10	24	2
White	6	2	6	2
Hispanic	8	2	10	0
Totals	30	14	40	4

Strategic Tutoring Implementation

Undergraduate students in a readings method course conducted the strategic

tutoring over the course of a 16-week semester. The first two weeks the undergraduate

students were involved with course work at the university which involved training on

how to conduct an interest inventory, how to conduct and interpret results from an

informal reading inventory, and research based best practices for reading intervention.

During the third week the undergraduate students met the elementary school student they

tutored for the first time, selected by the school principal and classroom teachers, and

transitioned to a typical week, which became two hours of course work at the university

and one hour tutoring at the elementary school. In the ensuing weeks the undergraduate

students worked with their elementary school students using a remediation plan they developed, using research-based practices, approved and supervised by university faculty members. Tutoring sessions encountered additional limitations of spring and fall breaks, mandatory benchmark and high stakes testing, teacher in-service training, mandatory school activities, and a final session devoted to informal assessments of student reading interest and reading progress. Undergraduate students typically conducted ten, one-hour sessions of tutoring with each student in the semester. The elementary students that were tutored had only one semester of tutoring, as there were no instances of a tutored student carrying over from one semester to the next.

Instrumentation

The instrument used was the Tennessee Comprehensive Assessment Program (TCAP). This is the state mandated, criterion-referenced, achievement test for the state of Tennessee and is given annually every spring to students in the third through eighth grade. The assessment is timed, multiple choice and covers the content curriculum in the areas of reading, language arts, social studies, science, and mathematics (Tennessee Department of Education, n.d.). The purpose of the TCAP is to measure the academic skills and knowledge of a student against the criterion of the grade level curriculum standards established by the state of Tennessee. The TCAP was developed and published by Pearson's Educational Measurement group, which provides reports for parents, teachers and school administrators on a student's performance in different subcategories of content. This is based on the Reporting Category Performance Index (RCPI), which contains a numerical indicator that is an estimate of the number of items a student would be expected to answer correctly if there had been one hundred test items in that particular

category. A scale is provided to show a student's achievement level of: (a) below proficient, (b) proficient, or (c) advanced (Tennessee Department of Education, 2010).

Data Collection Procedures

Each participating student had two sets of TCAP reading/language arts test scores, TCAP reading/language arts test scores from the 2010-2011 school year, and TCAP reading/language arts test scores from the 2011-2012 school year. A student in the fourth grade had their third grade TCAP reading/language arts test scores and their current fourth grade TCAP reading/language arts test score. A student in the fifth grade had their fourth grade TCAP reading/language arts test score and their current fifth grade TCAP reading/language arts test scores.

A list of names of students who had received tutoring, and the individual student's grade level, gender, ethnicity and socioeconomic status, was given to school district personnel authorized to view individual student data to compile a database of pretest and posttest scores of the TCAP reading/language arts test scores.

School district administrative personnel authorized to view individual student data assigned students a control number and the students' names were removed so that a control number was the only reference to a student. A spreadsheet of TCAP test scores from school year 2010-2011 and school year 2011-2012 was compiled and given to the researcher without student names.

School district personnel authorized to view individual student data compiled a database of pretest and posttest scores for the TCAP reading/language arts test scores of students who had not received tutoring (control group). The control group TCAP scores were then matched by pre-test scores and grade level, and then by gender, ethnicity and

socioeconomic status to a student who had received tutoring. In the event pre-test scores were not exactly matched by pre-test scores then the next closest pre-test score was used that matched by grade level, gender, ethnicity and socioeconomic status. If a match between pre-test scores was outside a two-point variance the score was not used and the participant was eliminated from the study (this was planned for but not needed as all scores fell within the pre-described variance). School district administrative personnel authorized to view individual student data assigned this group of students a control number and the students' names were removed so that a control number was the only reference to a student. A spreadsheet of TCAP test scores from school year 2010-2011 and school year 2011-2012 was compiled and given to the researcher without student names.

No students were identified by name in any way and research was stored on a laptop inaccessible to any other person except the researcher.

Statistical Analysis

A t test was used to determine if there was a statistically significant difference between the TCAP reading/language art test scores of the group that had received the tutoring and the group that was not tutored. The null hypothesis was tested at a p value of .05. The Statistical Package for the Social Sciences (SPSS) software program was used to test for statistical significance.

Chapter IV

RESULTS

The purpose of this study was to determine if participating students from a high poverty school with reading difficulties showed an improvement in their reading/language arts Tennessee Comprehensive Assessment Program (TCAP) scores after being tutored. The paramount question of the study was to see if one-to-one, strategic tutoring was an effective strategy for reaching at-risk students. A review of literature indicated, "one-to-one, adult-to-child tutoring is one of the most effective instructional strategies known" (Slavin, 2006, p. 290) and had a significant impact on student achievement (Burns, et al., 2004; Burns, et al., 2008; Lipsey, 2009; Morris, 2006; Osborn, et al., 2007; Wasik & Slavin, 1993).

Data for this study was archival TCAP reading scores from the 2010-2011 school year (TCAP 2011), and TCAP reading scores from the 2011-2012 school year (TCAP 2012). The scores were analyzed to see if the null hypothesis was supported or rejected using the Statistical Package for the Social Sciences (SPSS) software program. The null hypotheses was there will be no statistically significant relationship in TCAP reading/language arts achievement test scores when students are tutored in reading compared to students who have received no reading tutoring. Table 2 shows the results of the paired samples t test used for non-independent samples where the null hypothesis failed to be rejected with $p = .309$ and $p = .145$ at the level of significance of $p = .05$. This means there was no statistically significant difference between students who were tutored in reading compared to students were not tutored on TCAP reading/language arts achievement test scores.

Table 2

Paired Samples *t* Test

n = 44	Paired Differences				
	M	*SD*	*t*	*df*	*p*
Tutored	-2.409	10.844	-1.042	21	.309
Non-Tutored	-2.500	7.738	-1.515	21	.145

Chapter V

SUMMARY, CONCLUSIONS, AND RECOMMENDATION

The finding of this study failed to reject the null hypothesis that there will be no statistically significant difference between students who are tutored in reading compared to students who received no reading tutoring on TCAP reading/language arts achievement test scores.

Summary

The significance of the problem is the most recent national reading scores for fourth grade showed no improvement and have remained unchanged since 2007, and the eighth grade reading scores have increase by a single point since 2009 (NCES, 2011). Employers report only 20% of their work force being able to read at the skill level required for their job and that reading and writing are the top deficiencies in those newly hired (National Endowment for the Arts, 2007). Seventy percent of adolescents struggle to read and poor reading skills are linked to "higher dropout rates, entrance into the juvenile justice system, and unemployment. Indeed, one-third of all juvenile offenders read below the fourth grade level and about two-thirds of prison inmates are high school dropouts" (NASBE, 2006, p. 4). These statistics are especially alarming for students who live in poverty because in fourth grade reading scores there is a 46% average variation between the test scores of students living in poverty and those who do not (NCES, 2011). Twenty-six percent of students who have not learned to read by the third grade and who have lived in poverty for at least a year fail to finish school. The highest poverty is found in the Black and Hispanic minority populations (DeNavas-Walt et al., 2011; Hernandez, 2011) with these two populations also having the lowest reading scores (Snow et al.,

1998). The percentage of Black students below the basic reading level was at 51%

(NCES, 2011) and Hispanic students are reading below grade level at a two to one

margin compared to every other ethnic group (Snow et al., 1998). In 2006, half of the

Black and Hispanic students were reading below the basic reading level in the eighth

grade (NASBE, 2006).

    Chapter two provided an in depth literature review that discussed the

effectiveness of tutoring, and how tutoring had a positive effect on student achievement.

A section of the literature review was devoted to how tutoring specifically increase

reading achievement. Chapter three provided information about the quantitative, causal-

comparative research design of the study using archival TCAP data. Information was

also provided in this chapter about the population of the study, which had 80% of the

students in attendance at this school eligible for the free or reduced-price lunch (FRPL)

program and a high minority student population.

Conclusion

    The purpose of this study was to determine if participating students from a high

poverty school with reading difficulties showed an improvement in their

reading/language arts Tennessee Comprehensive Assessment Program (TCAP) scores

after being tutored. This study wanted to answer the overarching question, is one-to-one,

strategic tutoring an effective strategy for reaching at-risk students. The results of this

study did not have sufficient data to reject the null and was not able prove or disprove

that strategic tutoring was an effective strategy for raising reading/language arts on the

Tennessee Comprehensive Assessment Program (TCAP). The overarching question, is

one-to-one, strategic tutoring an effective strategy for reaching at-risk students, also did

not have sufficient data to statistically answer the question. This study revealed a limitation to one-to-one strategic tutoring (10-hours of tutoring) that future studies will need to mitigate in an effort to show a statistically significant positive impact on at-risk students' reading TCAP scores.

Discussion

In the review of literature Bender, Giovanis, and Mazzoni (1994) found the students who attended once a week for an entire academic year (high attendance) were the only students who showed academic gains, and students who only attended only 8-15 sessions (mid-range of attendance) had grade averages that remained stable. Students with low attendance and those that did not participate (control group) had grade averages that showed a decrease. The study by Bender, Giovanis, and Mazzoni suggest the number of hours that the tutors spent with the elementary school students in this study (10-hours) would be a logical explanation for the lack of a statistically significance improvement on TCAP reading/language arts scores for the tutored students. The ten hours of strategic tutoring from this study compared to the 8-15 hours of tutoring from the Bender, Giovanis, and Mazzoni study, which showed academic achievement that remained stable for that many hours of tutoring. Springer, Pepper, Ghosh-Dastidar, and Urban (2009) reported a significant increase in achievement when students participated in 99% of the tutoring sessions over a one school year period. The study by Rothman and Henderson (2011) provided 48-hours of after school tutoring between October and March to show gains in student achievement.

Recommendation

A recommendation for further study is research to determine the amount of tutoring hours needed to see an improvement in reading achievement. Based on the study by Bender, Giovanis, and Mazzoni (1994) academic achievement remains stable with 8-15 hours of tutoring. The hypothesis of the study would be that it takes more than 15 hours of one-to-one strategic tutoring before any gain is observed in reading achievement.

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