An Examination of the Effectiveness of a Specific After-School Academic Intervention Program on the Success of At Risk Students

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AN EXAMINATION OF THE EFFECTIVENESS OF A SPECIFIC AFTER-SCHOOL ACADEMIC INTERVENTION PROGRAM ON THE SUCCESS OF AT-RISK STUDENTS

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ABSTRACT

As the result of the initiatives set forth in the No Child Left Behind Act, all students are being held accountable to make adequate yearly progress towards the goal that all students must be reading on grade level by 2014.

This study seeks to determine the effectiveness of an after-school academic intervention program on the achievement of thirty at-risk students in grades two, three, four, five, and six, as evidenced by their performance on the Terra Nova and New Jersey Assessment of Student Knowledge (NJ ASK). The study also sought teacher perceptions of the program's effectiveness.

Data was analyzed using both quantitative student assessment data and qualitative analysis of interviews of the four teachers in the program. Although no statistically significant differences were found between students who participated and students who did not participate in their performance on standardized assessments, differences did
exist. Additionally, the teacher interviews indicated improvements in student academic performance and self-esteem.
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CHAPTER I
Introduction

The No Child Left Behind (NCLB) Educational Act, signed into law by President George W. Bush, has set the stage for the most sweeping educational reforms of the last thirty years (Finn, 2004). This legislation seeks to present the most significant educational reform of the Elementary and Secondary Education Act (ESEA) since it was enacted in 1965.

The hallmark of the NCLB Act is its goal to improve the academic achievement of all American students, stipulating that all students should be proficient on state academic achievement standards and state academic assessments by 2014 (United States Department of Education [USDOE], 2001). Students who are not proficient on state academic standards are expected to make adequate yearly progress (AYP) toward the goal of being proficient (USDOE, 2001). The USDOE further states that students and schools that fail to meet adequate yearly progress toward being proficient are subject to sanctions instituted by the Federal government.
Although the majority of students may be able to achieve the NCLB Act’s goal of proficiency by 2014, the mandates outlined in the NCLB Act pose particular difficulty to the 25% of students educated in America who do not currently meet statewide proficiency benchmarks (Dickson & Bursuck, 1999). In addition to the potential sanctions outlined in the NCLB Act, these at-risk students face a bleak future if their skills are not remediated. Studies by Juel (1988) and Chard and Kameenui (2000) demonstrated that students who do not attain the basic skills needed to be successful in first grade continued to have poor basic skills in fourth grade.

These studies further indicated that these same poor performing students, are less likely to graduate from high school. Consequently, these students face the possibility of being under-educated, under-employed, and under-prepared to participate successfully in the 21st century (Hock, Deshler, & Sycamore, 2000).

Remediating at-risk students has become a pressing issue. The Education Commission of the States (2003) found “In today’s fast-paced technological society, higher literacy has become a near imperative and increasingly serious consequences await those children who fall behind” (p.1).
The mandates outlined in NCLB Act, along with the austere long-term implications of being an at-risk student, have made remediating the skills of at-risk students a new priority of educational policy developers.

The current mandates requiring all students to meet the government prescribed proficiency standards has led schools to look for innovative ways to help at-risk students meet the challenges of the NCLB Act. For many school administrators, innovation means looking towards after-school programs that have existed for years. The current focus of many after-school programs are to simply provide supervision for children whose parents were employed during the after-school hours (Shumow, 2001). Using recent research, educators have demonstrated the viability of these after-school programs, not only as a means of supervision, but also as a tool to improve the academic skills of at-risk students.

The viability of after-school programs for remediating the skills of at-risk students remains to be seen. Currently, only fourteen percent of primary grade children attend formal after-school programs. The vast majority of these after-school programs are not academic in nature (Brimhall, Reaney, & West, 1999). However, if successful in remediating at-risk students academic skills, after-school
programs may prove to be a viable option for assisting at-risk students to attain the goals outlined in the NCLB.

Background of the Problem

Accountability For All Students

Prior to the mandates in the NCLB Act, at-risk students were for many years discounted and forgotten; their achievements were rarely assessed or reported (Dickson & Burack, 1999). Recently, the academic success of at-risk students has garnered particular attention as the result of the newly enacted No Child Left Behind Act (NCLB), which states that by 2014 all students will be proficient on state academic achievement standards and state assessments (Education Commission of the States, 2003). As a result, many school districts have reevaluated the methods they use to remediate the skill levels of their at-risk students.

Using Extended Time to Remediate At-Risk Students

In addition to the methodologies used to teach at-risk students, time spent on the acquisition of skills is an area that many school districts across the nation are investigating. This concept is not new; Carroll (1963) noted a correlation between the time allocated to a
learning experience and the amount of learning that occurred.

Pikulski (1994) stated that extra time and pull-out programs can be effective in the acquisition of academic skills. Pikulski (1994) further suggested that children who experience difficulty in their academics should spend more time receiving instruction than children who do not experience difficulty.

Providing additional time during the school day is a daunting task given the current educational requirements mandated by state and federal governments. These mandates leave little time in a student's school day to receive additional assistance. With the hope of improving their skills, many districts are looking at after-school time to provide additional services to their at-risk students.

Additionally, the effective use of an at-risk student's after-school time has been the focus of many programs in the Title I section of the NCLB Act. The NCLB Act places new emphasis on the use of after-school time for improving academic achievement and stresses the evaluation of the effectiveness of these programs (Lauer, Akiba, Wilkerson, Apthorp, Snow, & Martin-Glenn, 2004).

Research has demonstrated that using after-school time can prove to be a viable option for remediating the skills...
of at-risk students. Deich, Wegener, and Wright (2002) found that quality after-school programs contribute to increases in academic achievement, particularly among low-income students.

Kane’s (2004) research found evidence suggesting that after-school programs promote greater student engagement, greater student commitment to homework, and greater parental involvement in school. Halpern (2003) recognized that academic failure has complex causes; the main cause is thought to be the lack of time during the school day for mastering basic skills.

Extending education outside the school day seems promising; however, there are some caveats to this concept. Halpern (2003) raises concern for the students emotional well-being. Halpren (2003) cautions schools regarding their impingement on American children’s after-school time stating: “Looking at a student’s out-of-school time is a result of America’s preoccupation with efficient and productive use of time that defines adult life...Students need down time” (p.8) he adds.

Funding After-School Programs

In January 2004, Congress authorized nearly $1 billion for the 21st Century Community Learning Centers Program
Currently, the CCLC supports some 1.3 million students in 6,800 public after-school programs across the country (Black, 2004). The recent authorization of funds represents a dramatic growth in Federal funding for after-school programs over the last half-decade. In fact, Federal funding for the 21st CCLC program grew from $40 million in 1998 to the almost $1 billion allocated in 2004 (Kane, 2004).

In addition to the nearly $1 billion dollars in CCLC funding for after-school programs, the majority of Title I funds are used by school districts to support after-school programs (United States General Accounting Office, 2000). The substantial increase in Federal funding and a new focus on test-based accountability has moved after-school programs from the periphery to the center of national education policy debates (Kane, 2004).

The Need for After-School Intervention

The current school day programs that have been utilized by schools to remediate our at-risk students have struggled with success. As a result, 25% of American students are unable to meet the criteria outlined in the No Child Left Behind Act. If at-risk students are to be given a chance for success, innovative programs which address
students' after-school time must be developed. The National Dropout Prevention Center (NDPC) and several other studies have found that after-school opportunities have had positive effects on academic success and social behavior of at-risk students. According to the NDPC, after-school programs might be the only opportunity for at-risk students to have quality academic support.

Statement of the Problem

The NCLB Act has had a profound impact on educational policy and the processes by which academic instruction is delivered in the United States. By 2014, the state in which the child resides, the school district the child attends, the educational staff of the child's school, and the school policy makers will face sanctions for students who are not proficient on standardized assessments (United States Department of Education, 2001).

These Federal mandates pose a complex challenge for students identified as at-risk (defined on pages 18 and 19). These students are often identified based on their performance on standardized assessments and are then offered remediation during the school day program that may include pull-out or small group instruction.
However, current research indicates the school day programs are not working to remediate at-risk students. In 1998, sixty percent of twelfth-graders in America were not reading proficiently. Unfortunately, this trend is not new, the average reading scores for high school seniors have not improved since the 1970s (USDOE, 2004).

If this pattern is to change, the effectiveness of remediation programs and the methodologies we use to help at-risk students must be thoroughly examined. Research indicates that a connection exists between the time students are exposed to academic material and their understanding of that material. Carroll (1963) found the amount of time academic instruction is provided during the school day seems to be a factor in student success.

Wolff (2002) noted that providing additional time on tasks is an essential part of ensuring that at-risk students have the opportunity for a sound basic education. In addition, Carroll (1963) suggests the amount of time a student is exposed to information will increase their knowledge of that information.

The potential for success of after-school program has moved them from the periphery to the center of the national educational debate (Kane, 2004). One of the reasons for this increased demand for after-school programs is the
result of the NCLB mandates. As a result, federal funding for after-school programs has grown dramatically over the last half-decade. In addition, state and local governments have also increased their funding. California, for example, has committed itself to a six-fold increase in funding of after-school programs over the next few years (Kane, 2004).

The increased interest in after-school programs has translated into increased attendance. According to DeKanter (2001), six million of the 54 million K-8 children in the United States participate in after-school programs that are school-based or community sponsored. DeKanter reported that since 1994, the number of schools that offer after-school programs has doubled. But, according to the National Institute on Out-of-School Time (2003), there are still eight million children who could benefit from participation in an after-school academic intervention program on a regular basis.

Due to the large amount of federal funding now being channeled toward after-school programs, these programs are being asked to provide data that documents their progress and demonstrates their results (Harvard Family Research Project, 2004). Because structured academic school-based after-school programs are relatively new, data are sparse.
Little is known about best practices, program implementation, cost-effectiveness, and program impact (Little, DuFree, & Deich, 2002).

This study attempts to build on the research of Kane (2004) and others and examines the effectiveness of a specific after-school academic intervention program on the performance of at-risk students in the Spotswood School District located in central New Jersey.

In 2003, 19.6% of general education students and an additional 34.8% of students requiring special education who took the Terra Nova and Nj ASK tests were not proficient in either Language Arts or Math in the participant school district. An after-school academic intervention program was developed to provide at-risk students intensive intervention in order to meet the achievement criteria set forth in the No Child Left Behind Act.

The at-risk students in grades two through six involved in the district's intervention program were invited to participate in the "Pathways to Success" after-school program. The after-school academic program was provided four days a week, for eight months, October through May during the 2003-04 school year.
Purpose of the Study

With the mandates outlined in the NCLB Act, it is imperative that effective methods used to remediate the skills of at-risk students be identified and implemented. The purpose of this study was to investigate the effectiveness of an after-school academic program on 30 at-risk students who participated in the "Pathways to Success" elementary after-school program. The students were identified as "at-risk" as evidenced by their performance on the following standardized assessments: (a) Terra Nova - Grade 2, (b) Terra Nova - Grade 3, (c) New Jersey Assessment of Student Knowledge - Grade 3, (d) New Jersey Assessment of Student Knowledge - Grade 4, (e) Terra Nova - Grade 5 and (f) Terra Nova - Grade 6.

In addition to the aforementioned assessments, the teacher’s recommendation for academic remediation and the student’s classroom performance were also used to identify at-risk students.

In an effort to provide a comprehensive view of the program being studied, the researcher also conducted teacher interviews to gain their perceptions of the program's effectiveness.
Significance of the Study

As previously stated, the mandates contained in the No Child Left Behind Act, combined with the grave future that many at-risk students face, underscore the importance of remediating their deficient skills in an effective manner. This study will seek to identify an effective remediation program for students who are identified as at-risk, based on their performance on standardized tests.

In order to effectively remediate at-risk students, it is necessary to identify programs that provide adequate remediation and provide positive results. One concept that has gained acceptance recently is the provision of academic remediation after the school day. It is the hope that the results of this study will add to the growing body of research about the after-school movement.

The results of this study will assist school administrators and those responsible for the success of at-risk students towards attaining the goals of the NCLB Act.

The Research Question

Is there a significant difference in performance on standardized assessments between students who participated in the "Pathways to Success" elementary after-school program and those students who did not?
Subsidiary Questions

1. Is there a significant difference in performance on standardized assessments between Males and Females who participated in the "Pathways to Success" elementary after-school program?

2. Among the students who participated in the "Pathways to Success" elementary after-school program, is there a significant difference in the performance on standardized assessments between students who are eligible to receive free lunch and those who are not?

3. Is there a difference between teacher perception of student success in the "Pathways to Success" elementary after-school program and the students' performance on the NJ ASK and Terra Nova standardized assessments?

Hypotheses

The impact of the mandates outlined in the No Child Left Behind Act pose a significant challenge to many school districts, not only in New Jersey, but also across the country. The goal that all students being proficient on state academic achievement standards and state assessments is particularly challenging for students identified as "at-
risk." The methodologies used to increase the abilities of at-risk students will play an important role in their success. As a result, it is important to investigate the effectiveness of the interventions being used to remediate the skills of elementary level at-risk students.

The following null hypotheses are used to support the research questions for study in this research project:

**H01.** There is no significant difference in Language Arts scores between students who participated in the "Pathways to Success" elementary after-school program and those who did not.

**H02.** There is no significant difference in Math scores between students who participated in the "Pathways to Success" elementary after-school program and those who did not.

**H03.** There is no significant difference in Language Arts scores between females and males who participated in the "Pathways to Success" elementary after-school program.

**H04.** There is no significant difference in Math scores between females and males who participated in the "Pathways to Success" elementary after-school program.

**H05.** There is no significant difference in Language Arts scores between students who are eligible for free
lunch and those who are not among participants in the "Pathways to Success" elementary after-school program.

Ho6. There is no significant difference in Math scores between students who are eligible for free lunch and those who are not among participants in the "Pathways to Success" elementary after-school program.

Ho7. There is no significant difference in the standardized assessment scores of the students who participated in the "Pathways to Success" elementary after-school program and the teacher's perception of the program's success.

Definition of Terms

Grounded Theory Research: Developed by sociologists Glaser and Strauss (1967), Grounded Theory is a method of collecting data that begins with interviews rather than hypotheses and seeks to discover patterns and develop theories with no preconceptions (Babbie, 2002).

Borgatti (2004) stated that Grounded Theory refers to theory that is developed inductively from a corpus of data. The basic idea of the Grounded Theory approach is to read (and re-read) a textual database and discover or label
variables and their interrelationships. Once data is collected it is examined using inductive analysis.

**Inductive Analysis:** Patton (2002) defines inductive analysis as "discovering patterns, themes, and categories in data. Findings emerge out of the data through the analyst's interactions with the data" (p. 38).

**Proficient:** On the New Jersey Assessment of Skills and Knowledge (NJ ASK), a proficient score is considered "passing" and determines how well a student achieves the New Jersey Core Curriculum Content Standards. The minimum scaled score for proficiency on the NJ ASK is 200 (Educational Testing Service, 2001).

On the Terra Nova assessment, which is aligned to the New Jersey Core Curriculum Content Standards, the minimum proficient score is the 51st percentile and above on Language Arts and Mathematics (CTB/McGraw Hill, 1997).

**Partially Proficient:** On the New Jersey Assessment of Skill and Knowledge (NJ ASK), a partially proficient score is considered "failing" and demonstrates that the student does not fully achieve the New Jersey Core Curriculum Content Standards. A partially proficient scaled score on the NJ ASK is any score below 200 (NJ DOE, 2001).
On the Terra Nova assessment, which is aligned to the New Jersey Core Curriculum Content Standards, those students whose test scores fall below the 50th percentile are identified as partially proficient.

At-Risk: Lowe and Lowe (1992) define elementary (K-5) at-risk students as students who exhibit difficulty with word attack skills (decoding), have poor vocabulary retention, and do not understand what he or she reads. Hahn, Dantberger, and Lefkovitz (1987); John (1989); Lloyd (1974, 1978); and Mahan and Johnson (1983), as cited in Lowe and Lowe (1992), further define indicators for identifying at-risk students as those who score low on standardized tests, and/or demonstrate a lack of interest in reading and math.

The National Institute of Education of At-Risk Students defines "at-risk" as a student who has low academic achievement and/or experiences educational failure. Khattori, Riley, and Kane (1997) defined the term "at-risk" as: students who are at risk of such immediate events as failing a course, dropping out of school, or not performing well against some standard or criteria. Others have determined "at-risk" as students who are at risk of
unemployment or simple lack of success in later life (Hepburn & White, 1990).

For the purpose of this study, the researcher will define the term "at-risk" using the definition developed by McCann and Austin (1988). They define at-risk students as: "students who are at risk of not achieving the goals of education, of not meeting local and state standards, and of not acquiring the knowledge, skills, and dispositions to become productive members of society" (p.1-2).

Allocated Time: Cotton (1989) described allocated time as the amount of time specified for an activity or event. "When educators and educational researchers speak of allocated time, they are referring to one of the following elements:

School Time - the amount of time spent in school.
Classroom Time - the amount of time spent in the classroom.

Instructional Time - the portion of classroom time spent teaching students particular knowledge concepts or skills (Cotton, 1989).

Highly Qualified Teacher: Determined by the No Child Left Behind Act (USDOE, 2001) a highly qualified teacher is one who has full State certification or has passed a
teacher-licensing exam and holds a license to teach. This definition also includes teachers whose certification or license has not been waived on an emergency, temporary, or provisional basis.

**ANOVA Statistical Treatment:** According to Witte and Witte (2001) analysis of variance, which is often abbreviated as ANOVA, is a statistical treatment which tests whether differences exist among population means categorized by only one factor or independent variable.

**T-test Statistical Treatment:** Witte and Witte (2001) define T-test as a test to determine whether the difference between sample means qualifies as a common or rare outcome assuming that the two samples are independent.

**Delimitations and Limitations**

Although extensive research on after-school programs, specifically that of Kane (2004), has failed to demonstrate a significant impact on standardized assessments, the administrators of the "Pathways to Success" elementary after-school program continue to measure the program's success by the participant's performance on standardized assessments. Additionally, the administrators use this
qualitative data to determine whether funding for this program will continue.

As a result of the potential for the redirection of resources based on data, this study relied on a review of quantitative data, as well as qualitative data, even in light of the cautionary implications of the research. The dual methodological design of this study attempted to overcome this limitation by providing a complete description of the program and drawing conclusions from within its boundaries. However, the single program scope limits the replicability, decreasing the external validity of the study.

In addition, the purposeful and selective nature of the qualitative design reduces the generalizability of the findings of this study. The small sample size used for this study (N = 30) will further limit the generalizability of the findings.

The results and conclusions drawn from this research, given the sample size and research design, must be weighed by the reader in order to extrapolate meaningfulness.

The following limitations existed in this study:

The teachers who participated in this study were employed by the subject school district and paid for
teaching in the "Pathways to Success" elementary after-
school program. Given the potential for their vested
interests (sustained employment) regarding the perceived
success of the "Pathways to Success" elementary after-
school program, their interview responses may pose
limitations on the adaptability of this study.

This study pertains only to students attending the
sample school district located in central New Jersey.
This study will only examine the 30 students who
volunteered for the after-school academic remediation
program.

Students were identified as "at-risk" using their
performance on the Terra Nova and/or New Jersey Assessment
of Skills and Knowledge (NJ ASK). In addition, teacher
recommendations play an additional role in the
identification of an at-risk student.

All teachers who participated in this program although
they each have a different level of experience, were
teachers who held New Jersey "Elementary School Teacher"
certificates.

Due to the ethnic make-up of the participants, 98%
white, ethnicity as a variable was not examined.
Assumptions

For the purposes of this study, the following assumptions are made:

The term after-school program refers to after-school programs that take place on school days, during the hours immediately following the school day.

The term standardized assessments refers to New Jersey Assessment of Skills and Knowledge 3 and 4 and the Terra Nova Assessment for grades two, three, five, and six that are administered annually.

It is assumed that the quality of instruction by the program teachers was similar due to the following reasons: each of the four teachers held standard New Jersey Elementary Teacher certificates, met the No Child Left Behind (NCLB) Highly Qualified Teacher criteria, and taught continually throughout the entire program period.

It is assumed that students who attended the “Pathways After-School Program” attended on a regular basis and put forth an effort to participate in the program.

Finally, it is assumed that the teachers who were interviewed responded honestly to questions asked by the proxy.
CHAPTER II
Review of the Literature

Halpern (2001) found after-school programs first emerged in the last quarter of the 19th century in the form of small, "idiosyncratic boys' clubs," often no more than a storefront or a room in a church or other local building. Most of these early programs had modest aims and were intended as a refuge and diversion from the streets; in fact, some called themselves "off the street clubs." Children could drop in when they wished, expectations were low, and "any youngster who refrained from tearing up the place was welcome" (Macleod, 1983, p. 66).

Starting around 1900, after-school programs began to become more structured as the result of a new social movement, called "Boys' work," with "Girls' work" added afterward. This movement was fueled by parental anxiety about the decline of masculinity in American society and their worry about unsupervised and undersocialized working-class males. The "boy's work" and "girl's work" movement
marked the first formal support and involvement of politicians and business and civic leaders (Halpern, 2003).

Halpern’s (2003) research discovered that after-school programs changed relatively little throughout much of the twentieth century, with their focus being more as social clubs rather than formal academic programs.

This focus has changed dramatically in recent years. By the mid-1990s, reading and homework time began to take a more prominent place in the daily life of after-school programs. Children were receiving more homework, and at younger ages, resulting in the necessity of after-school programs to assist in the improvement of academic skills of their participants (Fashola, 2002).

Over the past five to ten years, many school districts have seen after-school programs move from a “sattering of academic support activities to a central function of the school system” (Miller, 2003, p.28). In the past, schools have sponsored tutoring, homework help and academic support programs for at-risk students. Miller indicated that this era of high-stakes testing and increased accountability has forced many school districts to investigate the use of school-based after-school programs that promote academic achievement.
The Goal of After-School Programs

Improving and enhancing the academic achievement of students is one of the most popular and primary goals of today’s after-school programs. In many programs, the participants are encouraged to utilize after-school time to complete their academic work, improve their basic skills, and often receive academic assistance from the program staff (Collum, 2003).

The expectations for after-school programs can be great. Witt and Baxter (1997) found that after-school programs are believed to help prevent some of the problems arising from the risks faced by youth (e.g., lack of home supervision during after-school hours, low family income, lack of positive adult role models and mentors, and lack of community opportunities).

Regardless of the reasons behind the after-school program studies, the goal of school-sponsored after-school programs remains clear: increased student performance. The approach to achieving it remains elusive and is currently the subject of much discussion in the field (Miller, 2003).
A 2004 study by Kane evaluated the effectiveness of four after-school programs: 21st Century Community Learning Centers (21C CCLQ), The After-School Corporation (TASQ), Extended-Service Schools Initiative (ESS), and the San Francisco Beacons Initiative (SFCI). Promising results were noted including an increase in parental participation and student diligence in homework. In Kane's (2004) evaluation of this program, he noted an inconsistent but encouraging improvement in student grade point averages.

Schwendiman and Fager in their 1999 report After School Programs: Good for Kids, Good for Communities found quality after-school programs can have far-reaching benefits when students are actively engaged in a structured after-school activity. Regardless of the teaching activities that took place in the after-school program, the participants demonstrated an increase in school performance in the areas of math, reading, and other academic subjects. In addition, Schwendiman and Fager found a reduction in grade retention and placement in special education among students who participated in after-school programs.

Rosner and Vandell (1994) reported positive impacts on academic achievement and social adjustment for those attending formal after-school programs in comparison to
other types of after-school care (e.g., mother-care, self-care, or supervision by another adult). Students who participated in this program demonstrated academic improvement as compared to those who did not attend.

Posner and Vandell (1994) found that children in formal after-school programs spent more time in academic activities and enrichment lessons and less time watching TV and playing outside unsupervised than other children. They also spent more time doing activities with peers and adults and less time with siblings than did other children who did not attend an after-school program. The time that children spent in these activities was correlated with their academic and conduct grades, peer relations, and emotional adjustment.

Baker and Witt (1996) studied differences between program participants and non-participants. Their research demonstrated the potential of an after-school program with content aimed at improving academic skills in order to impact school grades. Their comparison of program participants and non-participants in grades three through six indicated significant improvements in math, science, reading, and language grades at the end of the year. Differences in general self-esteem were also noted.
Nichols and Steffy (1999) assessed the impact of an alternative learning program on elevating perceptions of at-risk students regarding their self-efficacy, and general self-esteem, as well as their levels of self-regulation, goal orientation, and school self-esteem (i.e., student self-concept concerning their school performance). Their findings indicated a significant gain in students' learning goals, self-regulation, general self-esteem, and school self-esteem as a result of their participation in this program.

Lauer, Akiba, Wilkerson, Apthorp, Snow, and Martin-Glenn (2004) conducted an exhaustive literature search on the effectiveness of a program, practice, or strategy delivered outside the regular school day for low-achieving or at-risk K-12 students. Based on their research they found statistically significant positive effects of out-of-school time on both reading and mathematics achievement stating:

Together, the results for reading and mathematics suggest that after-school programs can significantly increase the achievement of these students by an average of one-tenth of a standard deviation compared to those students who do not participate in OST programs. (p. 7)
Ross, Lewis, Smith, and Sterbin (1996) studied 328 second through fourth grade low performing students who participated in a small-group, after-school tutoring program based on components of "Success for All," which incorporates cooperative learning and teacher directed instruction. The focus of the program was on reading, writing, and computer skills. Participants showed gains in reading achievement compared to a matched control group.

Baker and Witt (1996) studied 302 third through sixth grade at-risk students. The program consisted of academically oriented activities in a recreational experience. The academic activities included teacher directed large and small group instruction focusing on activities that promote cultural awareness and positive self-esteem and attitude. Findings suggest that elementary school children who participated in this program had higher grades and academic test scores than non-participants.

Bergin, Hudson, Chryst, and Bestar (1992) studied ten kindergarten through third grade students of low socio-economic status. The program used a phonics based direct instruction model with child centered, culturally sensitive teaching methods and materials. This study revealed several highly significant differences by sex and by race.
Cosden, Morrison, Albanese, and Maclas (2001) studied ninety students in grades four through six considered "low-performing." The program consisted of structured after-school time and teacher support. This study found no significant increases in the academic measures of program participants.

Foley and Eddins (2001) studied 1,978 students in grades two through five, who were identified by their teachers as needing extra support. The students participated in an after-school program which consisted of literacy-based and socio-emotional activities. The study found a connection between student progress in after-school programs and the education level of the staff teaching the program. They found that children, in after-school programs with staff who are better educated, seem to have more positive outcomes on student performance measures.

In a study of 114 eighth grade at-risk students who participated in an after-school state test preparation program, Gentilcore (2002) found that participation in this program had no effect on the test scores of the student participants.

Huang, Gribbons, Kim, Lee, and Baker (2002) studied a large group of 4,312 low performing students in grade two through five who attended after-school homework and
academic support program. Their study found participation in after-school programs led to better school attendance. Participation in after-school programs was also related to higher academic achievement on standardized tests of math, reading, and language.

In a small study, Legro (1999) examined nineteen students in grades one and two who were identified as at-risk. The after-school program consisted of one-on-one homework tutoring, a parent involvement partnership program, and social and communication skills components. Their findings indicate that participation in this program had a small positive effect on student success.

Lodestar Management Research (2003) studied 160 students identified as “low performing” in grades two through eight. The program consisted of homework support and reading and writing exercises. Their findings indicate that students who attended the program demonstrated improvement in academic functioning as demonstrated by their classroom performance.

McKinney (1998) studied forty-seven students identified as “low performing” in grades one and two. The program consisted of one-on-one tutoring, self-concept, and non-academic enrichment components. The study indicated that students who participated in this program demonstrated
improved classroom performance as evidenced by their report cards.

Mooney (1986) studied fifteen students identified as "low performing" in fourth grade. The program consisted of eighth grade peer tutors assisting fourth grade students with the understanding and completion of reading homework. The findings indicate a positive correlation between program participation and completion of homework assignments.

In another small study, Morris, Shaw and Ferney (1999) studied thirty students identified as "low performing" in grades two and three. The program consisted of one-to-one tutoring, shared reading activities, and reading word activities. The findings indicate that students who participated in this program demonstrated an increase in academic success as evidenced by their classroom performance.

In a similar study, Pyant (1999) reviewed the progress of thirty students identified as "low performing" in grades kindergarten through fourth grade. The program consisted of tutoring with a focus on reading, spelling, and a social skills component. They found that students who participated in the program demonstrated an increase in classroom performance and participation.
The U.S. Department of Education (USDOE), in their 2003 evaluation of the 21st Century Community Learning Centers Program, found that more than 75% of the parents of participants in after-school programs said they believed participation would help their child perform better in school.

In this same study, the U.S. DOE found the academic impact of after-school programs was minimal. The U.S. DOE's findings suggest that after-school program participants had slightly higher math grades and slightly higher school attendance.

Funding of After-School Programs

American society spends about $250 billion annually on public education, almost half is spent serving low- and moderate-income children. Assuming that after-school programs will mostly serve this population of children, a fully publicly funded after-school system could claim a significant amount of public funding (Halpern, 2003; U.S. DOE, 2003). In fact, in the Report to Congressional Requesters found that after-school programs were the most common type of extended instruction using Title I funds to support after-school programs.
The United States Department of Education concluded in its mandated study of Title I programs that after-school programs may have helped educational achievement, but did not bring the participating students up to the level of their classmates.

Socio-Economic Impact/Achievement Gap

Along with the historic role in preventing juvenile delinquency, Halpern (2003) found that in the 1960s after-school programs began to provide an opportunity for communities to equalize the educational prospects of low-income students. Halpern states that the latter goal was new for after-school providers, who were asked for the first time to help foster low-income children’s basic literacy and academic achievement.

Low-income children do not enter school with the same cognitive skills (e.g., letter recognition, phonemic awareness) as higher socio-economic status children due to lack of books, access to libraries, time spent reading during the preschool years and the lack of exposure to explanatory language and verbal interaction (Duke, 2000). In addition, low-income children do not enter school with the same “soft skills” (understanding of behavior, social,
communication, and work styles expected in school). As a result, they have developed different interaction styles, expectations, social norms and assumptions than those they face in the mainstream school culture (Miller, 2003).

Crane (1991), Harrell and Peterson (1992), and Massey and Denton's (1987) research indicates that family economic levels have a significant impact on children's emotional well-being. This is because youth from low-income families experience high rates of poor physical health and mental disorders and are more likely to become engaged in delinquency, early sexual behavior, have low academic achievement, and drop out of school.

Further research by Egeland, Carlson, and Sroufe (1993) indicates that children from high-risk backgrounds have the most to gain from after-school programs in terms of educational opportunity. Ironically, they have the least access to after-school programs. Research findings also demonstrate that if educational benefits are the goal of after-school programs, then attention needs to be focused on the quality of programs and activities that are beneficial.

Egeland, Carlson, and Sroufe (1993) also note that areas with high level parental unemployment and low per
capita income are especially in need of developing after-school program services. Poverty and factors associated with poverty have a pervasively negative effect on child adaptation. Moreover, the negative effects of poverty are cumulative and therefore increase, as the child gets older.

**Teacher Perceptions of Program Effectiveness**

Fullan and Hargreaves (1996) found that "what teachers think, what teachers believe and what teachers do at the level of the classroom ultimately shapes the kind of learning that young people get" (p.34).

Darling-Hammond (2000) expanded on Fullan and Hargreaves' theories, finding that teachers are related to improvements in student performance stating: "The relationships between specific teaching practices and student achievement were often quite pronounced, and these practices were in turn related to teacher learning opportunities" (p.11).

**Gender**

There have been inconsistent research findings on the relationship between gender and academic ability (Ray, Ashman and Van Kraayenoord 1998). Marsh, Belich, and
Smith (1983), Skaalvik and Rankin (1990), White (1990), Ainley, Goldman and Reed (1990) claim that females achieve higher reading achievement scores and higher reading comprehension scores. However, Corson (1993) maintained that although females and males have similar literacy problems, females were more passive in the classroom and more frequently overlooked for remedial literacy services.

Rowe (1991) found no support for the claim that gender influenced academic achievement. But inattentiveness by both males and females had a strong negative influence on reading achievement, and home attitudes towards reading had positive causal influences on reading.

The mathematics achievement of males and females was influenced by past performance although females' achievement was also influenced by the level of help received from families and the extent to which they identified mathematics as a male curriculum subject (Hay, Ashman, Van Kraayenoord, 1998).

**At-Risk Students**

Maimon (1999) found that students with an "at-risk" designation had direct bearing on the way that reading and writing was presented to them in the classroom. Students
assigned to remedial improvement classes demonstrated insufficient familiarity with letters on the alphabet recognition test; the teachers in these remedial classrooms choose to teach them what they don’t know, like the alphabet during the first three months of the school year. During this same time, students in the traditional first-grade rooms are learning to read books.

If not successful in school, at-risk students begin to alienate themselves from the school environment. Hawkins and Weis (1985) found that students who are alienated from school score lower on psychological assessments of adjustment, are more likely to act out aggressively, and are more likely than their peers to use alcohol and drugs.

A contributing factor in the development of at-risk students is the characteristics of the community in which they live. Miller (2003) found that young people could also be at risk of poor developmental outcomes due to characteristics of the larger community. When at-risk students reach adolescence, the student outcomes often reflect that of their neighborhood peers either positive or negative.
Allocated Time

The question of time in education, specifically how much to require, has been visited periodically throughout the history of the American school. Yet the basic September through June school calendar that originated in America's rural past has remained largely intact (Halpern, 2003).

The research literature on the relationship of time to learning spans the course of at least three decades. Most of it falling into the following categories: empirical, data-based research, and reviews or syntheses of existing research; policy reports, which often combine education theory with empirical research; and anecdotal, experientially-based periodical publications, usually explaining one school's experience implementing a certain time-related policy (Halpern, 2003).

In its seminal report, *A Nation at Risk* (1983), The National Commission on Education Excellence (NCCE) urged educational leaders to look at three issues: expectations, content, and time. Regarding time, the report argued that if American students were to compete effectively in a global economy, they would need to spend substantially more time in school.
Cotton (1989) noted increasing allocated or engaged time is more beneficial to lower-ability students than to higher-ability students. Cotton noted:

Student performance is dependent upon the amount of time needed to learn as well as the amount of time provided; only those students who need greater amounts of time to learn perform better when they are given and make use of additional learning time. (p. 8)

Wiley and Harnischfeger (1974) used experimental data and school attendance figures to determine relationships between quantity of schooling (length of school day) and achievement. Wiley and Harnischfeger found a strong, positive relationship between the quantity of schooling and student outcomes.

Kidder, O'Reilly, and Kiesling (1975) expanded on the research methodology used by Wiley and Harnischfeger to demonstrate a positive correlation between the allocation of exposure time and student achievement.

Dewalt and Rodwell (1998) discovered a correlation between the materials, examples, and demonstrations used during the additional allocated time and the program effectiveness. According to Dewalt and Rodwell, in cases where the teaching during the additional time allocation is
a "rehash" of initial instruction, student achievement is not increased.

Many extended learning programs are basically an extension of the school day and operate under the assumption that more time will result in better outcomes for students (Miller, 2003).

Finally, the work of Alexander, Entwisle, and Kabbani (2001) suggests additional learning time is particularly important in communities where, because of social and economic shortcomings, there are limited options for supplementary learning experiences (i.e. enrichment programs, youth groups).

Summary

The review of literature suggests the research regarding after-school programs is varied and contains many variables. Consistent themes emerged in the research including the historical changes that have taken place in the design of after-school programs, the goal of after-school programs, the effectiveness of after-school programs, the funding of after-school programs, the socio-economic impact of after-school programs, the impact of
gender on learning, and the impact of allocated time on learning.

Halpern (2003) found after-school programs have evolved dramatically from the informal programs that were started in the early 1990s. The research demonstrates that after-school programs have morphed from supervision-based programs into a viable educational method that is effectively being used to assist at-risk students in meeting criteria outlined in the NCLB legislation. This legislation stipulates that all students should be proficient on state academic achievement standards and state academic assessments by 2014 (United States Department of Education, 2001).

Furthering Halpern’s (2003) historical synopsis, several studies including Collum (2003), found that the goal and expectations of after-school programs are varied; focusing on either improving and enhancing the academic achievement of students or addressing the problems facing today’s youth (i.e. lack of home supervision, low family income, and lack of community opportunities).

Several studies including Kane (2004), have demonstrated the effectiveness of after-school programs in the improvement of academic skills of at-risk students.
Further, several studies noted an increase in academic skills; however, only one study by Lauer, and colleagues (2004) noted statistically significant positive effects on both reading and mathematic achievement of participants.

The theme of non-academic benefits of after-school programs emerged and was supported by several studies that noted positive effects of after-school programs including: increased parental participation (Kane, 2004), and a decrease in retention among participants (Schwendian & Fager, 1999). Studies by Poarrow and Vandell (1994) and Nichols and Steffy (1999), among others, expanded on this theme and demonstrated an increase in self regulation, self esteem, and feelings toward school among program participants.

The theme of after-school programs and their impact on low income students emerged in studies by Halpern (2003) and Loeser Management Research (2003) who found that many school districts use after-school programs to assist low-income students in remediating the skills which they lack due to environmental factors such as limited exposure to academic materials. According to Halpern (2003) after-school programs provide an opportunity for communities to equalize the educational prospects of low-income students.
Gender emerged as another theme supported by the research of Bergin and colleagues (1992) which revealed several highly significant differences by gender among the participants in an after-school program. This corroborated the litany of research including Hay and colleagues (1998), Sakaalvik and Rankin (1990) among others that claim that females achieve higher than males in reading achievement.

Studies by Maimon (1999) and Miller (2003) found that at-risk students face dire outcomes if their deficient skills are not remediated. Additionally, McKinney (1995) and Mooney (1986) among others, found a positive correlation in the low performing or at-risk students who participated in after-school programs and academic success.

Finally, in the area of allocated time, Halpern (2003) and Cotton (1989) among others, noted a correlation between the amount of time a student is exposed to information and their achievement. Miller (2003) made the connection to after-school programs stating that many operate under the assumption that more time on task will result in better outcomes for students.

The above data and the themes that emerged served as a theoretical framework for the development of this study of
the effectiveness of an after-school academic intervention program on the success of at-risk students.
CHAPTER III

Methodology

This chapter describes the procedures and methodologies that were used in this study. This in-depth study consisted of two distinct phases. Phase one was an examination of student test scores following the student's participation in the Pathways after-school program. Phase two involved teacher interviews to assess their perception of the "Pathways to Success" elementary after-school program's effectiveness.

Research Design

The purpose of this study was to investigate the effectiveness of the "pathways to success" elementary after-school academic program on the 30 students who participated in the program. These students were identified as "at-risk" as evidenced by their performance on the following assessments: (a) Terra Nova - Grade 2, (b) Terra Nova - Grade 3, (c) New Jersey assessment of Skills and Knowledge, (d) Grade 3, New Jersey Assessment of Skills and Knowledge, (e) Grade 4 Terra Nova - Grade 5, (f) Terra Nova
Grade 6. In addition to the aforementioned assessments, teacher recommendation for academic remediation and classroom performance were used to identify at-risk students.

As stated previously, although extensive research on after-school programs, specifically that of Kane (2004), has failed to find a significant impact on math or reading achievement as evidenced by student performance on standardized assessments, the administrators of the "Pathways to Success" elementary after-school program used for this study continue to use the participant's performance on standardized assessments as a measure of the program's success. More importantly, the administrators use the participant's results on standardized assessments exclusively to determine whether funding for this program will remain. As a result, of the potential for the redirection of resources based on data, this study relied on a review of quantitative data, as well as qualitative data, even in light of the cautionary implications of the research.

This study used dual methodological techniques; both quantitative and qualitative methodologies were employed to assess the effectiveness of the "Pathways to Success"
elementary after-school program on student achievement. Effectiveness was measured by student performance on standardized tests and teacher perceptions.

The basis of this study was the hypothesis that participation in the “Pathways to Success” elementary after-school program had a positive impact on the participants’ performance on standardized assessments. This study collected data using both qualitative and quantitative methodologies. The teacher interviews were conducted individually and the student test information was retrieved from the Spotswood School District database.

Qualitative Research

The data for qualitative analysis typically comes from fieldwork. During fieldwork, the qualitative methods facilitate the study of issues “in depth and in detail” (Patton, 2002).

Patton (2002) further describes qualitative research as research whose findings grow out of three kinds of data collection: (a) in-depth, open-ended interviews; (b) direct observation; and (c) written documents.

Interviews provide the most pertinent data for qualitative researchers as Patton (2002) describes:
"Interviews yield direct quotations from people about their experiences, opinions, feelings, and knowledge" (p.73).

This study collected qualitative data in the form of teacher interviews. These individual interviews were conducted at the conclusion of the program to assess teacher perceptions of the program's impact on student development.

Once the data was collected, the researcher employed grounded theory methodologies, specifically inductive analysis to discover patterns, themes, and categories in the interviewee's responses (Patton, 2002).

Quantitative Research

Steckler, McLeroy, Goodman, Bird, and McCormick(1992) described quantitative research as "using statistical methods to test predetermined hypotheses" (p.8). The strength of the quantitative research is that its methods produce quantifiable, reliable data that are usually generalizable to some larger population.

For this study the quantitative data on student achievement was assessed using the student performance on the New Jersey Assessment of Skills and Knowledge (NJ ASK)3 and 4 and Terra Nova standardized assessments.
Triangulation of Data

Because qualitative and quantitative methods involve differing strengths and weaknesses, they constitute alternative, but not mutually exclusive, strategies for research (Patton, 2002).

Triangulation strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches (Patton, 2002).

The Research Question

Is there a significant difference in performance on standardized assessments between students who participated in the "Pathways to Success" elementary after-school program and those students who did not?

Subsidiary Questions

1. Is there a significant difference in performance on standardized assessments between males and females who participated in the "Pathways to Success" elementary after-school program?

2. Among the students who participated in the "Pathways to Success" elementary after-school program, is
there a significant difference in the performance on standardized assessments between students who are eligible for free lunch and those who were not?

3. Is there a difference between teacher perception of student success in the “Pathways to Success” elementary after-school program and the student’s performance on the NJ ASK and Terra Nova standardized assessments?

Hypotheses

The following null hypotheses are proposed for study in this research project:

Ho1. There is no significant difference in Language Arts scores between students who participated in the “Pathways to Success” elementary after-school program and those who did not.

Ho2. There is no significant difference in Math scores between students who participated in the “Pathways to Success” elementary after-school program and those who did not.

Ho3. There is no significant difference in Language Arts scores between females and males who participated in the “Pathways to Success” elementary after-school program.
Ho4. There is no significant difference in math scores between females and males who participated in the "Pathways to Success" elementary after-school program.

Ho5. Among participants in the "Pathways to Success" elementary after-school program, there is no significant difference in Language Arts scores between students who are eligible for free lunch and those who are not.

Ho6. There is no significant difference in Math scores between students who are eligible for free lunch and those who are not among participants in the "Pathways to Success" elementary after-school program.

Ho7. There is no significant difference in the standardized assessment scores of the students who participated in the "Pathways to Success" elementary after-school program and the teacher's perception of the program's success.

Selection of Participants

The school involved in the study had a population of 550 students in second through sixth grade. Students identified as at-risk represented approximately 25% of the total student population. It should be noted this number
did not include students who receive special education services.

The population used for this study were 92 second, third, fourth, fifth, and sixth grade students who were identified as at-risk. This was based on their performance on standardized test results on the Terra Nova and the NJ ASK test, teacher recommendation, and classroom performance. As a result of their identification as at-risk, these students were automatically enrolled in a district provided basic skills instruction program offered in the general education classroom during the normal school day. Thirty of the 92 identified students volunteered for the "Pathways to Success" elementary after-school program.

In addition to the student participants, four teachers were interviewed for this study. Each teacher taught in the "Pathways to Success" after-school program for at least one year. All four teachers were employed by the participant school district as elementary teachers.

It is assumed that the quality of student instruction was similar because all four teachers held Standard New Jersey Elementary Teacher certificates and met the criteria for a Highly Qualified Teacher using the No Child Left Behind Act (NCLB) criteria.
The Pathways program took place at the participant School located in central New Jersey. Each classroom was similar in size and contained the same materials and furniture.

Informed Consent

Each teacher in the study volunteered to be interviewed. Due to the researcher's position in the participant school district, a proxy was employed to interview the teachers and provide the researcher with an anonymous transcript.

The participants were not compensated for their participation in the study and were not exposed to any risks.

Confidentiality

The author of this study was an employee of the district used for this case study. As a result, confidentiality was a paramount concern to ensure the authenticity and accuracy of data. To ensure confidential, accurate, and authentic data, the researcher employed a proxy who was not employed by the participant school district nor has any relationship to the researcher or to
this research project. The proxy provided the researcher with a verbatim transcript of each interview, with names removed.

Instrumentation

Phase One—Student Performance Measures

The assessment tools used to investigate student performance were the New Jersey Assessment of Skills and Knowledge (NJ ASK 3), the New Jersey Assessment of Skills and Knowledge (NJ ASK 4), and the Terra Nova assessment.

The NJ ASK 3 and the NJ ASK 4 are criterion-referenced; standards based assessments published by Educational Testing Services (ETS). They were administered in 2003 and 2004 during five days in May to all third and fourth grade students in the State of New Jersey. The NJ ASK assessment is not based on comparisons between students; rather it is based on their performance in relationship to the New Jersey Core Curriculum Content Standards. The NJ ASK measures proficiency in Language Arts and Mathematics (ETS, 2004).

The Terra Nova assessment is a criterion-referenced test published by CTb/McGraw-Hill. The test was administered in 2003 and 2004 during four days in April. The Terra Nova assessment is a standardized achievement
test designed to provide achievement scores that are valid for most types of educational decision-making. The primary inferences from the test results include measurement of achievement of individual students relative to a current nationwide normative group. Results are used in a criterion-referenced manner to analyze the strengths and weaknesses of a student's achievement in Language Arts and Mathematics (CTB/McGraw-Hill, 1997).

Phase Two-Teacher Interviews

A structured interview of each teacher in the "Pathways to Success" elementary after-school program was conducted individually via telephone. Due to confidentiality issues, the researcher employed a proxy who was not employed by the subject school district nor had any relationship to the researcher or this research project. The proxy provided the researcher with a verbatim transcript of each interview, with names removed.

The interview questions followed the research questions outlined previously.

Teacher Participant's Interview Questions:

1. How long have you taught in the Pathways program?
2. On average how many students attended your class
on a daily basis?

3. Please describe what instructional technique(s) you used most frequently in the Pathways After-School Program. Clarifying question: Did you use small group activities, cooperative learning activities, whole class instruction, projects, manipulatives, questioning techniques.

4. Do you feel that the instructional technique was an effective method reaching the students? Clarifying Question: What would you change?

5. How was the Pathways After-School curriculum aligned with skills that are taught in the normal classroom?

6. Do you expect students who participate in the Pathways program to perform better academically than students who do not participate?

7. When you are teaching lessons in the Pathways program how closely do they compare to your typical classroom lesson?

8. Do you discuss your Pathways lessons with colleagues who do not teach in the Pathways program?
9. How frequently do you discuss the students that you teach in the Pathways program with their regular classroom teachers?

10. Do you feel that most of the students you teach in the Pathways program are excited about the curriculum?

11. Do most of the students complete the assignments that you give to them?

12. Is student behavior an issue in the Pathways program?

13. Please reflect on your feelings regarding the Pathways program’s success.

The research proxy posed additional clarifying questions to allow the teachers to elaborate on their answers.

Upon completion of the data acquisition, the qualitative data was examined using grounded theory methodologies to detect any trends.

Data Collection

Using standardized test results from the Third grade NJ ASK test, Fourth grade NJ ASK, Fifth Grade Terra Nova, and sixth grade Terra Nova. Students who scored in the
partially-proficient range on the NJ ASK and below the 50th percentile on the Terra Nova were identified as at-risk.

The names of the identified students were given to their teacher and the teacher either concurred with or declined the student's identification as at-risk. In a case where the teachers did not agree with the student's identification of at-risk as the result of their test scores, teachers were given the opportunity to "over-rule" the determination of at-risk.

The Director of Guidance also evaluated the child's classroom performance using student report cards to assess the need for remediation. With these three criteria, student performance on standardized test scores, teacher input, and classroom performance (grades), students were identified as "at-risk".

Once the initial identification of students was complete, the at-risk students were clustered in groups of no more than six and placed in a general education classroom of twenty-two students. While placed in the general education classroom, students received additional support, in their area of weakness. Using the traditional In-Class Support (ICS) model, an additional certified teacher was scheduled in the classroom to provide
additional support for 40 minutes daily, five days a week for one hundred and eighty-one school days.

In addition to the services provided during the school day, students identified as at-risk had the opportunity to voluntarily participate in the “Pathways to Success” elementary after-school program. The after-school program provided at-risk students with the opportunity to be instructed by a New Jersey certified elementary school teacher for a one hour session, four days a week during the months of October through May.

There was no penalty for at-risk students who did not volunteer for the “Pathways to Success” elementary after-school program, they continued to receive services during the school day.

Data Analysis

The research methodology employed within this study relied on quantitative and qualitative evaluative strategies. The premise of this study was to investigate and report on the effectiveness of the “Pathways to Success” elementary after-school program based on the participant’s performance on standardized assessments and results of teacher interviews.
Phase One - Student Test Scores

Data was analyzed to determine the potential correlation between a student's attendance in the "Pathways to Success" elementary after-school program and an increase in math and language arts scores on the NJ ASK or Terra Nova assessments. This study used T-test and ANOVA statistical procedures to investigate if the following variables had any influence on student performance: participation, student gender, and eligibility for free lunch on the NJ ASK and Terra Nova assessments. Due to racial make-up of the Participant school district (98% white), race was not explored as a variable.

Student standardized test data was collected anonymously. The pre- and post-test scores of students who scored partially proficient were assigned random numbers to ensure anonymity. Students who participated in the "Pathways to Success" elementary after-school program were coded with a "1" while those who did not attend were coded with a "0." Male students were coded "1" and female students were coded "2". Students who were eligible for free lunch were coded "1". Students who were not eligible for free lunch were coded "0". The Director of Guidance was
the only person knowledgeable of the student name and number association.

**Phase Two - Teacher Interviews**

This section presents questions that the four teachers were asked during the interview process. The questions presented to the teachers were separated into five themes that investigated instructional techniques, classroom activities, curriculum, student/program expectations, and program overlap with the school day. Three additional questions were not theme-related; however, they were asked to provide the researcher baseline data.

Questions one, two, and eleven were designed to provide baseline data regarding the teachers. These questions were designed to provide the researcher with knowledge regarding the teacher’s length of time working in the program, the student’s attendance in the program, and whether each participant actually completed the work that had been assigned.

Questions three, four, and seven were designed to explore the instructional techniques of the teachers and the differences, if any, that existed from their regular classroom instruction. These questions explored the type of
instructional techniques used by the teachers and their relationship to the teacher's traditional way of teaching. The questions also encouraged the teacher to reflect on the effectiveness of their instructional technique(s) and provide insight to what they would do differently if placed in a similar situation.

Question five was designed to identify any connection that existed between the curriculum used in the after-school program and its alignment with the curriculum used during the school day. The teacher's responses were used to establish a level of understanding regarding the subject matter being taught in the after-school program.

Question six was designed to explore the teacher's expectations of the students who attend the program. The teacher's responses were used to identify any underlying biases that may exist regarding the teacher's feelings about the students who attended the "Pathways to Success" elementary after-school program.

Questions eight and nine explored the impact of the "Pathways to Success" elementary after-school program on the teachers of those students not involved in the program. The teacher's responses were used to identify the impact of
the Pathways program on the student's education outside of the after-school program.

Questions ten and twelve explored the teacher's perception of the student's socio-emotional status. The teacher's responses were analyzed to determine any trends that existed regarding the student's feelings toward the program.

Question thirteen examined the teacher's feeling regarding the success of the program. The researcher allowed the teachers the freedom to define success using their own measures.
CHAPTER IV

Presentation and Analysis of Data

Prior to the review of data presented in this chapter, it must be noted that due to the small sample size of participants in this research study (N = 30), any and all findings are limited to this study and should not be generalized. The reader must weigh the results and conclusions drawn in order to draw out meaningful extrapolations.

As previously stated, a primary focus of the No Child Left Behind Act is on the success of at-risk students. This focus, combined with the austere future for at-risk students if their skills are not remediated, make it imperative that schools develop programs to meet the needs of their at-risk students.

The purpose of this study was to investigate the impact of participation in the "Pathways to Success" elementary after-school program on the academic achievement of students identified as at-risk. More specifically, this study compared the performance on standardized assessments of participants who participated in the "Pathways to
Success” elementary after-school program to participants who did not participate. This study also compared student performance on standardized assessments with teacher feelings of program effectiveness.

The main research question investigated whether at-risk students who participated in the “Pathways to Success” elementary after-school program would demonstrate significantly better achievement measured by their performance on the Terra Nova or New Jersey Assessment of Skills and Knowledge (NJ ASK) 3 and 4 when compared to those students who did not participate.

This chapter presents the results of the data analysis that were used to answer the four research questions posed for this study. This data analysis consisted of two distinct phases. The first portion of this chapter examines phase one, which answers the first three research questions using T-tests and ANOVA statistical procedures. All statistical data was analyzed using SPSS 11.0.

The second section examines phase two of the research process, the teacher interviews. Using the Inductive Analysis method based on Glesser and Strauss’ (1967) Grounded Theory methodologies, the interview transcripts were analyzed for redundant themes and similar responses by
the participants in an effort to establish a consensus of
data. The data was continuously checked and re-checked to
identify the theoretical themes that emerged.

Participants
The participants in this study consisted of 92 third,
fourth, fifth, and sixth grade students who were identified
as at-risk based on their performance on standardized test
scores, classroom performance, and teacher recommendation.
The participants consisted of a treatment group of
participants (N = 30) who elected to participate in the
"Pathways to Success" elementary after-school program and a
control group of non-participants (N = 62) who were offered
participation in the after-school program but declined.

The Research Question
Is there a significant difference in performance on
standardized assessments between students who participated
in the "Pathways to Success" elementary after-school
program and those students who did not?
Subsidiary Questions

Is there a significant difference in performance on standardized assessments between males and females who participated in the "Pathways to Success" elementary after-school program?

Is there a significant difference in the performance on standardized assessments between students who are eligible for free lunch and those who are not among the students who participated in the "Pathways to Success" elementary after-school program?

Is there a difference between teacher perception of student success in the "Pathways to Success" elementary after-school program and the student's performance on the NJ ASK and Terra Nova standardized assessments?

Presentation of Data

The following is a presentation of the data addressing the research and subsidiary questions and the seven hypotheses used to support them:

Research Question

Is there a significant difference in performance on standardized assessments between students who participated
in the "Pathways to Success" elementary after-school program and those students who did not?

Hypothesis 1. There is no significant difference between Language Arts scores for students who participated in the "Pathways to Success" elementary program and those who did not.

An analysis of standardized test scores indicates that differences were found between the students who participated in the "Pathways to Success" elementary after-school program and those students who did not participate. On the Language Arts portion of the NJ ASK assessment, the mean score for those who attended the "Pathways to Success" elementary after-school program was 198.2105. The mean score for those who did not attend the "Pathways to Success" elementary after-school program was 205.750.

On the Language Arts portion of the Terra Nova assessment, the mean score for those who attended the "Pathways to Success" elementary after-school program was 666.6364. The mean score for those who did not attend the Pathways program was 656.2105.

These findings indicate that differences did exist between "Pathways to Success" elementary after-school program participants; however, the differences were not
consistent on both the NJ ASK and Terra Nova assessments. On the Language Arts portion of the NJ ASK, the mean score of the non-participants was higher than the mean score of the participants. On the Language Arts portion of the Terra Nova, the participants had a higher mean score than the non-participants; however, the results were not statically significant.

**Hypothesis 2.** There is no significant difference in Math scores between the students who participated in the “Pathways to Success” elementary after-school program and those who did not.

An analysis of standardized test scores indicates that differences were found between the students who participated in the “Pathways to Success” elementary after-school program and those students who did not participate. On the Mathematics portion of the NJ ASK assessment, the mean score for those students who attended the Pathways program was 199.7895. The mean score for those students who did not attend the Pathways program was 196.0417.

On the Mathematics portion of the Terra Nova assessment, the mean score for those students who
participated was 659.8182. The mean score for those students who did not participate was 654.8421.

These findings indicate that differences did exist between the "Pathways to Success" elementary after-school program participants on both the NJ ASK and the Terra Nova assessments. On the Mathematics portion of both assessments, the mean score of the participants was higher than the mean score of the non-program participants; however, there is no statistical difference between the two groups.

Subsidiary question 1. Is there a significant difference in performance on standardized assessments between Males and Females who participated in the "Pathways to Success" elementary after-school program? This question is supported by hypothesis three and four.

Hypothesis 3. There is no significant difference in Language Arts scores between females and males who participated in the "Pathways to Success" elementary after-school program.

The results of an analysis of standardized test scores indicates that differences were found between the "Pathways to Success" elementary after-school program participants
gender and their performance on the Language Arts portion of the NJ ASK and Terra Nova Assessments.

On the Language Arts portion of the NJ ASK the mean score of male participants was 185.6000. The mean of female participants was 212.222.

On the Language Arts portion of the Terra Nova assessment, the mean score of the male participants was 647.000. The mean score of the female participants was 690.2000.

Hypothesis 4. There is no significant difference in Math scores between females and males who participated in the "Pathways to Success" elementary after-school program.

An analysis of standardized testing results indicates that differences were found between male and female "Pathways to Success" elementary after-school program participants' performance on Mathematics portion of the NJ ASK and Terra Nova assessments.

On the Mathematics portion of the NJ ASK, the mean of Male participants was 196.6000. The mean score of female participants was 203.333.

On the Mathematics portion of the Terra Nova assessment, the mean score of the male participants was
The mean score of the female participants was 670.3000.

Subsidiary question 2. Is there a significant difference in the performance on standardized assessments between students who are eligible for free lunch and those who are not among the students who participated in the "Pathways to Success" elementary after-school academic intervention program?

This research question is supported by hypotheses five and six.

Hypothesis 5. There is no significant difference in Language Arts scores between students who are eligible for free lunch and those who are not among participants in the "Pathways to Success" elementary after-school program.

The results of a standardized test score analysis indicates that differences were found between the "Pathways to Success" elementary after-school program participants' eligibility for free lunch and their performance on Language Arts portion of the NJ ASK and Terra Nova assessments.
On the Language Arts portion of the NJ ASK, the mean score of participants not eligible for free lunch was 200.25. The mean score for participants who were eligible for free lunch was 187.3333.

On the Language Arts portion of the Terra Nova assessment, the mean score of the participants who were not eligible for free lunch was 674.1429. The mean score of the participants who were eligible for free lunch was 653.5000.

Hypothesis 6. There is no significant difference in Math scores between students who are eligible for free lunch and those who are not among participants in the "Pathways to Success" elementary after-school program.

The results of the standardized test score analysis indicates that differences were found between the "Pathways to Success" elementary after-school program participants' eligibility for free lunch and their performance on the Mathematics portion of the NJ ASK and Terra Nova assessments.

On the Mathematics portion of the NJ ASK, the mean score of participants not eligible for free lunch was
202.2500. The mean score for participants who were eligible for free lunch was 186.6667.

On the Mathematics portion of the Terra Nova assessment, the mean scores of the participants who were not eligible for free lunch was 668.1429. The mean score of the participants who were eligible for free lunch was 645.2500.

Teacher Interviews

Interview Participants

Four teachers volunteered to participate in this research study. Each teacher was employed by the participant school district as an Elementary teacher. All four teachers held a standard New Jersey Elementary Teacher certificate.

In order to protect their anonymity, teachers are only identified as Teacher A, Teacher B, Teacher C, and Teacher D. These titles have absolutely no meaning or connection to the individuals.

Each participant was contacted via telephone by a proxy employed by the researcher. All four of the participants were accommodating and willingly shared their views of the Pathways after-school program.
There were varied amounts of teaching experience among the participants. One teacher has been employed by the Spotswood School District for thirty-four years. The other participants had an average of six years of teaching experience and had been in the Spotswood School District for an average of four years. Three of the participants were general education teachers and one was a special education teacher.

**Instructional Techniques**

The instructional techniques used to teach at-risk students can impact their success, especially when the teaching techniques or style matches the student's learning style. Miller (2003) and Stitt-Cohodes (2003) found that when student's learning preferences match their instructor's teaching styles, student motivation and achievement usually improve. Several of the teachers involved in the "Pathways to Success" elementary after-school program affirm this by adjusting their teaching styles from their normal classroom style.

Teacher A, in particular, felt the instructional methods used in the "Pathways to Success" elementary after-school program should vary from the "normal" school day.
"My thinking is that they [the students] need a break from the standard structure of the school day. They need a break and to have some fun while learning at the same time." She stated.

Teachers C and D also used different methods to teach the at-risk students. Teacher C stated:

I used games and fun activities that are based on grade level curriculum. I try to have the students move around. We will march around the room reciting our times tables to memory. I think it's important to keep them on their toes.

"Most of the time we played games as a way of learning" stated Teacher D.

Teachers B and D employed small group instruction, either pairing students or working in groups of three. "I find this to be the best way to work with children who are experiencing difficulty with school," stated teacher D. Teacher B employed peer to peer teaching. "If a certain child was having a hard time with a certain concept, I would ask the other student to explain concepts to their peers. This is a great way of reinforcing concepts for both children involved."
All four teachers felt their teaching methods were effective. This concurs with the findings of a study by Cuthbertson and Schalock (2002) which found that almost no teacher views herself as being incompetent, and a large proportion view himself or herself as being very proficient.

There seemed to be a discrepancy regarding the type of lessons taught by the participants versus their typical teaching. Teacher B and Teacher D's teaching methodologies did not vary. "I don't teach any differently to my Pathway's students. I used the same types of lessons with my classroom students. I feel that my Pathways student should not be babyed or coddled." Teacher B expressed similar feelings. "Pathway's instruction and my regular classroom instruction are pretty similar. I use the same questioning techniques with both groups."

Teacher A and C noted dramatically different teaching methods for the Pathways program. Teacher A stated: "I am a more relaxed teacher in the Pathways program. I tried to make learning fun for the Pathway's students." Teacher B echoed those feelings: "My teaching in the Pathways program is more fun than my traditional classroom teaching. The
typical rote/repetition doesn’t work with my after-school students. They need to be engaged in their learning.”

Both teacher A and teacher C seemed concerned with the student participants having a positive experience in the program. “Many of them [Pathways students] are turned off to school because it’s hard work and challenging for them. By making learning fun, I felt like I was giving them a reason to come to school each day.” Teacher C felt the same, stating: “It’s important to make sure these students have a positive experience in this program.”

The teachers felt a need to vary their instruction from the regular school day. This variation in instructional methods seemed to provide the students with an ability to view school on a different level. “By making learning fun, I felt like I was giving them a reason to come to school.” These positive education experiences can have a long-term impact on the life of a struggling student. Ainsely, Forman, and Sheret (1991) noted that successful educational experiences and a positive view of the school, assisted at-risk students to remain in school.
Program Curriculum

A connection must exist between what the student is exposed to and what they understand. A curriculum is a guide that is useful in making this connection. Often educators are uncertain about the form or function of curriculum and its place in academic programs, especially after-school programs. Parkay and Haes (2000) make no delineation between where the education takes place. They identify the goals of a curriculum to prepare students for the future and provide guidelines for determining the learning experiences to be included in the curriculum. However, there is often little consensus on what knowledge and skills will be required in the future.

No formal curriculum exists for the "Pathways to Success" elementary after-school program. The teachers are currently left to their own devices to develop and implement the daily program activities. Understanding the importance of curriculum in an educational setting, the four respondents were asked to identify any connections that exist between the curriculum used in the Pathways after-school program and the curriculum used during the school day.
Teacher D was definitive in her feelings regarding the question. "My Pathways curriculum was aligned exactly to skills that are taught in the normal classroom. I knew exactly what skills they [my students] were working on and where they should be functioning."

Teacher C voiced similar feelings, "The curriculum for the Pathways program is coordinated and aligned with the regular classroom curriculum."

Teacher A and teacher B lead a more student-directed program where no specific curriculum was used. Teacher A stated "I would reinforce the skills that were taught in the normal classroom." She went on to elaborate on her reasons behind this. "It's important for these students to get skills reinforced because sometimes the pace of their regular classroom is too fast and they miss key elements." She went on to say: "This is the beauty of the Pathways program; skills can be re-taught and maybe explained in a different way in order for the students to learn."

Teacher D also used the Pathways program as an opportunity to "supplement [the student's work] to boost their skills, either with comprehension or decoding."
Teacher B let her students guide instruction. "I would ask each student what difficulties they were having in his/her course work and work from there."

Teacher C provided the most emphatic response to the question stating: "There is no separate curriculum for the program. The program basically helps support the students in their regular classroom."

The "Pathways to Success" elementary after-school teachers acknowledged the absence of a formal curriculum. According to Fashola (1998), the lack of a formal curriculum is not an issue; as long as the academic program is directly connected to what happens during the school day. One of the most efficient ways to ensure curricular alignment is to staff extended school-day and after-school academic programs with regular, school day teachers. The Pathways program is directly connected to what happens during the school, because each teacher in the Pathways program is employed full time as a teacher. As a result, they are aware of class and grade level expectations.

**Student/Program Expectations**

Question six sought to explore the notion of teacher expectations of the students in the Pathways program.
Teacher expectations have a profound impact on student outcomes. As numerous researchers (Alvidrez & Weinstein, 1999; Hoge & Butcher, 1984; Jussim, 1989) have revealed, a strong correlation exists between teacher expectations and student achievement. By examining this theme, the researcher is able to identify underlying factors that may impact student performance.

Teacher D gave a direct and definitive answer, stating, "I do expect the Pathways students to function better than students who did not participate. It is important for at-risk student to get remediation in their areas of weakness."

Teacher C concurred with Teacher D's. In addition, she added the following caveat: "Those students that take full advantage of the Pathways program could show great improvement. I'm sure that they benefit from it, but if they put more energy and bought into the program more, I feel that they'd have greater payoffs."

Teacher A's responses transcended expectations; she commented on the program's effectiveness, noting, "Many parents would tell me what a nice change they'd seen in their child since he/she had entered the program."
Teacher D also noted program effectiveness stating, "I did see improvements in their reading and writing skills, despite the fact that some students only came two times a week."

Teacher C noted that her students "seem to enjoy school more and have more confidence, knowing that they have the right answers to questions."

Teacher B remarked about the timing of the program. "If a student has difficulty with a task earlier in the day, they could get additional help that same day. If they were not involved in the Pathways program they would, obviously, not get the help they needed when they need it."

Teachers expressed the ability to reach their students prior to them becoming overwhelmed by a specific task. If the student was struggling with a concept, the teacher was able to address it and meet the student's specific need within hours. By using this after-school time wisely, a lasting impact could be made on the life of an at-risk child.

Aside from the academic impact of after-school programs, after-school hours are crucial for at-risk students. Black (2004) notes that 3 to 6 p.m. are the hours when young children are most likely to get into
trouble. If not involved in an after-school program, at-risk students will often fill their after-school hours by watching television. According to Schwendiman and Fager (1999), students spend about 900 hours a year in school and 1,500 hours watching television. Often television is used as a substitute for after-school care.

Program Impact on the School Day

Questions eight and nine explored the program's impact on the teacher's regular classroom teacher and the teachers not involved in the program. The potential for program overlap is an important concept that cannot be ignored. A recent report on California's after-school program found a positive impact of after-school programs on the entire school community. Students showed improvement in social skills and behavior, which resulted in fewer disciplinary incidents and suspension during the school day (California Department of Education, 2002).

Teachers' responses were quite similar regarding their discussion of Pathway's lessons with colleagues who do not teach in the "Pathways to Success" elementary after-school program. Two of the teachers, Teachers A and C in particular, felt compelled to "spread the word on how
effective the Pathways program is around my school." Teachers A and C both felt that it was important for other teachers to be aware of this program, suggesting that a staff meeting be held to inform the staff about the program and goal. "I'd gladly speak about its effectiveness."

Teacher B, however, "only discussed the Pathways program with the other Pathways teachers. I didn't feel the need to discuss the program with teachers that were not involved in the program."

With the exception of one teacher, the teachers involved in the program felt a need to "spread the word" of the positive impact the program had on the students. These feelings seemed to resonate throughout the school and were reflected by a positive perception of the program.

Question nine, in particular, explored the teacher's follow-up of their Pathways students outside of the program. The responses to this question from the four varied greatly. Teacher A stated emphatically that she "did not discuss the students that I taught in the Pathways program with their regular classroom teachers." She noted that she experienced difficulty finding common planning times to meet with the regular classroom teachers. She did note, however, "if it were warranted, I would get in touch
with the teachers.” She did not elaborate on what was "warranted."

Teacher D and C discussed their students with the student’s regular teachers on a “regular basis.” Teacher C seemed to take ownership of her students: “I check to see how my after-school students are performing in their regular classroom. Are they studying for tests? Doing their homework? Experiencing any particular difficulty?” Teacher D also expressed concern over her student’s progress in the regular classroom:

I frequently would touch base with the Pathway’s student’s regular classroom teachers and their teachers would also come to see me. If a particular child was experiencing difficulty in their classroom, I would conference with their teacher at least once a week in order to get updates and help him/her in the best way possible.

Teacher B discussed an unexpected byproduct of the program, assisting students who were in the process of being referred to the Public Assistance Committee.

I would frequently talk to teachers whose students were in the process of being referred for additional assistance by the Special Education Department. These
were typically the students who were struggling the most in their regular classroom. I think it was sort of reassuring to their classroom teacher that the student was getting extra attention from another teacher.

Generally, the four teachers took ownership of their students, looking to investigate their struggles and success in the classroom. The idea of ownership of students is a concept that has not been discussed in the literature. These teachers began to transcend the role of teacher and act as mentor in some aspects, caring for their students on another level. The connection to students is something that can have a lasting impact on the participants but, unfortunately, has not been measured.

Socio-Emotional Status of Students

Perhaps the most profound indicator of program effectiveness is the student’s active participation in the program. Questions ten and twelve explored the teacher’s perception of the students’ excitement for participation and any negative student behaviors that may have occurred on a regular basis.
The teacher respondents overwhelmingly felt that students who attended the "Pathways to Success" elementary after-school program were "excited to come." Teacher A felt that the "students were excited about the Pathways program. They came back each day, ready to learn and knowing that learning can be fun." A theme emerged regarding student excitement and games. "They [the students] thought it was fun because educational games were played to reinforce topics, such as word bingo, etc. If you combine a few educational games along with the rate and repetition of skills it makes learning fun for them," stated Teacher D.

Teacher B echoed these sentiments, "I think they saw the after-school program as a fun thing in comparison to it being a continuation of the school day."

Teacher A and B provided a more introspective view for the reason why students were excited to attend the Pathways program. Teacher A elaborated: "I think they saw the difference that was made by putting in more time and energy into their work. I truly think that this program will have long-lasting effects on their work ethic and the way they feel about school."

Teacher B felt it was:
Nice to take them away from their peers that are not struggling. I know that sounds weird, but sometimes being in their regular classroom is difficult because they can see how much difficulty they are having compared to their peers. Coming to the Pathways program gives them confidence on so many levels. They realize that they are not the only person who is struggling, and they also get help to keep up with their peers.

Teacher C noted a correlation between the age of the students and their willingness to participate in the Pathways program. "The older children don't seem to care as much. If the older children would realize how beneficial this program could be, I think they'd buy into it more. The older children haven't said anything, but I think they get teased by their peers for coming to an after-school program." She went on to state: "Obviously, they are having difficulty if they are walking into my classroom everyday after school. I guess it is stigmatizing in a way, but on the other hand, many of these children would be receiving no extra help if it were left up to their parents, for
financial reasons. This district is very blue collar and money is an issue for many parents.

Student behavior did not seem to be a factor in the Pathways program. Two teachers (A and C) acknowledged behavioral issues; however, they noted that these behaviors were no different than in the regular classroom. Teacher A stated her philosophy: "You have to keep in mind that this program really makes the day extended for the children, so I expect some of the kids to be antsy."

Program Impact

Each teacher spoke of the impact of this program other than academic. They each noted the change in the participant's emotional state and self-esteem.

The socio-emotional development of students involved in after-school programs should not be discounted. Aside from increased academic expectations, the students involved in after-school programs benefit from numerous "intangible" rewards. Participation in after-school programs has been linked to students increased sense of efficacy, competence and leadership (Campbell and Ramey, 1995) better behavior in school (Posner and Vandell, 1994), better emotional adjustment (Baker and Gibbons, 1998), better conflict
resolution skills (Vandell and Pierce, 1997), improved attitude toward school (Brooks, Mojica, and Land, 1995), and a greater feeling of belonging in the program or community (Schwager, Garcia, Silfuentes, and Tushnet, 1997).

Program Success

The final interview question encouraged the teachers to reflect upon whether they felt the program was successful. The researcher intentionally did not define the term "success" for teachers in an effort to allow them to define their own measure of success.

Teacher C declared:

This program is great for the kids, helping build their self-esteem; it's great for the parents, seeing a visible difference in their children's attitude and performance in school; it is also really helpful to the classroom teacher, getting another teacher's help with remediating an at-risk student's reading and math skills. This program really impacts everyone involved in it.

Teacher B replied "They (the Pathways students) all seemed to be doing better on report cards and tests. Talking to their teachers and seeing their progress and
final report cards, I can safely say that the program helps the Pathways students."

Although Teacher A would not change the program, she did offer some suggestions for improvement: "I would try to build in or give the Pathway's teacher time to meet with the regular classroom teachers on a regular basis so they could work together."

Teacher D felt that the program transcends the program goal of academic improvement:

The extra attention these students receive impacts them both educationally and socially. It is wonderful to see struggling students improve and gain confidence in their abilities. Not only can you see a difference on their report cards, you can also see the difference in the way they now perceive school. School is now a place where they can be successful. It's a place where they fit in.

The teachers in this study talked about how they felt they were "making a difference in the lives of their students." The teachers would agree with the work of Baker and Witt (1996), Posen and Vandell (1999) and Shwartz (2001) whose research has indicated that youth who frequently participated in after-school programs have an
increase in academic achievement, specifically higher test scores. In addition, research has also indicated that participation in after-school programs result in youth possessing increased aspiration to attend college, an increase in self-esteem, and an increase in school attendance (Pierce & Vandell, 1999).

Subsidiary Question 3.

Is there a difference between teacher perception of student success in the "Pathways to Success" elementary after-school program and the student's performance on the NJ ASK and Terra Nova standardized assessments?

Hypothesis 7.

There is no significant difference in the standardized assessment scores of the students who participated in the "Pathways to Success" elementary after-school program and the teacher's perception of the program's success.

Based on the interview responses, the four teachers felt the "Pathways to Success" elementary after-school program was highly effective. Teachers noted that "coming to the Pathways program gave the students more confidence
and helped build their self-esteem." The teachers saw a visible difference in their student's attitude and performance in school. "They all seemed to be doing better on report cards and on tests. Talking to their teachers and seeing their progress and final report cards, I can safely say the program helps the Pathways students."

Data indicated that although a difference exists in the mean scores of students who attended the "Pathways to Success" elementary after-school program in the areas of Language Arts and Mathematics, these differences were not significant.

Summary

Prior to the discussion of the data analysis, it must be noted that due to the small sample size in this case study any generalization of these results is discouraged.

This chapter will conclude with a brief summary of the seven supporting hypotheses that supported four research questions.

Hypothesis One (H01) was not rejected. Findings suggest that differences did exist in the Language Arts scores of those students who attended the Pathways after-school program and those students who did not attend. These
findings however, were not significant. The findings demonstrated the mean score for the non-participants on the NJ ASK was higher than participants and the mean score for participants was higher than Non-participants on the Terra Nova.

Hypothesis Two (H2) was not rejected. Findings indicated that a difference did exist between in the mathematics mean scores of those students who attended the "Pathways to Success" elementary after-school program and those students who did not. The difference, however, was not significant. The mean score for the participants was higher than the non-participants on both the NJ ASK and the Terra Nova assessments.

Hypothesis Three (H3) was not rejected. The findings indicated that an interesting difference existed in the Language Arts mean scores of females and males who participated in the "Pathways to Success" elementary after-school program on both the NJ ASK and the Terra Nova assessments. However, these results are not significant.

Hypothesis Four (H4) was not rejected. When an examination of the results of male and female participants' mathematics mean scores on the NJ ASK and Terra NOVA,
differences were noted; however, these differences were not significant.

Hypothesis Five (H05) was not rejected. The data presented indicated that differences existed between the Language Arts mean scores of "Pathways to Success" elementary after-school program participants who were eligible for free lunch and those who were not. However, these differences were not significant.

Hypothesis Six (H06) was not rejected. Differences were found in the mean scores of students who were eligible for free lunch when compared to those students who were not eligible for free lunch on the NJ ASK and Terra Nova Mathematic assessments; however, these differences were not significant.

Hypothesis Seven (H07) was not rejected. When the standardized testing data was compared against the teacher responses to the interview questions, interesting differences were noted between the student's performance on standardized assessments and the teacher's perception of the program's success. However, due to the small sample size of the participants, these findings are not significant.
All seven of the null hypotheses were rejected. Statistically this indicates that participation in the "Pathways to Success" elementary after-school program does not significantly impact student performance on standardized assessment. A discussion of the findings including an evaluation of each hypothesis, study conclusions, and recommendations are provided in Chapter V.
CHAPTER V
Summary and Recommendations

The NCLB Act mandates initiated in 2001 present the most significant educational reform of the last thirty years (Finn, 2004). The goal of the NCLB Act is to improve the academic achievement of all American students based on their performance on standardized assessments.

Because of the NCLB Act's focus on standardized assessments, an analysis of student participants' assessment scores seemed a logical instrument for measuring the effectiveness of the "Pathways to Success" elementary after-school program. In order to augment the quantitative data in this study, qualitative data in the form of teacher interviews was also collected.

Summary of the Study

The purpose of this study was to investigate the effectiveness of the "Pathways to Success" elementary after-school program on 30 students who were identified as "at-risk" as a result of their score on the following standardized assessments: the New Jersey Assessment of
Skills and Knowledge 3 (NJ ASK 3), the New Jersey Assessment of Skills and Knowledge 4 (NJ ASK 4), third grade Terra Nova, fourth grade Terra Nova, fifth grade Terra Nova, and sixth grade Terra Nova.

Student gender and student eligibility for the district’s free lunch program were also explored in relation to their impact on student performance on standardized test scores. In addition, this study examined teacher perceptions of the program’s effectiveness, as well as their perceptions of student outcomes, effective teaching methodologies, and expectations for student success.

Although extensive research on after-school programs, specifically that of Kane (2004), has failed to demonstrate a significant impact on standardized assessments, the administrators of the “Pathways to Success” elementary after-school program continue to use student performance on standardized assessments as a measure for the program’s success. Additionally, qualitative data, in the form of student performance on standardized assessments, is used to determine whether funding will continue for this program.

As a result of the potential for the redirection of resources based on data, this study relied on a review of
quantitative data, as well as qualitative data, even in light of the cautionary implications of the research.

The main research question investigated whether a significant difference would emerge in performance on standardized assessment language arts and math scores between students who participated in the "Pathways to Success" after-school program and those students who did not.

A dual methodological design was utilized in this study. This design included standardized assessments analyzed using T-tests and Analysis of Variance (ANOVA), descriptive statistic methodologies and ground theory methodologies to analyze the interview data to determine the impact of the "Pathways to Success" elementary after-school program. In Phase One, the quantitative academic achievement data was collected from 92 students. Thirty of those students participated in the "Pathways to Success" after-school program. The data of the participants and non-participants were analyzed using T-tests and ANOVA statistical procedures. This information was summarized and presented in Chapter IV.

In Phase Two, the researcher employed a subcategory of grounded theory research entitled Inductive Analysis to
analyze the interview data of the four teachers who participated in the study. Similarities and differences in teacher responses to the interview questions were analyzed to determine if there were shared themes in program effectiveness, student expectations, and teaching methodologies. The similarities and differences were used to determine if the teacher's perceptions of the "Pathways to Success" elementary after-school program correlated with the qualitative data in terms of student success. These perceptions were gained through individual interviews.

This chapter discusses the findings of the study, presents conclusions, and makes recommendations for future research based on the findings from the research questions that guided this study.

Discussion

The first research question examined whether a significant difference in performance on standardized assessments existed between students who participated in the "Pathways to Success" elementary after-school program and those students who did not.

The question was based on two hypotheses. Hypothesis one compared the differences of Language Arts mean scores
on the Terra Nova and NJ ASK assessments between "Pathways to Success" elementary after-school program participants and non-participants. Hypothesis two compared the differences on Mathematic mean scores on the Terra Nova and NJ ASK assessments between "Pathways to Success" elementary after-school program participants and non-participants.

Hypothesis one analyzed the data from the Language Arts scores of Terra Nova and NJ ASK assessments using t-tests supported by ANOVA's. The statistical data revealed no significant difference regarding participation on either the Terra Nova or NJ ASK assessments. Although the findings were not statistically significant, the "Pathways to Success" elementary after-school program participants did have a higher mean score on the Terra Nova Language Arts assessment (666.63 versus 656.21).

Hypothesis two analyzed the Mathematic mean scores of Terra Nova and NJ ASK assessments using t-tests supported by ANOVA's. Similar to the findings of Hypothesis one, the differences in the Mathematic scores were not statistically significant; however, the "Pathways to Success" elementary after-school program participants did have a higher mean score on the Terra Nova Math assessment (659.81 for participants versus 654.84 for non-participants) and the NJ
ASK Math assessment (199.78 for participants versus 196.64 for non-participants).

These findings were consistent with the research of Kane (2004) who found that after-school programs do not lead to extraordinarily large increases in achievement. However, after-school programs tend to have more moderate gains on academic performance measures.

The second research question asked if there was significant difference in the performance on standardized assessments between males and females who participated in the "Pathways to Success" elementary after-school program. This question was supported by two hypotheses. Hypothesis three compared the difference in Language Arts scores between females and males who participated in the "Pathways to Success" elementary after-school program. Hypothesis four compared the difference of Mathematics scores between females and males who participated in the "Pathways to Success" elementary after-school program.

Hypothesis three analyzed the data from the Language Arts scores of Terra Nova and NJ ASK assessments using t-tests supported by ANOVA's. The statistical data revealed interesting differences in the Language Arts scores on both the Terra Nova and NJ ASK assessments. On the Terra Nova
the Language Arts mean score for female participants was
630.2000 compared to 647.0000 for male participants. This
finding was replicated on the NJ ASK assessment where
female participants' Language Arts mean score was 212.2222
compared to 185.6060 for male participants. These results
are consistent with the findings of many authors including
Kleinfeld (1998), who found that females get higher grades
in school and do better than males on standardized tests of
reading and writing.

Hypothesis four analyzed the data from the mathematics
scores of Terra Nova and NJ ASK assessments using t-tests
supported by ANOVA's. On the NJ ASK assessment, female
participants mean score was 203.5333. The male participants
mean score was 196.6000. On the Terra Nova, the female
participants mean score was 650.6667; the male participants
mean score was 650.6667. Although the differences in the
Mathematics mean scores are not significant, they
illustrate a consistent trend that female participants
scored higher on standardized assessments than their male
counterparts. These findings do not concur with the
current research. According to Freeman (2004), a gender gap
exists favoring males in area of mathematics. Perhaps this
phenomenon is evidence of Kleinfeld's (1998) research that
found a perceived gender gap favoring males in mathematics and science is small and may be shrinking.

The third research question asked if there was a significant difference in the performance on standardized assessments between students who were eligible for free lunch and those who were not among the students who participated in the "Pathways to Success" elementary after-school program. This question was also supported by two hypotheses, hypotheses five and six. Hypothesis five compared the difference in Language Arts mean scores between students who were eligible for free lunch and those who were not, among participants in the "Pathways to Success" elementary after-school program. Hypothesis six compared the difference in mathematics mean scores between students who were eligible for free lunch and those who were not, among participants in the "Pathways to Success" elementary after-school program.

Hypothesis five analyzed the data from the Language Arts scores of Terra Nova and NJ ASK assessments using t-tests supported by ANOVA's. On the NJ ASK assessment, the mean score for those students eligible for free lunch was 187.333. The mean score for those students who were not eligible for free lunch was 200.25. On the Terra Nova,
participants who were eligible for free lunch had a mean score of 653.5000. The mean score for those students who were not eligible was 674.1423. Although the differences in the Language Arts mean scores are not significant, they illustrate that students who were not eligible for free lunch scored higher than those students who were eligible for free lunch.

Hypothesis six analyzed the data from the mathematics scores of Terra Nova and NJ ASK assessments using t-tests supported by ANOVA's. On the NJ ASK assessment, the mean score for those students eligible for free lunch was 186.6667. The mean score for those students who were not eligible for free lunch was 282.2500. On the Terra Nova, the eligible for free lunch participants mean score was 645.2500. The mean score for those students not eligible for free lunch was 568.1429. Similar to the information in hypothesis five, the differences in the mathematics mean scores are not significant.

The findings of hypothesis five and six, although the sample size is extremely small, concur with the findings of the United State Department of Education report on School Poverty and Academic Performance (1998) which indicates
that a gap in math and reading achievement between students from low socio-economic homes versus those who are not.

Question four asked if there was a difference between teacher perception of student success in the "Pathways to Success" elementary after-school program and the student's performance on the NJ ASK and Terra Nova standardized assessments. This question was supported by Hypothesis seven. Hypothesis seven analyzed the quantitative data and reviewed the qualitative data contained in the transcripts of the teacher interviews.

In the quantitative results of this study, it appears that participation in the "Pathways to Success" elementary after-school program does not significantly impact the participant's performance on standardized assessments. Although participants consistently scored higher on standardized assessments, these results were not statistically significant. These results indicate that the "Pathways to Success" elementary after-school program did not have a significant impact on student performance. These results are consistent with the findings of Fane (2004), who failed to find impacts on math or reading achievement test scores among students who participated in after-school programs.
The qualitative data indicated the teachers feel that the students are benefiting from the "Pathways to Success" elementary after-school program in ways that cannot be measured on standardized assessments. One teacher noted: "All the students seemed to be doing better on report cards and tests." Another teacher noted: "Not only can you see a difference on their report cards, you can also see a difference in the way they now perceive school."

The teachers credit participation in the "Pathways to Success" elementary after-school program for changes in student attitude and their perception of school. The teachers also noted a dramatic increase in student self-esteem and confidence. As one teacher stated: "School is now a place where they can be successful. It is a place where they fit in."

Conclusions

The conclusions from this study are based on the analyses presented in Chapter Four. As previously stated, although extensive research on after-school programs, specifically that of Kane (2004), has failed to demonstrate a significant impact on standardized assessments, the administrators of the "Pathways to Success" elementary
after-school program continue to use performance on standardized test scores as measure for the program's success. In addition, the administrators of this program use qualitative data exclusively to determine whether funding will continue for this program.

As a result, this study relied on a review of quantitative data, as well as qualitative data, even in light of the cautionary implications of the research. The dual methodological design of this study, using quantitative and qualitative methodologies, attempted to overcome this limitation by providing a complete description of the program and drawing conclusions from within its boundaries.

The primary research question of this study was the following: Is there a significant difference in performance on standardized assessments between students who participated in the "Pathways to Success" elementary after-school program and those students who did not?

The quantitative results of hypothesis one and two, which employed t-test and ANOVA statistical analysis, revealed no significant difference regarding participation on either the Terra Nova or New Jersey ASK assessments. Although the findings were not statistically significant,
the "Pathways to Success" elementary after-school program participants did have a higher mean score on three out of the four assessments. These findings seem to concur with the growing body of research indicating continued participation in after-school programs does impact student academic achievement.

**Subsidiary Question One**

Is there a significant difference in performance on standardized assessments between males and females who participated in the "Pathways to Success" elementary after-school academic intervention program?

No. Although hypothesis three indicated differences in the Language Arts mean scores on both the Terra Nova and NJ ASK assessments with female participants scoring higher than male participants on both assessments, the results were not significant.

Hypothesis four indicated differences in the Mathematics mean scores on the Terra Nova and NJ ASK assessments. Female participants scored higher on both the Terra Nova and NJ ASK assessments; however, these scores were not significant.
Subsidiary Question Two

Is there a significant difference in the performance on standardized assessments between students who were eligible to receive free lunch and those who were not among the students who participated in the "Pathways to Success" elementary after-school program?

No. Based on the data presented in this study a significant difference does not exist in the Terra Nova and NJ ASK mean scores of students who participated in the "Pathways to Success" elementary after-school program and were eligible for free lunch compared to those students who were not eligible for free lunch. Hypotheses five and six indicated that students who were not eligible for free lunch had higher mean scores than students who were eligible in all sections of the Terra Nova and NJ ASK assessments. Although differences in mean scores did exist, they were not significant.

Subsidiary Question Three

Is there a difference between teacher perception of student success in the "Pathways to Success" elementary after-school program and the student’s performance on the NJ ASK and Terra Nova standardized assessments?
No. The data analyzed in hypothesis seven indicated that while differences existed between the student scores on standardized assessments and the themes that emerged in the teacher interviews, the results were not significant. The participant's standardized scores revealed that participation had little effect on their performance on standardized assessments. Conversely, the teacher interviewees overwhelmingly felt that the "Pathways to Success" elementary after-school program had a profound impact on the self-esteem and self-concept of the participants.

In summary, with all four of the research questions answered negatively, it is the conclusion of the researcher that participation in the "Pathways to Success" elementary after-school program did not have a statistically significant effect on the at-risk student performance on standardized assessments. This finding is evidenced by the quantitative data presented in chapter four.

Although no statistically significant differences were found between students who participated and students who did not participate in their performance on standardized assessments, the teachers reported positive differences existed especially in the socio-emotional demeanor of the
student participants. As a result, continued research in the area of after-school programs (with a larger sample sized) and their impact on academic achievement is necessary. The success of providing at-risk students with additional exposure to areas in which they are academically weak should be replicated in communities with large at-risk populations.

In closing, it is essential to acknowledge the feelings of the teachers in the program who consistently verbalized their evidence of the program's impact on the academic and personal success of the participants. The teachers were concerned that the "Pathways to Success" elementary after-school program's effectiveness may be measured solely on test scores. One teacher stated: "The extra attention to these students impacts them both educationally and socially. The program has changed the students and the way they interact with school. School is now a place where they can be successful. It is a place where they fit in."

Contrary to the mandates of the NCLB Act, numbers can’t always measure student success.
Recommendations

One of the universal issues surrounding after-school programs is the lack of structure that exists within these programs. This lack of structure makes it difficult to accurately assess the variables related to the program. However, with the increase in educational accountability, as mandated by the federal government's NCLB, it is expected that many programs will begin to implement a structure that allows administrators to assess the ongoing impact of these after-school programs.

The following recommendations are being made for future research studies relative to academic after-school programs:

Larger Sample Size

This study was a tool in assessing the effectiveness of an after-school academic enrichment program; however, the small sample size of thirty participants hinders the ability to generalize these results. It is suggested that future researchers replicate this study using a larger sample size of both students who participate in after-school programs and the teachers who teach them.
Parent Interviews

Given the potential for teacher interviews to be tainted by the issue of their vested interest (their need for sustained employment), it is recommended that interviews be conducted of parents who children participate in the "Pathways to Success" elementary after-school program. Their responses may provide additional insight into the impact of the program on their child's academic performance both at school and home.

Follow Participants Longitudinally

Research by Kane (2004), among others, indicated the potential for a long-term impact on after-school program participant's academic achievement. In light of these research findings, it is recommended that the academic achievement of the participants in the "Pathways to Success" elementary after-school program be researched at intervals of two, four, and six years post program participation. An analysis of this data will assist in the determination of the long-term impact of participation in the "Pathways to Success" elementary after-school program.
Student Input

Student input plays a valuable role in program development. As a result, survey the students involved in the program to determine their perceptions of the program's effectiveness. After-school programs are usually designed by school administrators who probably did not experience the same academic struggles that at-risk youth face. If valuable feedback is wanted, the students involved in the program would be able to provide the research with the most pertinent data.

Additional Assessments

Standardized assessments have a limited value. Many researchers contend that performance on standardized assessments does not accurately reflect a true picture of student's abilities. In future studies, the use of various assessment tools, including report card grades and student-completed performance evaluation, may provide a more accurate picture of student performance.

The impact of after-school programs on the participant's emotional health cannot be discounted. Future research should employ evaluations of the participant's emotional state prior to and post intervention. A
questionnaire such as Seattle Self-Report Instrument, developed by Hindelang, Hirschi, and Weis (1981), will provide the researcher with information on the participant's self concept.

Parallel Standardized Assessments

Using the same assessment for all participants, pre-and post-intervention will assist the researcher in developing a consistent database that will assist in the application of statistical treatments.
References


methodologies to assess the effects of LA's BEST on student performance. Los Angeles: University of California.


http://www.gse.harvard.edu/~hfrp/eval/issue2
I/special.html


Best after school enrichment initiative on subsequent student achievement and performance. Los Angeles: UCLA Center for the Study of Evaluation, Graduate School of Education & Information Studies, University of California.


the American Educational Research Association, Chicago, IL.


Appendix A

Informed Consent Form
Informed Consent Form

To: 2003-04 Pathways teachers
From: Thomas Smith
RE: Participation in an interview

RESEARCHER

I am currently a doctoral student at Seton Hall University conducting research on the effectiveness of after-school academic enrichment programs. I am writing to ask for your participation in this research. Because my role as the Director of Special Services is one of a supervisory and evaluative nature, I have employed a research assistant, Ms. Louise Derry to conduct my interviews. Please allow me to explain this project to you.

EXPLANATION OF RESEARCH AND DURATION OF PARTICIPATION

The topic I have chosen for this research is "an examination of after-school academic enrichment programs for at-risk students." As a teacher in the Pathways after-school enrichment program, during the 2003-04 school year, your input assists me determining the effectiveness of this program. I would like to gain your input through an
interview conducted at your convenience, by a research assistant employed by me.

DESCRIPTION OF PROCEDURE
The interview will take place at your convenience, either in person or via telephone. During this interview you will be asked twelve questions regarding your experience in the Pathways program.

The interviews will be conducted by a research assistant who has no affiliation to Spotswood School District or to the research being conducted for this project.

PROTECTING YOUR IDENTITY
Your responses will be anonymous; you will be asked not to mention names during the interview session to ensure your anonymity. Prior to being presented to the researcher, the research assistant’s notes will be transcribed by a third party who is not employed by Spotswood School District or affiliated with the research being conducted. Any information, which identifies the participant, will be removed prior to presentation to the researcher.
DATA WILL BE KEPT CONFIDENTIAL

All data that is collected will be confidential and stored in a locked cabinet off the school premises. You have the right to review all or any portion of the transcripts and request that it be destroyed. Transcripts will be kept separate from this consent form to ensure no link to your identity. At the conclusion of this research project, all transcripts will be destroyed.

PARTICIPATION IS VOLUNTARY

Your participation in this research group is voluntary and your input will have no bearing on your position in the program or on the future of the program.

THERE ARE NO RISKS FOR YOUR PARTICIPATION

Participation in this study poses no anticipated risks and may or may not provide expected benefits. Only aggregate data will be used with complete anonymity and confidentiality maintained.

BENEFITS AND COMPENSATION FOR YOUR PARTICIPATION

You will receive no benefits or compensation for your participation in this research project.
ALTERNATIVES TO YOUR PARTICIPATION

Only interviews are being conducted and each individual can choose whether or not he/she wants to participate.

CONTACT INFORMATION

Should you have any questions or concerns regarding this research project, please contact me using the following information:

Thomas A. Smith
Seton Hall University
College of Education and Human Services
400 South Orange Avenue
South Orange, NJ 07079

CONSENT

Your consent to participate in this program is indicated by your signature and return of this copy to Louise Derry in the self-addressed, stamped envelope provided to you.

Thank you for your cooperation in this study.

Thomas A. Smith
Doctoral Candidate

Please Print Below:

Name ___________________________ Date ____________

Signature ________________________
Appendix B

Consent from School District
Dear Dr. Vaz:

My name is Thomas Smith, and I am currently a doctoral student at Seton Hall University. In order to fulfill the requirements of my doctoral program, I must complete a research dissertation. The topic I have chosen for this research is "an examination of after school academic enrichment programs for at-risk students." In order to complete this research, I am asking for your assistance providing me with the following data, which I understand, is routinely accessed and reported on by the Spotswood School District:

- A list of all students identified as needing basic skills in grades two, three, four, five, and six, including gender and eligibility for free and reduced lunch programs. This list should not contain student names. Please code the student by whether they participated in the Pathways program or not. "1" for Pathways after-school participants, "0" for student who were eligible but did not participate in the Pathways after-school program.

- Standardized test scores (Terra Nova and New Jersey Assessment of Student Knowledge (NJ ASK) and Elementary School Proficiency Assessment (ESPA) for all students in grades 2, 3, 4, 5, 6 who were identified as needing basic skills. This information should not contain student names; however, I must be able to cross-reference this information with other list I requested. Perhaps use student ID numbers.

- Permission to hold a focus group research session with the staff members who currently teach the after-school program. Teacher participation in this focus group is voluntary and their answers will be kept strictly confidential.

If you permit me to run this study in your district, I ask that you please send a letter granting your permission written on your letterhead. I will need to show this letter to the Institutional Review Board for Human Subjects Research here at Seton Hall University.

I believe this research has real and important implication for education. If you are interested or have any questions, please contact me at or e-mail me at smiththb@shu.edu.
Thank you in advance for your cooperation in my quest to examine the effectiveness of an after-school academic program. I will gladly share the results of my study when it is completed.

Sincerely,

Thomas A. Smith
Appendix C

Transcripts of Interviews
Teacher A

1. I taught in the Pathway's program for two years. I taught during the last school year and had a good experience so now I'm teaching the program again this year.

2. The first year, I taught 15 2nd to 4th graders, and 6 5th-6th graders. The second year, I taught 6 students. In a way, it would be better if you could teach the same grade level year after year because then you could be totally knowledgeable on a certain grade curriculum and grade level expectations. I guess that is something that could be discussed at the end of the year. Hopefully we will have a meeting with all of the Pathways teachers and the Director of Special Services to brainstorm together.

3. There is also freedom in regard to teaching in the Pathway's Program. I used a lot of learning and interactive games. I did not put an emphasis on pencil to paper tasks. I would work on reinforcing skills based on the individual needs of the students. I know that other Pathways teachers teach their students differently but this is the way I think the kids learn the best. My thinking is that they need a break from the standard structure of the school day. They need a break and to have some fun while learning at the same.

4. Yes. I feel my instructional methods were effective. The only thing I would change is the fact that more classroom teacher input is needed. It would be nice to hear from the teachers what areas the students need help in. This goes back to what I was saying about it being nice if we could teach the same grade level year after year. It's important to note that this program is only in its second year, so maybe this could happen in the future.

5. I would reinforce the skills that were taught in the normal classroom. It's important for these students to get skills reinforced because sometimes the pace of their regular classroom is too fast and they miss key elements. That is the beauty of the Pathways program; skills can be retaught and maybe
explained in a different way in order for the students to learn.

6. Feedback, regarding the effectiveness of the Pathways program, was positive from both teachers and parents. Many parents would tell me what a nice change they'd seen in their child since he/she had entered the program. It's nice for both teachers and parents to see how effective a few more hours of instruction can be. I'm really happy to be involved in this program. It's something that the district should be very proud of.

7. I am a more relaxed teacher in the Pathways program. I tried to make learning fun for the Pathways students. Many of them are turned off to school because it's hard work and challenging for them. By making learning fun, I felt like I was giving them a reason to come to school each day.

8. Yes, I tried to spread the word on how effective the Pathways program is around my school.

9. I did not discuss the students that I taught in the Pathways program with their regular classroom teacher enough. It was hard to find common times to meet with teachers. Obviously, if it were warranted, I would get in touch with the teachers, but it wasn't an easy task. Once again, if we could concentrate on one grade level year after year, we would already have that standing relationship with the grade-level teachers. It might make it easier to talk to them if we already had a good relationship with them.

10. I feel the students were excited about the Pathways program. They came back each day, ready to learn and knowing that learning can be fun. I think they saw the difference that was made by putting in more time and energy into their work. I truly think that this program will have long-lasting effects on their work ethics and the way they feel about school.

11. Yes, all work was typically completed.

12. Sometimes behavior was an issue, but no more than in the regular classroom. I quickly put an end to any behavioral problem. You have to keep in mind that this program really makes the day extended for the children, so
I expect some of the kids to be antsy. That is why I teach the way I teach in the program.

13. I wouldn't change the program, though I would try to build in or give the Pathway's teacher time to meet with the regular classroom teachers on a regular basis so they could work together.

Teacher B

1. I taught in the Pathways program for one year and that was last year. It was a great experience for my students and for myself. I couldn't teach this year because of personal scheduling difficulties.

2. When I taught in the program last year, I had 4 students. They were all 6th graders.

3. I taught using small group instruction. I would sometimes pair the students together depending on their ability level. Most of the time we played games as a way of learning. We would use flashcards to review spelling words and vocabulary, or we would do crosswords or word finds. If a certain child was having a hard time with a certain concept, I would ask the other students to explain concepts to their peers. Students taught other students. This is a great way of reinforcing concepts for both children involved. I think it is proven that we remember 90 percent of what we teach, so obviously it is a very effective teaching technique. I did no teaching to the test or direct instruction on test taking skills. In hindsight, I think the students would have benefited from that type of instruction on test taking skills.

4. Yes, the instructional techniques were effective, especially teaching to peers. I would have preferred that they be separated by math and reading. I tried to split the time so some kids got remediation in areas needed. They would sometimes get bored, but overall it was not a problem. Playing the games made learning fun for the Pathways students. I think that was an integral part to teaching them because the majority of them experience a hard time in their regular classroom and school is not a fun place for them.

5. I would ask each student what difficulties they were having in their course work and work from there. I taught
6th graders, so they would verbalize and tell me when they needed help.

§. Yes, based on the fact that remediation was given immediately. If they had a problem with a new Math skill taught that day, I could work on it with them that day and prevent them from struggling. If they were not involved in the Pathways program they would, obviously, not get the help they needed when they need it.

? Pathways instruction and my regular classroom instruction are pretty similar. I use the same questioning techniques with both groups. With the Pathways students, I was mainly re-teaching concepts. However, no homework was given to the Pathways students. I would help the Pathways students study for tests, which obviously I don't have too much time to do with my regular students.

8. I mainly only discussed the Pathways program with the other Pathways teachers. I didn't feel the need to discuss the program with teachers that were not involved in the program; other than teachers of students in the program.

9. I discussed the students I taught with their classroom teachers depending on the student and how much difficulty they were having. However, I would frequently talk to teachers whose students were in the process of being PAC'ed. These were typically the students who were struggling the most in their regular classroom. I think it was sort of reassuring to their classroom teacher that the student was getting extra attention from another teacher.

10. Yes, they liked the games and that they were teaching each other. I think they saw the after school program as a fun thing in comparison to its being a continuation of the school day. I think that it was also nice to take them away from their peers who are not struggling. I know that sounds weird, but sometimes being in their regular classroom is difficult because they can see how much difficulty they are having compared to their peers. Coming to the Pathways program gives them confidence on so many levels. They realize that they aren't the only student that is struggling and they also get help to keep up with their peers.
11. Most of the time the students completed the assignments for each given day. Because it was fun for them, they were motivated to complete the assignments for the day.

12. Behavior was not an issue for my students; the kids in my group got along well. They were very cooperative with each other and me.

13. Yes, I feel that the program was successful. They all seemed to be doing better on report cards and tests. I don't have any other criteria to judge their success on. Talking to their teachers and seeing their progress and final report cards I can safely say that the program helps the Pathways students.

Teacher C

1. I have taught in the Pathways program for 2 years. I taught last year and then again this school year. I really like the feeling that I'm helping those students that experience the most difficulty with school.

2. I taught 4th grade the first year and now I teach 5th grade. I really like the fact that I have the next grade level from the previous year because many of the students I had as 4th graders, I now have as 5th graders. I like that I can see them grow and mature as people and students. I think that they like that they know me. We don't have to take the time to get to know each other in the second year. We know how each other operstes, and as a teacher I think that's great. I have approximately 6 students each day. It does vary, depending on what area the student needs remediation in. I have math students on Monday and Wednesday and language arts students on Tuesday and Thursday.

3. I use games and fun activities that are based on grade-level curriculum. We will make notecards from spelling and vocabulary words and play matching games with them. I try to have the students move around. We will match around the room reciting our times tables from memory. I think it's important to keep them on their toes. In terms of direct instruction, there is little of it, though I will re-teach concepts and help explain when the
students have missed some concept from their regular classroom. Also, I review using study sheets to help prepare them for classroom tests. So, basically, everything I cover in the Pathways After School Program is repetition for the students. I don't teach any new skills because the students are already struggling as it is.

4. Yes, my instructional techniques are effective. The additional small group setting is beneficial to the students. I feel that my students enjoy the time we spend together. Though I do have to admit that it would be nice to have more materials to help reinforce topics. By that I mean, additional workbooks, worksheets, computer games, that the children aren't already familiar with. Unfortunately, I don't have the time to be making my own materials. Some kids should be classified in the program, so having extra material would absolutely benefit them in a major way. This way I could work one-on-one with a student and have the remainder of the students working on an appropriate worksheet or computer game. Though realistically I know it all comes down to dollar and cents. These students are lucky to have a free after-school program at their disposal, so I shouldn't complain about needing more materials.

5. Yes, the curriculum for the Pathways program is coordinated and aligned with the regular classroom curriculum. There is no separate curriculum for the program. The program basically helps support the students in their regular classroom. That is the purpose of the program, at least I think it is the purpose. This program helps the students keep up with their peers.

6. Those students that take full advantage of the Pathways program could show great improvement. They seem to enjoy school more and have more confidence, knowing that they have the right answers to questions etc. Of course, there are some students that see coming to an after-school academic program as a punishment. These students don't take full advantage of the program. I'm sure that they benefit from it, but if they put more energy and bought into the program more, I feel they'd have greater payoffs.
7. My teaching in the Pathways program is more fun than my traditional classroom teaching. The typical rote/repetition doesn’t work with my after-school students. They need to be engaged in their learning. Many students now are so used to being completely entertained because of the television and computer and video games. I’ve had to change my teaching to grab their attention. We play some great math games to reinforce instruction. Everything has to be fun and entertaining for them. It’s important to make sure these students have a positive experience in this program.

8. I do discuss the Pathways program with other teachers, saying very positive things about it. It’s important for other teachers to be aware of this program. I think it would be helpful to have a staff meeting where everyone is told about the program and its goals. I’d gladly speak about its effectiveness. Also, the more students we have in the program, the more teachers we need to teach. The pay isn’t the best, but it is a worthwhile program.

9. I do discuss students with their regular teachers on a regular basis, typically before or after school. I check to see how my after-school students are performing in their regular classroom. Are they studying for tests? Doing their homework? Experiencing any particular difficulty? The after-school teachers find this program so helpful to their students, but it’s also such a help to the regular teacher, knowing that another certified teacher is working with their at-risk student.

10. In my experience, the younger children really like to come to the Pathways program. The older children don’t seem to care as much. We compete with after-school activities such as band and chorus, so it’s hard for some kids. If the older children would realize how beneficial this program could be, I think they’d buy into it more. The older children haven’t said anything, but I think they get teased by their peers for coming to an after-school program. Obviously, they are having difficulty in school if they are walking into my classroom everyday after school. I guess it is stigmatizing in a way, but on the other hand, many of these children would be receiving no remediation if it were left up to their parents, for financial reasons. This district is very blue collar and money is an issue for many parents.
11. Yes, students do complete the day-to-day assignments. Sometimes they need encouraging, but the nature of the assignments kind of ensures that they complete them. They are fun.

12. There are some behavior problems, but these children are behavior problems in their regular classroom too. Some have difficulty focusing and blurt out answers. It's hard because they really change the dynamics of the Pathways program. It's such a difference when they aren't there.

13. I feel that the parents are getting a great service from the district having a Pathways program. The parents spend nothing for this service; it is completely funded by the school district. Parents would be spending hundreds of dollar per month to pay for this kind of tutoring if it was done privately. This program is great for the kids, helping build their self-esteem. It's great for the parents, seeing a visible difference in their children's attitude and performance in school. It is also really helpful to the classroom teacher, getting another teacher's help with remediating an at-risk student's reading and math skills. This program really impacts everyone involved in it.

Teacher D

1. I taught for one year and that was last year. I moved schools last year and now I teach at the K-1 school. Unfortunately, the Pathways program is not here, at least at this point. I would have loved to still be a part of the after-school program, but logistically it just isn't possible this year.

2. To begin with there were 20 kids. I was really impressed by the number of students who were taking advantage of the program. Then halfway through the year more teachers were hired and I had 6-8 3rd graders. I would have much preferred to have a smaller number of students because then they would have received more individualized attention. I could have taught in a different way if I had a smaller group.
3. I work with the kids in small groups of 2-3 kids. I find this to be the best way to work with children who are experiencing difficulty with school. They need small groups in order to learn. I'm right on top of them, and can see where they are experiencing difficulty. For example, if they are working on division, I can see exactly where they are making their errors and correct it on the spot. All too often children will make errors, repeatedly without proper guidance from a teacher. It becomes more and more difficult to remediate that problem because it becomes a habit for the children. By working in the small groups, I can remediate immediately. When I am directly working with the group, the other children are divided into different centers, such as listening centers. I never have children just sitting there. They are always involved in some learning activity. Many of the centers help reinforce concepts for them. With the small groups, I give direct instruction with guided reading, writer workshops, etc. I did cover test-taking skills and did preparation work for the ESPA. I think it's important to expose my Pathways students to test taking skills because they do not receive this type of instruction in their regular classroom, at least not to the extent that they need. I feel that these students are performing poorly in their regular classroom and on standardized tests because of many variables, one of them being that they don't know how to take a test: they don't know proper test taking strategies. For some children, it does come naturally, but for some students, especially those students at-risk, they need repeated direct instruction.

4. I think the methods I used were effective. The only thing I would change is the fact that not all children came 4 days a week. I think that the program would be highly effective if they came consistently. Some children would come two days a week for help with reading and that isn't enough. Pathways is a beneficial program for those students considered at-risk.

5. My Pathways curriculum was aligned exactly to skills that are taught in the normal classroom. As a third-grade teacher I was fortunate enough to teach 3rd grade students in the Pathways program. I knew exactly what skills they were working on and were they should be functioning. I could also supplement to boost their skills, either with comprehension or decoding. I had material on hand to work with my after-school students.
6. I do expect the Pathways students to function better than students who did not participate. It's important for at-risk students to get remediation in their areas of weakness. I did see improvements in their reading and writing skills, despite the fact that some students only came two times a week. I feel that if there were more consistency, meaning they came 4-5 times a week, these children would become average to above average students.

7. I don't teach any differently to my Pathways students. I use the same types of lessons with my classroom students. I feel that my Pathways students should not be babied or coddled. They need extra exposure to skills; they need practice with Math facts, reading skills, and so on. They don't need to be babysat and to play games while they are with me.

8. Yes, I did confer with other teachers not involved with the Pathways program. In particular, I would meet with the Reading Specialist and get suggestions and materials from her. She was an invaluable resource for my students and me.

9. I frequently would touch base with the pathway's student's teachers and their teachers would also come to see me. If a particular child was experiencing difficulty in their classroom, I would conference with their teacher at least once a week in order to get updates and help them in the best way possible.

10. Yes, the students were excited to come to the Pathway's program. They thought it was fun because educational games were played to reinforce topics, such as word bingo, etc. Rewards were also given, such as being able to play Math computer games. If you combine a few educational games along with the rote and repetition of skills it makes learning fun for them.

11. Yes, all work assigned was completed by the students. Many assignments, especially writing, were ongoing. Some assignments will last over a few weeks. Going through all the phases of writing, brainstorming, writing, editing, publishing and so on does take a while. I especially liked giving my students picture prompts for them to create a story. This is also practice for the EOGA that they will have to take in 4th grade.
12. There was no problem with behavior. All of my students were respectful, cooperative and hard working. They didn’t see the program as a punishment, so they didn’t take advantage.

13. Yes, the program is effective and beneficial to the at-risk students it targets. The extra attention to these students impacts them both educationally and socially. It’s wonderful to see struggling students improve and gain confidence in their abilities. Not only can you see a difference on their report cards, you can also see the difference in the way they now perceive school. School is now a place where they can be successful. It’s a place where they fit in.
Appendix D

Tables to Support the Qualitative Data
Table 1

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Attend Pathways</td>
<td>24</td>
<td>205.750</td>
<td>18.93485</td>
<td>3.87731</td>
</tr>
<tr>
<td>Attended Pathways</td>
<td>19</td>
<td>198.2165</td>
<td>20.81287</td>
<td>4.7780</td>
</tr>
</tbody>
</table>

Table 2

Analysis of Variance (ANOVA) for Participants on the NJ ASK Language Arts

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6.355</td>
<td>28</td>
<td>.227</td>
<td>.748</td>
<td>.752</td>
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<tr>
<td>Within Groups</td>
<td>4.250</td>
<td>14</td>
<td>.304</td>
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</table>

Table 3

T Test Comparing the Mean Scores of Pathways Program Attendees and Non Attendees on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Attend Pathways</td>
<td>38</td>
<td>656.2105</td>
<td>19.06767</td>
<td>3.09318</td>
</tr>
<tr>
<td>Attended Pathways</td>
<td>11</td>
<td>666.6364</td>
<td>30.92660</td>
<td>9.32472</td>
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Table 4

Analysis of Variance (ANOVA) for Participants on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5.564</td>
<td>25</td>
<td>.223</td>
<td>1.725</td>
<td>.096</td>
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<tr>
<td>Within Groups</td>
<td>2.967</td>
<td>23</td>
<td>.129</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5

T Test Comparing the Mean Scores of Pathways Program Attendees and Non Attendees on the NJ ASK Mathematics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did Not Attend Pathways</td>
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<td>196.0417</td>
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<td>5.08425</td>
</tr>
<tr>
<td>Attended Pathways</td>
<td>19</td>
<td>199.7895</td>
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<td>4.92967</td>
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Table 6

Analysis of Variance (ANOVA) for Participants on the NJ ASK Mathematics

<table>
<thead>
<tr>
<th></th>
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<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>7.43</td>
<td>29</td>
<td>.256</td>
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<td>.481</td>
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<td>Within Groups</td>
<td>3.167</td>
<td>13</td>
<td>.244</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7

| Attendees and Non Attendees on the Terra Nova Mathematics |
|---------------------------------|---------------------|---------------------|---------------------|
| Did Not Attend Pathways         | 36                  | 654.8421            | 21.73617            | 3.52607            |
| Attended Pathways               | 11                  | 659.8182            | 21.60008            | 6.51267            |

Table 8

| Analysis of Variance (ANOVA) for Participants on the Terra Nova Mathematics |
|---------------------------------|------------------|--------------------|------------------|
| Sum of Squares                  | Df               | Mean Square        | F                | Sig.              |
| Between Groups                  | 31               | 1.145              | 0.611            | 0.886             |
| Within Groups                   | 17               | 0.237              |                  |                   |

Table 9

| T Test Comparing the Mean Scores of Participant Gender on the NJ ASK Language Arts |
|---------------------------------|-------------------|-------------------|-----------------|
| Male Attendees                  | 10                | 185.6000          | 17.17362        | 5.43078           |
| Female Attendees                | 9                 | 212.2222          | 14.93969        | 4.97990           |
Table 10

Analysis of Variance (ANOVA) for Participant Gender on the NJ ASK Language Arts

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3357.202</td>
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<td>3357.2021</td>
<td>12.8541</td>
<td>.002</td>
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<tr>
<td>Within Groups</td>
<td>4439.956</td>
<td>17</td>
<td>261.174</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11

T Test Comparing the Mean Scores for Participant Gender on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Attendees</td>
<td>6</td>
<td>647.000</td>
<td>16.69731</td>
<td>6.81665</td>
</tr>
<tr>
<td>Female Attendees</td>
<td>5</td>
<td>690.200</td>
<td>27.75248</td>
<td>12.41129</td>
</tr>
</tbody>
</table>

Table 12

Analysis of Variance (ANOVA) for Participant Gender on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>5089.745</td>
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<td>5089.745</td>
<td>10.237</td>
<td>.011</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4474.800</td>
<td>9</td>
<td>497.200</td>
<td></td>
<td></td>
</tr>
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</table>
Table 13

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Attendees</td>
<td>10</td>
<td>196.6000</td>
<td>18.06900</td>
<td>5.71392</td>
</tr>
<tr>
<td>Female Attendees</td>
<td>9</td>
<td>203.3333</td>
<td>25.39193</td>
<td>8.46398</td>
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Table 14

**Analysis of Variance (ANOVA) for Participant Gender on the NJ ASK Mathematics**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
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<th>Mean Square</th>
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<th>Sig.</th>
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<tbody>
<tr>
<td>Between Groups</td>
<td>214.758</td>
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<tr>
<td>Within Groups</td>
<td>8096.400</td>
<td>17</td>
<td>476.259</td>
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Table 15

**T Test Comparing the Mean Scores of Participant Gender on the Terra Nova Mathematics**

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Attendees</td>
<td>6</td>
<td>650.6667</td>
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<td>9.72168</td>
</tr>
<tr>
<td>Female Attendees</td>
<td>5</td>
<td>670.8000</td>
<td>13.46105</td>
<td>6.01997</td>
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</tbody>
</table>
Table 16
Analysis of Variance (ANOVA) for Participant Gender on the NJ ASK Mathematics

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1105.503</td>
<td>1</td>
<td>1105.503</td>
<td>2.795</td>
<td>.129</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3560.133</td>
<td>9</td>
<td>395.570</td>
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</table>

Table 17
T Test Comparing the Mean Scores of Participants' Eligibility for Free Lunch and Participants Who Were Not on the NJ ASK Language Arts

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Eligible</td>
<td>16</td>
<td>200.2500</td>
<td>20.65107</td>
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</tr>
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<td>Eligible</td>
<td>3</td>
<td>187.3333</td>
<td>22.12088</td>
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Table 18
Analysis of Variance (ANOVA) for Participant Eligibility for Free Lunch on the NJ ASK Language Arts

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</thead>
<tbody>
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<td>421.491</td>
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<tr>
<td>Within Groups</td>
<td>7375.667</td>
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<td>433.863</td>
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</tbody>
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Table 19

T Test Comparing the Mean Scores of Participants Who Received Free Lunch and Participants Who Did Not on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Eligible</td>
<td>7</td>
<td>674.1429</td>
<td>23.16196</td>
<td>8.75440</td>
</tr>
<tr>
<td>Eligible</td>
<td>4</td>
<td>653.5000</td>
<td>41.87680</td>
<td>20.53840</td>
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Table 20

Analysis of Variance (ANOVA) for Participant Eligibility for Free Lunch on the Terra Nova Language Arts

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1084.688</td>
<td>1</td>
<td>1084.688</td>
<td>1.151</td>
</tr>
<tr>
<td>Within Groups</td>
<td>8479.857</td>
<td>9</td>
<td>942.206</td>
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Table 21

T Test Comparing the Mean Scores of Participants Eligibility for Free Lunch and Participants Who Were Not on the NJ ASK Mathematics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Eligible</td>
<td>16</td>
<td>202.2500</td>
<td>22.14949</td>
<td>5.53737</td>
</tr>
<tr>
<td>Eligible</td>
<td>3</td>
<td>186.6667</td>
<td>13.01281</td>
<td>7.51295</td>
</tr>
</tbody>
</table>
Table 22

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
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<td>613.491</td>
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<td>613.491</td>
<td>1.355</td>
<td>.261</td>
</tr>
<tr>
<td>Within Groups</td>
<td>7697.667</td>
<td>17</td>
<td>452.804</td>
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</tr>
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Table 23

T Test Comparing the Mean Scores of Participants Who Received Free Lunch and Participants Who Did Not on the Terra Nova Mathematics

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<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Eligible</td>
<td>7</td>
<td>668.1429</td>
<td>20.73989</td>
<td>7.83894</td>
</tr>
<tr>
<td>Eligible</td>
<td>4</td>
<td>645.2500</td>
<td>15.81929</td>
<td>7.90965</td>
</tr>
</tbody>
</table>

Table 24

Analysis of Variance (ANOVA) for Participant Eligibility for Free Lunch on the Terra Nova Mathematics

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1334.029</td>
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<td>1334.029</td>
<td>3.604</td>
<td>.090</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3331.607</td>
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<td>370.179</td>
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