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The Effect of a Back-to-Basics Core Academic Program Compared to a Traditional Academic Program on Participating 4th-Grade Students' Achievement and Perceptions of Life Skills

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The Effect of a Back-to-Basics Core Academic Program Compared to a Traditional Academic Program on Participating 4th-Grade Students' Achievement and Perceptions of Life Skills

By

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ABSTRACT

The Effect of a Back-to-Basics Core Academic Program Compared to a Traditional Academic Program on Participating 4th-Grade Students' Achievement and Perceptions of Life Skills

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Study results indicate that 3rd-grade to 4th-grade same school Core Academy Program and Traditional Academic Program learning experiences resulted in numerical equipoise for norm referenced reading, math, social studies, and science test score results. Randomly assigned Core Academy Program students' (n = 16) norm referenced language NCE posttest scores were statistically significantly greater following participation than the naturally formed group of students (n = 16) following participation in the Traditional Academic Program. Core Academy Program students' criterion referenced writing and math cutscores were also statistically greater at posttest. Finally, the teacher life skills perceptions awarded to students were greater for Traditional Academic Program students at posttest indicating a dissociation or independence between measured achievement test scores and

assigned life skills improvement scores. The Core Academy Program was teacher centered using direct instruction for reading, writing, and math skill development. Traditional Academic Program instruction was child centered with direct and strategy reading, writing, and math instruction. The positive student outcomes of this study may be due more to the school itself rather than to any differences assigned to the studies independent variables. Finally, it may be that both programs were alike in securing learning success.

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CHAPTER ONE

Introduction

Parents today are extremely concerned with how well their children are being taught, but even more importantly parents are extremely concerned with how well their children are learning (Miller, 1995; Stipek, Milburn, Clements, & Daniels, 1992). Many parents believe strongly that back to basics instruction in reading, language, writing, and math during the elementary school years is imperative for a solid learning foundation supporting future school success in critically important global economy content areas such as science and social studies (Algozzine, Yon, Nesbit, & Nesbit, 1999). Parents' concern for their children's participation in specific learning programs may be based on emotion (Algozzine et al., 1999; Miller & Knabe, 1998) where wanting what is best may be strongly influenced by personally held positive remembrances of their own earlier schooling days (Konzal, 1997). Furthermore, the open debate in the media about different instructional systems such as the controversy surrounding whole language practices may have, in the long run, strengthened parent's resolve that their children should receive time-honored basic instruction not from unproven educational methods (Farkus, 1993; Konzal, 1997;

Olson, 1993). In response to parent's concern about their student's well-being, schools have adopted back to basics educational programs that ensure basic skill building and maximum learning time throughout the school day for better or for worse (Konzal, 1997).

Beliefs About Instruction

Negative parental attitudes towards outcome-based education, whole language reading programs, multicultural education, and other programs with impact on classroom instructional practices have played a major role in either eliminating or modifying these practices in local schools (Pipho, 1994). Nielsen (2002) conducted a study of why parents choose alternative education practices. She found that parents are looking for a more challenging and structured approach and wanted a more rigorous curriculum with the phonics program focusing on phonograms. Parents choose a particular instructional method of teaching for their child based on their own background educational experience whether positive or negative. They also base it on a background that supported strong family values that influenced them. Based on their own experiences with schooling, with their children's experience, their aspirations for their children, parents internalize notions of what goes on in "good" schools (Dodd, 1994). Parents

will make choices of schools based on academic quality and act on their preferences in large enough numbers to significantly influence how schools are operated. Parents choose schools for a variety of reasons which include the following: academic quality which includes instructional methods, school size, parental involvement, extracurricular activities, and physical condition of the building, prior enrollment by family members or friends, and child preferences (Maddaus, 1990). It is not self-evident that parents' beliefs about how cognitive development occurs correspond exactly with their beliefs about the value of particular kinds of reading and math instruction (Stipek, et al., 1992).

In an extensive set of studies on parental beliefs conducted by the Educational Testing Service (ETS), more highly educated parents were more likely than less-educated parents to exposé "constructivist" concepts, in which the child is seen as self-regulating and acquiring knowledge through experimentation rather than direct instruction (McGillicuddy-DeLisi, 1982, 1985). Parents who embraced the early introduction of teacher-directed, performance-oriented instruction were expected to be more likely to use flashcards, workbooks, and other formal learning activities than parents who opposed such teaching. Parents who opposed

didactic teaching were expected to engage in relatively more informal activities-such as reading to their children and teaching about numbers and letters in the context of everyday activities (Stipek et al., 1992).

A study by Stipek et al. (1992) found that parents who believe that basic skills instruction should be introduced early tended also to believe in the value of teacher-controlled approaches that involved repetition and evaluation of performance outcomes. The parents who held these beliefs tended to disagree with child-centered practices. They also found that parents of kindergarten-age children chose schools that are consistent with their beliefs about appropriate instruction and their own goals for their children. Another study conducted by Roelofs, Visser, and Terwel in 2002, found that teacher-controlled learning environments, including frequent testing of students' progress is more valued by parents. Parents show a favorable attitude towards process-oriented, constructive, and collaborative learning environments, as long as teachers keep a strong grip on the learning process.

Algozzine et al. (1999) found in their research study that parents who perceived a special academic focus worked to improve the overall education of their children because

they thought their children could learn more and that their test scores would improve with the additional parent attention.

Parent concerns about reading. Since the 1970's, theories of reading have rapidly evolved from simple stimulus-response notions to complex constructivist models (Rumelhart & McClelland 1986). In the early 1970's, reading was thought to be a linear process: see a letter (or a piece of a letter), put it together with other letters, formulate the word, recall the meaning of the word, hold that in mind, formulate another word, put all the words together, compute a new meaning, and so on. By the end of the 1970's, reading theory had evolved from linear forms to parallel forms: many processes are now considered to develop at the same time during reading. In this process students are simultaneously forming expectations, recalling earlier concepts, picking up print, organizing syntax, and checking inferences. Reading is now recognized as a complex skill that requires a number of subskills (Spaulding, 2003). There are six stages of reading. Stage 0 is the prereading stage, students are trying to read billboards and cereal boxes. Stage 1 is the recognition of the alphabetic principle, which is letters represent speech sounds. Stage 2 is mastery to the point of automaticity of

the orthographic rules of the language. Stage 3 is the beginning of higher-order learning and thinking skills which includes comprehension. In Stage 4 and 5, a student is able to compare points of view or use new information to modify a personal theory (Chall, 1983).

Snow (1996) conducted a study that researched parental choice of two elementary reading programs offered within a child's resident school. Though this study focused on the process of parental choice, it was limited only to the selection of one curricula area, that of reading methodology. With this limitation in mind, the study conclusions provide some information relevant to this study. These were:

- Parents making a particular choice were shown to relate to fundamentally different expectations of childrearing related to their own past and the educational environment they experienced as children that they consider imperative to facilitating effective learning.
- Parents consider factors of location, safety, class size, physical facility, and teacher quality when choosing an effective learning environment for their child.

- Parents expressing satisfaction with the learning environment they choose tend to keep their child in the classroom program of choice regardless of the orientation of the teaching methodology.
- With choice comes a relatively high perception of satisfaction.

Historically parents have viewed reading as the most important of all skills for a child entering first grade (Miller & Knabe, 1998). Furthermore, parents have consistently over these years also been appalled by reading methods, such as whole language, that critics believe would be better called *enlightened guessing* (Gee, 1995). The effects of whole language instruction versus direct instruction particularly phonics, has been a controversy over the last decade.

Parent Concerns about Math. The 2008 National Mathematics Advisory Panel is urging the nation's teachers to promote *quick and effortless* recall of arithmetic facts in the early grade and mastery of fractions in the middle grades. The "math wars" are raging in the public schools' classrooms. Parents have been complaining about *fuzzy math* tactics. For example, to solve a division problem, 150 divided by 50, students might cross off groups of circles to *discover* that the answer was three. Late in the year of

2006, the Program for International Student Assessment found that U.S. 15 year olds achieved sub-par results among developed nations in math literacy and problem solving. An advisory group of the Mathematics Panel stated that they could find no high quality research backing either traditional or reform math instruction. With the use of calculators in early grades a contentious issue among parents and educators, the panel found that limited or no impact of calculators on calculation skills, problem-solving or conceptual development. The draft states students should be proficient with the addition and subtraction of whole numbers by the end of 3rd-grade and with multiplication and division by the end of fifth. Students should begin working with fractions in the fourth grade (Hechinger, 2008). In 1989, the National Council of Teachers of Mathematics authored standards that called for decreased attention to fluency or automatic recall of basic math facts, teacher-directed instruction, or right answers. Advocacy groups of parents have sprung up across the country realizing these reform math programs are foundationally weak. These parents had degrees in the sciences, mathematics, or engineering. Professional mathematicians have been sounding the alarm and pointing out the math success in later years depends on a solid

foundation in the elementary years, something absent or minimized in reform math programs. Parents feel the U.S. has a broken system of mathematics education (Albers, 2008).

According to several studies, adults rated general information, reading, and social skills as all being more important than mathematical skills when their child was very young. Parents of kindergarten children consistently rated reading, general information, and social skills as all being more important than mathematics in preparing children for the first grade. According to Miller (1995) parents' expectations may be set early in the schooling process and not change much after that. The research suggests that during earlier years, math instruction may not be important to parents until the first grade when they begin getting regular feedback from the classroom including letter grades and achievement test scores. At this point, parents may alter their expectations for math but for many students math success may always mean playing catch up. In their study Miller and Knabe (1995) assert that the more importance parents placed on mathematics, the more frequently they reported engaging in mathematical activities with their child. Earlier time lost, when math play at home was not fostered, may not be easily recovered.

It may be that parents, while wanting the best math instruction for their child, may not be informed enough to direct their students placement. Konzal (1997) found that when students were tracked into a particular math class depending on their ability, most parents were satisfied with the placement. Parents that were against their child's placement in an ability-based math class were more concerned about the *label* than the actual math curriculum.

Many parents insist on back to basics instruction not so much based on the strength of basics instruction but rather to keep their child from participating in classrooms that utilize unproven--albeit popular--instructional methods. Whole language reading instruction and so-called new math are two such recent methodologies being rejected by parents who seek back to basics classroom placement for their children.

Education is not simply a technical business of well-managed information processing, nor even simply a matter of applying "learning theories" to the classroom or using the results of subject-centered "achievement testing." It is a complex pursuit of fitting a culture to the needs of its members and of fitting its members and their ways of knowing to the needs of the culture. The function of education is to enable people, individual human beings, to

operate at their fullest potential, to equip them with the tools and the sense of opportunity to use their wits, skills, and passions to the fullest (Bruner, 1996). This study focuses on the outcomes of students in a school where parents make these choices.

Purpose of the Study

The purpose of this study is to determine the effect of a founding back-to-basics Core Academic Program (CAP) on participating 4th-grade students' achievement and perceptions of life skills compared to the achievement and perceptions of life skills of 4th-grade students completing the same school's standard of care Traditional Academic Program (TAP). The study will analyze achievement of the Core Academy Program (CAP) and TAP students to determine if the CAP has significantly impacted student outcomes.

Importance of the Study

This study contributes to research, practice, and policy. The study is of significant interest to parents in light of the options available for enrollment, to educators as they consider research of the best classroom instructional practices, and to central office leadership personnel and board of education members as they consider how best to consider the expansion or continuation of instruction systems and the effects on student achievement.

Research Questions

The following research questions will be used to analyze student participation in CAP and TAP measuring norm-referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research Question #1: Did students who participated in the CAP lose, maintain, or improve their 3rd-grade Terra Nova NCE scores compared to their 4th-grade Terra Nova NCE scores for (a) reading total, (b) language total, (c) math total, (d) social studies, and (e) science?

Sub-Question 1a. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for reading total after completing a CAP?

Sub-Question 1b. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for language total after completing a CAP?

Sub-Question 1c. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for math total scores after completing a CAP?

Sub-Question 1d. Was there a significant difference between students' ending 3rd-grade compared to

ending 4th-grade Terra Nova NCE scores for social studies scores after completing a CAP?

Sub-Question 1e. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for science scores after completing a CAP?

Overarching Pretest-Posttest Achievement Research Question #2: Did students who participated in the TAP lose, maintain, or improve their 3rd-grade Terra Nova NCE scores compared to their 4th-grade Terra Nova NCE scores for (a) reading total, (b) language total, (c) math total, (d) social studies, and (e) science?

Sub-Question 2a. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for reading total after completing a TAP?

Sub-Question 2b. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for language total after completing a TAP?

Sub-Question 2c. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for math total scores after completing a TAP?

Sub-Question 2d. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for social studies scores after completing a TAP?

Sub-Question 2e. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for science scores after completing a TAP?

Overarching Posttest-Posttest Achievement Research Question #3: Did students who participated in the CAP and the TAP have congruent or different ending 4th-grade Terra Nova NCE scores for (a) reading total, (b) language total, (c) math total, (d) social studies, and (e) science?

Sub-Question 3a. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for reading total compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for reading total?

Sub-Question 3b. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for language total compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for language total?

Sub-Question 3c. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for math total compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for math total?

Sub-Question 3d. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for social studies compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for social studies?

Sub-Question 3e. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for science compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for science?

The following research questions were used to analyze student participation in CAP and TAP measuring criterion referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research Question #4: Did students who participated in the CAP lose, maintain, or improve their ending 3rd-grade ELO cutscores compared to their ending 4th-grade ELO cutscores for (a) reading, (b) writing, and (c) math?

Sub-Question 4a. Was there a significant difference between CAP students ending 3rd-grade cutscores for reading compared to their ending 4th-grade cutscores for reading after completing a CAP?

Sub-Question 4b. Was there a significant difference between CAP students ending 3rd-grade cutscores for writing compared to their ending 4th-grade cutscores for writing after completing a CAP?

Sub-Question 4c. Was there a significant difference between CAP students ending 3rd-grade cutscores for math compared to their ending 4th-grade cutscores for math after completing a CAP?

Overarching Pretest-Posttest Achievement Research Question #5: Did students who participated in the TAP lose, maintain, or improve their ending 3rd grade ELO cutscores compared to their ending 4th grade ELO cutscores for (a) reading, (b) writing, and (c) math?

Sub-Question 5a. Was there a significant difference between TAP students ending 3rd-grade cutscores for reading compared to their ending 4th-grade cutscores for reading after completing a TAP?

Sub-Question 5b. Was there a significant difference between TAP students ending 3rd-grade cutscores

for writing compared to their ending 4th-grade cutscores for writing after completing a TAP?

Sub-Question 5c. Was there a significant difference between TAP students ending 3rd-grade scores for math compared to their ending 4th-grade cutscores for math after completing a TAP?

Overarching Posttest-Posttest Achievement Research Question #6: Did students who participated in the CAP and the TAP have congruent or different ending 3rd-grade ELO cutscores for (a) reading, (b) writing, and (c) math compared to ending 4th-grade ELO cutscores?

Sub-Question 6a. Was there a significant difference between CAP students ending 3rd-grade ELO scores for reading compared to TAP students ending 4th-grade ELO cutscores for reading?

Sub-Question 6b. Was there a significant difference between CAP students ending 3rd-grade ELO scores for writing compared to TAP students ending 4th-grade ELO cutscores for writing?

Sub-Question 6c. Was there a significant difference between CAP students ending 3rd-grade ELO cutscores for math compared to TAP students ending 4th-grade ELO cutscores for math?

The following research questions were used to analyze student participation in CAP and TAP measuring life skill perceptions.

Overarching Pretest-Posttest Life Skills Perception Research Question #7: Did students who participated in the CAP lose, maintain, or improve their ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores?

Sub-Question 7a. Was there a significant difference between students' ending 3rd-grade life skills perception scores, (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates

responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores after completing the CAP?

Overarching Pretest-Posttest Life Skills Perception Research Question #8: Did students who participated in the TAP lose, maintain, or improve their ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores?

Sub-Question 8a. Was there a significant difference between students' ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions, (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores after completing the TAP?

Overarching Posttest-Posttest Life Skills Perception Research Question #9: Did students who participated in the CAP and the TAP have congruent or different ending 4th-grade life skills (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and

honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions, perception scores?

Sub-Question 9a. Was there a significant difference between CAP students ending 4th-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions, compared to TAP students ending 4th-grade life skills perception scores?

Assumptions

The study has several strong features including: (a) a long term, predictable, well-thought out, prescribed curriculum for both the TAP and CAP programs and (b) on-going teacher support from teacher mentors, building

administrator, and central office staff for both the TAP and CAP. Furthermore, teachers in both the CAP and TAP on average have been teaching for 15 years. Parents enrolled students in the CAP without any additional school district entrance requirements. As an administrator at this school, the researcher has ethical access to the study interventions and student outcome data. The research school TAP has long been held as a district program of excellence. For example for eight years students in the TAP have consistently scored above the 70th national percentile rank on all core subjects on the Terra Nova Achievement Test. Furthermore, on the State of Nebraska Report Card, the research district's students performed at exemplary levels and far exceeded the state's average scores in all reported areas of achievement. Thirteen of the district's schools have achieved Blue Ribbon status from the U.S. Department of Education. The American Library Association calls the district's school libraries among the best in the nation and the American Music Conference has named the district as having one of the 100 best music programs in the nation. The district has high stakes testing, which all students must pass to graduate. Since implementing the high stakes testing program in 2004, all of the district's students have met the high academic standards required to graduate.

Over one-third of the graduating seniors in the district receive scholarship offers. Ninety-seven percent of the parents in the district annually rate the schools with an "A" or "B" (Millard Public Schools, 2006). The district has been profiled in the book, *Leading Change, the Case for Continuous Improvement*, published by the National School Boards Association and cited by the Millard Public Schools Foundation in their report, *Extraordinary Education is Not the Result of Ordinary Efforts* (2006).

Delimitations of the study

The study was delimited to all 3rd-grade and 4th-grade students enrolled in a Millard Public School elementary school and the assessment scores and life skills grades collected during the spring of 2008. All 3rd-grade and 4th-grade students are required to participate in district assessment activities including the Terra Nova achievement test, the Essential Learner Outcomes assessments, and graded Life Skills coursework.

Limitations

This exploratory study was confined to one 4th-grade class at one elementary school for students who had completed the third and fourth grade in the same research elementary school. Students participating in CAP (n = 16) were option-in students while students enrolled in TAP (n =

16) were neighborhood enrollment students. Criterion referenced tests were developed by and utilized only in the research school district. The graded life skills have not been norm referenced for use outside of the research district. Effectiveness of the Core Academy Program cannot be separated from the Traditional Academic Program. The small number of participants could skew the statistical results limiting generalizability.

Definitions of Terms

Core Academic Program (CAP). The CAP is an explicit, intensive, systematic back-to-basics phonics program that teaches sound symbol relationships, spelling, writing, and reading. English grammar is emphasized. Saxon Math utilizes incremental development and continual review allowing students to understand concepts as they increase in complexity and to apply the concepts to new situations. The Core Knowledge Sequence consists of a body of widely used knowledge placed into the curriculum in a coherent and sequential design. This spiral includes history and geography, science and health, music, visual arts, and language arts (poetry, sayings, reading, and writing). Use of this sequence allows students to establish a solid foundation of knowledge upon which to build. The independent variable Core Academic Program is referred to

as the Core Academy Program in the research school district. The word *academic* was substituted for the more generic and less descriptive word *academy* for the purpose of this research project.

Cutscore. Cutscore is defined as the proficiency level that insures that students scoring at or above this level clearly demonstrate that they have met the prescribed standards measured by the assessments in math, reading, and writing. The Buros Mental Measurement Institute has completed studies in the research district to ensure that achieved cut scores are reliable and valid. Buros Institute faculty participated in all normative studies for newly developed district tests. (Buckendahl & Foley, 2007).

Direct instruction. Direct instruction is the teacher delivering the instruction using sequenced and structured materials, relying on clear goals and time allocated for instruction that is sufficient and continuous with the coverage of the content. Feedback is immediate and academically oriented.

Essential Learner Outcome (ELO) assessments. ELO assessments are district developed criterion-referenced tests. District personnel, working with Buros Institute, determine a cut score along with scores for proficiency levels using district staff members and the Buros

Institute. Results of the ELOs are used in reporting to the state student achievement. Students who do not meet the specified cut score do retake the ELO. The data used in this study was from initial testing only.

Inquiry-based instruction. Inquiry-based instruction students work with partners to construct mathematical explanations that make sense to them. Students are presented with opportunities to verbally explain their thinking processes to the teacher and class, and it is this exchange of ideas that provides the foundation for true understanding of mathematical concepts (Chapko & Buckho, 2004).

Life skills. Life skills are the fifteen skills that are considered essential for helping students to be ready for work, for citizenship, and for life-long learning. These skills include 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and

15. Uses kind words and actions. Students are given instruction in these attributes and they are graded on a quarterly report.

Math Essential Learner Outcome Test (ELO). ELO mathematics assessments are district developed criterion-referenced tests for mathematics. The Math ELOs are given in April of each school year from grades three through eight. The tests used in this study were the third and fourth grade tests. The 3rd-grade levels of proficiency were as follows: students scoring between a zero and 42 correct answers were given a proficiency level of below proficient. Students scoring between 43 and 46 were given a proficiency level of barely proficient. Students scoring between 47 and 50 were given a proficiency level of proficient. Students scoring between 51 and 55 were given a proficiency level of beyond proficient. Fourth-grade levels of proficiency were as follows: students scoring between zero and 59 were given a proficiency level of below proficient. Students scoring between 60 and 76 were given a proficiency level of barely proficient. Students scoring between 77 and 86 were given a proficiency level of proficient. Students scoring between 87 and 95 were given a proficiency level of beyond proficient.

Normal Curve Equivalent (NCE). Normal curve equivalent scores are standard scores with a mean equal to 100 and a

standard deviation equal to 21.06. Although the standard deviation may appear a bit strange, this scale divides the normal curve into 100 equal intervals (Salvis & Ysseldyke, 2004).

Phonics. Phonics is a method of teaching beginners to read and pronounce words by learning the phonetic value of letters, letter groups, and especially syllables.

Proficiency. Proficiency is defined as the designated quality of work a student must produce to demonstrate mastery of a particular standard. Proficiency levels are determined by the school district personnel in conjunction with the Buros Mental Measurement Institute representatives.

Reading Essential Learner Outcome Test. ELO reading assessments are district developed criterion-referenced tests. The Reading ELOs are given in April of each school year from grades three through eight. The tests used in this study were the third and fourth grade tests. The third-grade levels of proficiency were as follows: Students scoring between zero and 22 correct answers were given a proficiency level of below proficient. Students scoring between 23 and 29 were given a proficiency level of barely proficient. Students scoring between 30 and 34 were given a proficiency level of proficient. Students scoring

between 35 and 40 were given a proficiency level of beyond proficient. The fourth-grade levels of proficiency were as follows: Students scoring between zero and 38 were given a proficiency level of below proficient. Students scoring between 39 and 46 were given a proficiency level of barely proficient. Students scoring between 47 and 56 were given a proficiency level of proficient. Students scoring between 57 and 63 were given a proficiency level of beyond proficient.

Terra Nova (TN) Achievement Tests. The TN is defined as a norm-referenced and criterion-referenced test of information, skills, and concepts. The TN includes a selected response portion, along with free-response items (Cizek, Johnson, & Mazzie, 2004). The TN is administered to all 3rd-grade students and 4th-grade students in the district.

Traditional Academic Program (TAP). The traditional academic program is an academic program for students in kindergarten through fifth grade. It is was child centered with direct and indirect instruction. Desks may be in rows, circles, groups, or any other models the teachers feel fit the class. Student activities in the traditional classroom involve seatwork along with working in small and large groups. The teacher mainly gives instruction although there

are times that the students teach one another concepts they have learned. Students independently use worksheets, complete other assignments, or take tests that provide review exercises, questions, and/or other activities to apply and practice the content they have studied (Herman, Egleson, Hood, & O'Connell, 2002). Students cover the subjects of math, science, reading, spelling, language, social studies, art, music, and physical education.

Traditional math. The traditional math method includes memorization of facts and processes. It is supplemented by many practice problems for homework. The teacher presents a mathematical concept, reviews the procedures required to find the solution and then has the students practice these procedures with additional problems.

Whole language. Whole language is a method of teaching reading and writing that emphasizes learning whole words and phrases by encountering them in meaningful contexts rather than by phonics exercises.

Writing Essential Learner Outcome Test. ELO writing assessments are district developed criterion-referenced tests. The writing ELOs are given every November to all students, grades one through fifth grade. The writing test covers the six traits of writing that include voice, sentence structure, ideas, content, conventions, and word

choice. The tests used in this study were the third and fourth grade tests. The 3rd-grade levels of proficiency were as follows: Students scoring between zero and 13 were given a proficiency level of below proficient. Students scoring between 14 and 16 were given a proficiency level of barely proficient. Students scoring between 17 and 19 were given a proficiency level of proficient. Students scoring between 20 and 30 were given a proficiency level of beyond proficient. The fourth-grade levels of proficiency were as follows: Students scoring between zero and 14 were given a proficiency level of below proficient. Students scoring between 15 and 18 were given a proficiency level of barely proficient. Students scoring between 19 and 22 were given a proficiency level of proficient. Students scoring between 23 and 30 were given a proficiency level of beyond proficient.

Significance of the Study

This study has the potential to contribute to research, practice, and policy. The study is of significant interest to basic skills teachers, elementary school principals, district administrators, and school accreditation. It is of significant interest because of the unique nature of the CAP and the role students of this program might play in a challenging future. By

understanding the results of this study, teachers, parents, and the district will be able to decide what role the CAP should play in the expansion of the learning options for the future students of the district.

Contribution to research. There are few studies that have offered conclusions about the effects of same school TAP and CAP programs on student's achievement and life skills outcomes. The results of this study may inform the theoretical literature on the effectiveness of TAP and CAP learning interventions.

Contribution to practice. Since the research school in this study made use of several innovative instructional methodologies, this study may suggest alternative and effective pedagogical practices.

Contribution to policy. Local school district policy could be impacted by this study if the results show a positive impact on student achievement and their life skills. Depending on the study results, the question would not be whether other TAP or CAP programs should be established but whether teaching strategies specific to these programs should have broader implication.

Organization of the Study

The literature review relevant to this study was presented in chapter 2. This chapter reviews the professional literature related to traditional education and contrasts it to the back to the basics education that is a popular issue for school choice. Chapter 3 describes the research design, methodology, independent and dependent variables, and procedures that were used to gather and analyze the data of this study. This includes a detailed synthesis of the participants, a comprehensive list of the dependent variables, dependent measures, and the data analysis used to statistically determine if the null hypothesis should be rejected for each research question. Chapter 4 reports the research results and Chapter 5 provides conclusions and discusses research findings.

CHAPTER 2

Review of the Literature

In the 1970's and 1980's concern for educational achievement prompted a *back-to-basics* movement followed by a call for learning expectations beyond minimum competency. It was believed that education had badly deteriorated for most students including those from disadvantaged circumstances (Campbell, Hombo, & Mazzeo, 1999; Cohen & Barnes, 2003). It was argued that students should be required to participate in traditional classrooms to master basic literacy and math skills. The notion that students and their school programs were in trouble came from the decline in the reported Scholastic Aptitude Test scores and the lagging school achievement of poorer children (Cohen & Barnes, 2003; Smith & O'Day, 1991). Also of concern were the seeming collapse of academic standards and the rise of permissiveness in schools throughout the 1960's (Cohen & Barnes, 2003). Some 30 years later school leaders, politicians, parents, and advocacy groups were demanding that all students attain high levels of academic achievement (Campbell et al., 1999). Ultimately, the demand for high levels of academic achievement resulted in the establishment of challenging national education goals and state academic standards (Campbell et al., 1999; Farr &

Fay, 1982). The back to basics curriculum, both didactic and teacher-centered, then achieved an extraordinary presence in U.S. education particularly in reading and math instruction (Cohen & Barnes, 2003). Orderliness, step-by-step rationality, and a commitment to direct instruction were crucial to this instructional approach (Purkey & Smith, 1983). While now being implemented in schools throughout the nation, many have argued that establishing challenging national education goals and state academic standards based on a back to basics ideal was too long in coming (Cohen & Barnes, 2003; Hirsch, 1996).

Reading Instruction

The National Reading Panel identifies the components of a scientifically verified research-based reading program which includes: (a) phonemic awareness, the ability to hear, identify and manipulate the individual sounds in spoken words (Burke, Howard, & Evangelou, 2003; NICHD, 2000); (b) phonics, the understanding that there is a predictable relationship between phonemes (smallest part of spoken language that makes a difference in the meaning of words) and graphemes (the smallest part of written language that represents a phoneme is the spelling of a word) (Burke et al., 2003); NICHD, 2000); (c) vocabulary, the ability to recall words one must know to communicate effectively in

listening, speaking, reading, and writing (Archer, Gleason, & Vachon 2003; Carnine, Silbert, Kameenui & Tarver, 2004; Moats, 2004), (d) fluency, the ability to read text accurately and quickly (Hasbrouk, Ihnot, & Rogers, 1999; Shinn, Good, Knutson, Tilly, & Collins, 1992); and (e) text comprehension, an understanding of what is read (Alexander & Jatton, 2000; Pressley, 2002; Van den Broek & Kremer, 2000).

Becoming a nation of readers. The National Academy of Education's Commission published, *Becoming a Nation of Readers: The Report of the Commission of Reading* in 1985 (Anderson, Hiebert, Scott, & Wilkinson. After reviewing existing research, they reached consensus that "reading is a process of constructing meaning from written texts. It is a complex skill requiring the coordination of a number of interrelated sources of information" (Anderson et al., 1985, p. 7). The commission confirmed that efficient word recognition and comprehension are companion skills from the time a child first learns to read and that the purpose of phonics instruction is to teach the relationship between letters and speech sounds (the alphabetic principle).

Approaches to phonics instruction. Two basic approaches to phonics instruction were identified: (a) in explicit phonics instruction, the sounds associated with

letters are identified in isolation and then *blended* together to form words, and (b) in implicit phonics instruction, the sound associated with a letter is never supposed to be pronounced in isolation (Anderson et al., 1985). The National Reading Panel found in 2000 that systematic phonics instruction produces significant benefits for students in kindergarten through sixth grade and for children having difficulty to read. Kindergartners who received systematic beginning phonics instruction demonstrated enhanced ability to read and spell words. First graders who were taught phonics systematically were better able to decode and spell, and they showed significant improvement in their ability to comprehend text. Also The National Reading Panel (2000) found that older children receiving phonics instruction were better able to decode and spell words and to read text orally, but their comprehension of text was not significantly improved. The panel concluded that phonics skills are necessary to learn to read, but they are not sufficient needing to be integrated with the development of phonemic awareness, fluency, and text reading comprehension skills.

Stages of Reading Development

In her framework for organizing an instructional sequence for reading Chall (1983) noticed that the facts of

beginning reading fit a developmental rather than a single process beginning with (a) birth to kindergarten, (b) first grade, (c) second grade through third grade, and (d) fourth grade through eighth grade.

Birth to kindergarten. From birth to kindergarten, children develop three types of knowledge (a) a basic vocabulary, (b) a range of knowledge about letters, words, books, and the world around them, and (c) communication skills. The foundation for all communication is the ability to describe the people and events in their lives along with the facts and concepts they have learned. Students who have watched educational television or have traveled extensively seem to have an advantage in developing prereading skills (Chall, 1983). These students tend to have an extended vocabulary and a range of knowledge upon which to draw. These prereading stage skills are necessary for early reading success (Spaulding, 2003).

First grade. In the first grade, children learn the relationship between spoken sounds in words and the written symbols representing those sounds. They learn to identify letters that represent speech sounds, to recognize the differences between similar words (bum/bug), and to know when they have made a mistake (Spaulding, 2000). In the first phase of this stage, children make word substitutions

that are semantically and syntactically correct ("run" for runs). Next, their errors have a graphic resemblance to the printed word ("pop" for pup). In the final phase of this stage, readers rely mostly on graphic exactness and somewhat on word meaning. Less skilled readers remain in the first phase, relying on word substitutions associated with meaning or part of speech. Good readers pass through these stages quickly (Foorman, Francis, Shaywitz, Shaywitz, & Fletcher, 1997).

Second grade and third grade. Chall (1983) described this third stage of reading development as a, consolidation of what is learned through reading familiar print and what is already known to the reader. By reading familiar stories over and over again, children can concentrate on the print because they know the story content. In the second and third grades, new information is learned through combinations of listening and observing and through the oral musculature because the instructional emphasis is on learning to read by pronouncing words aloud.

Fourth grade through eighth grade. During the fourth through eighth grades, teaching shifts from learning to read to reading to learn. The importance of prior knowledge becomes apparent at this stage. What a student already knows is the most important element in what he or she is

able to learn (Chall, 1983). At the beginning of this stage, learning by reading is still less efficient than learning by listening and observing. By eighth grade, the efficiency of reading should equal and begin to surpass the other means of gaining information (Spaulding, 2003).

Phonemic Awareness

Early childhood readiness skills emphasize the sounds of letters in isolation and combination and the beats or phonemes of early reading consonant-vowel-consonant (CVC) words such as b-a-t, s-a-t, and c-a-t which students can learn by using multi-sensory methods, saying and clapping to the sounds. The development of emergent literacy skills has been shown to have a high correlation with students' reading ability in their later years (Scarborough, 1989; Snow, Burns, & Griffin, 1998).

Phonemes are the smallest sounds of speech that correspond to the letters of an alphabetic writing system and the basic building blocks of spoken words. There are 45 phonemes used in speaking yet there are almost an infinite number of possible words made up by phonemes (Spaulding, 2003). In the word *bat* there are three phonemes or individual letter sounds */b/a/t/* when put together these letters form the word *bat*. If you take away the phoneme /b/ and put the individual letters *a*/*t* together they form the

word *at*. The sounds are often presented to students using handclaps or three beats for each letter sound of a CVC word. It is possible to continue to replace phonemes for other phonemes to make new words using the blend *at*: *c*/*at*, *r*/*at*, *s*/*at*, *m*/*at* (Adams, 1990; Wolfe & Neville, 2004).

Overall, it is thought that phonemic awareness (the understanding that spoken words and syllables consist of sequences of elementary speech sounds) is more highly related to learning to read than are general intelligence, reading readiness, and listening comprehension (Stanovich, 1986, 1993). Lack of phonemic awareness is the most powerful predictor of reading failure because of its importance in learning how print represents spoken words referred to as the alphabetic principle (Spaulding, 2003).

Phonics Instruction

The National Institute of Child Health and Human Development (NICHD; 2000) has conducted over 30 years of reading research and supports a prominent role for explicit instruction in phonics and phonological awareness skills for beginning reading instruction and for intervention with children having difficulty. NICHD studies also supports a "major emphasis on reading and writing in environments that include good literature, reading for enjoyment, and other

practices believed to facilitate the development of reading skills and literacy" (Fletcher & Lyon, 1998, p. 51).

Phonics is a term that includes all of the phonemic awareness skills as well as recognizing and producing rhymes, breaking words into syllables, and distinguishing parts of syllables. Phonics instruction teaches children to recognize and understand the systematic and predictable relationships between the letters of written language and the individual sounds of spoken language. Phonics instruction gives students the knowledge of letter-sound correspondences and strategies they need to make the translations and to be successful readers (Beck, Farr & Strickland, 2005).

Vocabulary Instruction

Beginning in infancy, the brain stores the meanings of words and word parts. The lexical process, which includes both understanding of the morphology of language and vocabulary, enables the listener or reader to access those meanings (Farnham-Diggory, 1987). Research from as early as the 1920's identified vocabulary knowledge as a significant factor in the development of reading skills (Spaulding, 2003).

Vocabulary is taught through direct or indirect instruction. Indirect instruction takes place when teachers

introduce words in classroom conversations creating a common language among the students (Beck, McKeown, & Kucan, 2002). The teachers continually reinforce the importance of vocabulary words to the text of study. Teachers do this by providing a definition of the words, using the words in context or connecting them to a known concept, or using the words on multiple occasions and in various contexts (Feldman & Kinsella, 2005). When students encounter a new or unfamiliar science word they use decoding skills and context clues (Spaulding, 2003).

Fluency Instruction

Fluency is the ability to read text accurately and quickly with expression (Hasbrouk et al., 1999; Shinn et al., 1992). To develop fluency, students must first have acquired the appropriate decoding and phonological awareness skills (Burke et al., 2003; NICHD, 2000; Wagner et al., 1994). Students must read a lot in text at their independent reading levels while practicing orally, independently, and in guided reading sessions.

Oral reading. Reading aloud helps students build fluency skills which in turn aid their comprehension (Adams et al., 2002) Students who read fluently can devote more attention to meaning and thus increase their comprehension. Word recognition must be automatic, freeing cognitive

resources for comprehending text (Beck, et al., 2005). Studies conducted by the National Center to Improve the Tools of Educators (Kameenui, 1996), the National Institute of Child Health and Human Development (Grossen, 1997), and the National Research Council (2001) have identified oral reading fluency and phonological awareness as fundamental skills of proficient early readers. As a result of the importance of oral reading fluency, researchers have examined a variety of interventions for improving oral reading in children who experience reading problems (Eckert, Ardoin, Daly, & Martins 2002).

The National Reading Panel found in 2000 that reading fluency, that is being able to read orally with speed, accuracy, and proper expression, is a prerequisite for developmentally appropriate reading comprehension. Research findings demonstrate that “the critical component of reading that must be taught is the relationship of print to speech” (Fletcher & Lyon, 1998, p. 57). Early and systematic emphasis on developing reading decoding skills leads to better achievement than when later and more remedial approaches to reading instruction are attempted (Adams, 1990: Beck & Juel, 1995; Chall, 1996).

Text Comprehension Instruction

Text comprehension is an active, intentional thinking process through which the reader constructs meaning (Alexander & Jetton, 2000; NICHD, 2000). Text comprehension requires higher order cognitive and linguistic reasoning and intelligence as well as vocabulary and syntax skills. All of these are needed to make meaning from text as students read (Allingon, 2001; Ellis, 2001). The readers' background knowledge and repertoire of experiences also positively impacts comprehension (Pressley, 2002).

The National Reading Panel report (2000) states that text comprehension is enhanced when readers (a) actively connect ideas in print to their prior knowledge and experiences, (b) construct mental representations, (c) use cognitive strategies, and (d) use reason strategically when their comprehension breaks down.

Math Instruction

The National Council of Teachers of Mathematics (NCTM) recommended that students develop recall of basic addition and subtraction facts by the end of the second grade (2006). Carpenter and Moser (1984) observed five levels of basic facts problem-solving development in first through 3rd-graders: (a) at Level 0 students are unable to solve any addition or subtraction problems, (b) at Level 1

students use direct modeling strategies (counting all and adding on with objects or fingers), (c) at Level 2 students use both modeling and verbal/mental counting strategies, (d) at Level 3 students rely primarily on verbal/mental counting strategies, and at (e) Level 4 students use basic facts knowledge (including retrieval and derived facts) to solve addition and subtraction problems. Carpenter and Moser (1984) suggested that most classroom instruction at that time did not support this developmental trajectory but instead jumped "directly from the characterization of addition and subtraction through physical models to the memorization of number facts without acknowledging that there is an extended period during which children count-on and count back to solve addition and subtraction problems" (p. 200).

Children who solve problems based on their developing understanding of counting are likely to build their understanding of number relationships and properties, and develop part-whole, or derived-fact, strategies that can be highly efficient in solving basic-fact problems. These derived strategies have the added advantage of providing children with tools to solve mental math problems with multidigit numbers (Barody, 1999, 2003; Fuson, 1992; Gray & Tall, 1994).

Evidence from mathematically skilled children and adults indicates that successful arithmetic skills are often accomplished using a combination of memory and strategy techniques (Barody, 1999; Bisanz & LeFevre, 1990; Campbell & Xue, 2001; Gray & Tall, 1994; Levre, Smith-Chant, Hiscock, Daley, & Morris, 2003). These strategy techniques (derived strategies) fall into at least two main categories (a) *redistributed derived facts* (for 7 + 5, a child might decompose 5 into 3 + 2, and then add 7 + 3 to get 10, and then add 2 onto the 10) and (b) *known fact derivations* (for 7 + 5, a child might recall that 5 + 5 = 10 and 2 more is 12 (Fuson, 1992).

Studies of educational practices in Korea, China, Taiwan, and Japan have found that students are not simply drilled on basic facts using memorization-focused approaches. Instead, they are provided with explicit and sustained instruction on redistributed derived-fact strategies during first grade (Fuson & Kwon, 1992; Fuson, Stigler, & Bartsch, 1988). Thus, it appears that children from these high math performing countries are encouraged to develop strong memorized facts and recomposition strategies to solve sums and differences beyond ten (Peak, 1997). As Fuson and Kwon (1992) noted, even before formal 1st-grade

instruction, counting strategies accounted for only 19% of the solutions for sums over 10.

Studies suggest that emphasizing strategic acquisition of basic facts has at least one key advantage over focusing on memorization: Students who learn to group by 5s and 10s using composition/decomposition strategies e.g. (5 + 8 = 5 + [5 + 3] = [5 + 5] + 3 = 10 + 3 = 13) may be more likely to develop a base-10 understanding of numbers and regrouping than students who rely on memory and counting strategies (Cotter, 1996; Fuson, 1992).

Understanding Numbers

Number sense includes mental computation, estimation, and the ability to move between different representations. Specific instruction related to number sense results in longer-lasting use of strategies and increased problem-solving skills (Grous & Cebulla, 2000). Children strengthen the association between basic-fact problems and their answers through repeated practice, building stronger bonds that lead to confident retrieval from long-term memory (Ashcraft, 1995; Barody, 2003; Fox, 1995; Geary, 1994). Based on this strategy-choice model (Siegler & Jenkins, 1989) children who accurately solve problems with counting strategies are able to engage in the repetitions required to strengthen the bonds of association. The National

Council of Teachers of Mathematics (2004) standards for elementary students understanding of numbers, ways of representing numbers, relationships among numbers, and number systems for prekindergarten through grade 2 include the following:

- Count with understanding and recognize “how many” in sets of objects;
- Use multiple models to develop initial understandings of place value and the base-ten number system;
- Develop understanding of the relative position and magnitude of whole numbers and of ordinal and cardinal numbers and their connections;
- Develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers.
- Connect number words and numerals to the quantities they represent, using various physical models and representations;
- Understand and represent commonly used fractions, such as 1/4, 1/3, and 1/2.

According to the NCTM by grades 3-5 all students should be able to:

- Understand the place value structure of the base-ten number system and be able to represent and compare whole numbers and decimals;
- Recognize equivalent representations for the same number and generate them by decomposing and composing numbers;
- Develop understanding of fractions as parts of unit wholes, as parts of a collection, as locations on number lines, and as divisions of whole numbers;
- Use models, benchmarks, and equivalent forms to judge the size of fractions;
- Recognize and generate equivalent forms of commonly used fractions, decimals, and percents;
- Explore numbers less than 0 by extending the number line and through familiar applications;
- Describe classes of numbers according to characteristics such as the nature of their factors.

Meanings of Operations

Children do not find the complementary relationship between addition and subtraction obvious, particularly when their confidence with addition facts is still evolving (Barody, 1999; Hiebert & Wearne, 1992). Young children also appear to have more difficulty learning their subtraction facts because they often have less

facility counting down than they do counting up (Fuson, 1992). Without special attention, subtraction facts may continue to be more difficult than addition facts well into adulthood. In understanding meanings of operations and how they relate to one another, the NCTM provided these expectations for prekindergarten through second grade:

- Understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations;
- Understand the effects of adding and subtracting whole numbers;
- Understand situations that entail multiplication and division, such as equal groupings of objects and sharing equally.
- The expectations for grades third through fifth are:
- Understand various meanings of multiplication and division;
- Understand the effects of multiplying and dividing whole numbers.
- Identify and use relationships between operations, such as division as the inverse of multiplication, to solve problems;

- Understand and use properties of operations, such as the distributivity of multiplication over division.

Computation

A major goal for students should be the mastery of fractions, since this is considered a *severely underdeveloped* area by math educators and one that's important to later algebra success (Presidential Education Panel, 2008). The report says both quick and effortless recall of facts and conceptual understanding of math is beneficial (Zuckerbrod, 2008). The NCTM (2004) standards to compute fluently and make reasonable estimates for the prekindergarten through grade 2 are:

- Develop and use strategies for whole-number computations, with a focus on addition and subtraction;
- Develop fluency with basic number combinations for addition and subtraction;
- Use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.

The standards for grades three through five are the following:

- Develop fluency with basic number combinations for multiplication and division and use these combinations to mentally compute related problems, such as 30 X 50;
- Develop fluency in adding, subtracting, multiplying, and dividing whole numbers;
- Develop and use strategies to estimate the results of whole-number computations and to judge the reasonableness of such results;
- Develop and use strategies to estimate computations involving fractions and decimals in situations relevant to students' experience;
- Use visual models, benchmarks, and equivalent forms to add and subtract commonly used fractions and decimals;
- Select appropriate methods and tools for computing with whole numbers from among mental computation, estimation, calculators, and paper and pencil according to the context and nature of the computation and use the selected method or tools (NCTM, 2004).

Back-to-Basics Instruction

Back-to-basics curriculum is grounded in the belief that teaching basic skill development is teaching that which has the deepest value (Ackerman, 2003). Teaching the *good stuff* in our classrooms from novels and plays, poems and paintings, essays and sermons, and stories of

mathematical and science discovery is possible for students who have mastered and have ready access to basic skills--and the sooner the better. The teacher also teaches with rigor and the curriculum is fast paced. Furthermore, in back-to-basics classrooms a standard of excellence is upheld by grading students on their products of authentic achievement not their effort. Moreover, in these classrooms time is of the essence and emphasis on major subjects not fluff is extremely important (Ackerman, 2003). Students over learn and master skills (word decoding; addition math facts to 10) making their use in learning tasks automatic rather than effortful. With this skill, students may share meaning with the author of a book or use arithmetic and writing to connect learning to measurement, arithmetic, and geometry (Grandgenett, Lloyd, & Hill, 1995).

There are six principles of instruction in the back-to-basics classroom. They are (a) modeling, (b) coaching, (c) scaffolding and fading, (d) articulation, (e) reflection, and (f) exploration (Collins, Brown, & Newman, 1989). In the back-to-basics classroom, the teacher models the processes that are required to accomplish the task. With coaching, the teacher guides, prompts, and provides feedback as the student performs a task or part of one. In the scaffolding and fading stage, the teacher either adds

support for the student or fades away from support if the student understands the concept. In the classroom, the teacher requires students to verbalize the principles, rules, or situations underlying knowledge use. The lesson ends with the student reflecting and comparing their performance with expert performance to determine their progress toward proficiency. During exploration, students apply skills they have learned to new situations. A classroom is set up with the students in rows facing the teacher with all instruction coming from the teacher that is directed to the entire class. Students interact with the teacher on a limited basis and are on the same page at the same time, with little differentiation.

Back-to-Basics Phonemic Awareness Instruction

A phonogram is a single-letter, or a fixed combination of two, three, or four letters, that is the symbol for one sound in a given word. English has seventy common phonograms (26 letters and 44 fixed combinations of 2, 3, and 4 letters) that represent the forty-five basic sounds used in speaking. Beginning in kindergarten, students learn the sounds of the phonograms and begin to write them. The words are on printed cards and the students learn to recognize and say the sounds of the single-letter phonograms in any order.

Back to Basics Phonics Instruction

In the back to the basics curriculum, the Spaulding (2003) program is the basis for phonics, spelling, and handwriting. Spaulding-based methods utilize the multi-sensory approach (see it, hear it, say it, write it) for explicit, intensive, systematic phonics instruction. Proper handwriting, correct spelling, and use of spelling rules, as well as vocabulary, comprehension skills, listening skills, and reading are stressed. The students learn seventy phonograms (sound/symbol relationships) for the forty-five sounds in English speech.

Back-to-Basics Vocabulary Instruction

In the classroom, the children learn the meanings of high-frequency words as well as word parts. Vocabulary is extended through use of quality literature in the reading lessons and extensive independent reading is encouraged. Vocabulary is taught directly by teaching key vocabulary words from each unit to students building key concepts and connections (Biemilleer, 2003; Moats, 2004). Direct instruction includes the teaching of suffixes, prefixes, and word bases: teaching students how to use context to identify word meaning; and directly teaching students to look up unknown words in the dictionary selecting the correct meaning of words for the context in which they

appear (Archer, Gleason, & Vachon, 2003; Carnine et al., 2004; Moats, 2004). Using direct instruction, the vocabulary is repetitive and active in daily use.

Back-to-Basics Fluency Instruction

Fluency in stressed in the classroom by using research-based strategies along with blending and segmentation. Students are accessed for fluency throughout the year and are given time to read aloud and silently.

Back-to-Basics Text Comprehension

Within the classroom, students are explicitly taught to consciously monitor comprehension and identify unfamiliar words, phrases, or sentences, make connections both within the text and with prior knowledge, make predictions, and reformat and summarize information. Students practice these cognitive strategies (mental actions) when reading all types of printed material (Spaulding, 2003).

The primary instructional emphasis shifts from listening to reading comprehension in the classroom. Children are explicitly taught to use five mental actions to comprehend text. Students learn basic research skills such as identifying essential information to determine the main ideas, note taking, and summarizing.

Traditional Academic Instruction

The traditional classroom as used in this paper, is the type of school, classroom, and instructional methodology that has been predominant in the public schools of the United States for the last half century. In these classrooms the teacher honors the student's search for knowledge and it is considered the school's job to translate learning material and lessons into a versatile and ultimately harmonious and coherent set of lenses on the world (Ackerman, 2003). Citizens reside within a school district and support it with their property taxes. Historically, parents with school-age offspring send their children to the local school district where they are assigned. School choice traditionally consists of families choosing where to purchase a home or where to live in order for students to attend a particular school. However, parents seldom can choose their child's learning activities (Hoover-Dempsey & Sandler, 1997).

Schools tend to emulate what has already been shown to be successful and proven in other schools (Marzano, 2007). Student activities in the traditional classroom involve seatwork along with working in small and large groups. The teacher mainly gives instruction although there are times that the students teach one another concepts they have

learned. Students independently use worksheets, complete other assignments, or take tests that provide review exercises, questions, and/or other activities to apply and practice the content they have studied (Herman, Egleson, Hood, & O'Connell, 2002).

Traditional Phonemic Awareness Instruction

Before students come into kindergarten, they are expected to know the alphabet song (Now I know my ABC's) consisting of 26 letters. A predictive factor in learning to read is the accurate and fast skill of naming and recognizing the letters of the alphabet (Adams, 1990; Moats, 2004). Learning the alphabet is a key factor in future reading success (Moats, Furry, & Brownell, 1998). This skill is known as the Alphabetic Principle which is the understanding that letters have corresponding sounds that make words when they are combined (Adams, 1990; Stuart, Masterson, & Dixon, 2000). By using this principle students can relate sounds and symbols from the alphabet to begin the process of phonics development (Joseph, 2002a; Joseph 2000b; Moats, 2004).

Traditional Phonics Instruction

Phonics development or instruction will allow students to develop symbols used in alphabetic writing that represent sounds thus enhancing reading development in

early years (Center for the Improvement of Early Reading Achievement, 2001; Joseph, 2002a; Joseph, 2002b). With phonics instruction beginning in kindergarten, students are explicitly taught the process of blending individual sounds into words. They begin with the vowel-consonant or consonant-vowel-consonant words such as *at* or *man* and progress to words with consonant blends as in *tent* and *split* (Beck et al., 2005). Phonics is presented through a hands-on approach that provides the students with a sequential learning process. Worksheets and learning centers are the focus of instruction not the direct repetition and over learning found in the back-to-basics classroom.

Traditional Vocabulary Instruction

Specific lessons provide direct instruction that helps enable students to increase their vocabulary every time they read. Strategies include using a dictionary, using context to determine word meaning, and understanding word structures and word relationships (Beck et al., 2005).

Traditional Fluency Instruction

Time is built in for students to read aloud and silently. Fluency is accessed periodically throughout the school year. In the classroom, students may use echo

reading, choral reading, repeated reading, or reader's theatre to enhance their fluency (Beck et al., 2005).

Traditional Text Comprehension

Instruction in the classroom helps students develop a thorough understanding of genre characteristics and text structures. In kindergarten, students explore story elements, such as characters, setting, and important events. As students move up the grades, they analyze both literary elements and devices and expository organizational patterns, such as cause/effect and compare/contrast, to understand increasingly difficult texts (Beck et al., 2005).

Differences in the Back-to-Basics and Traditional Instructional Methods

Back-to basics instruction addresses specific skills often taught in isolation to help students become readers. Those skills are teaching sound units or letter sounds, linguistic units, and a comprehensive development of phonological awareness (Burke et al., 2003; Learner, 1997; Lyon, 1995; McEwan, 2002: NICHD, 2000). Direct instruction is a bottom up behavioral paradigm that promotes lessons that are fast paced, well sequenced, organized, repetitive, and highly focused allowing for corrective feedback (Curtis & Longo, 1999; Slavin, 1987; Spector, 1995). In back-to-

basics math includes memorization of facts and processes. It is supplemented by many practice problems for homework. The teacher presents a mathematical concept, reviews the procedures required to find the solution and then has the students practice these procedures with additional problems (Chapko & Buchko, 2004). The math program integrates and distributes content-in easy to assimilate pieces, or increments-from every math strand throughout the year (Hake, 2007).

In traditional instruction a top down cognitive processing approach, that emphasizes the use of several different instructional procedures to enhance learning and literacy development for students including graphic organizers, visual summaries, and oral summaries, is utilized (Curtis & Longo, 1999; Slavin, 1987; Spector, 1995). In traditional instruction math is taught by inquiry-based instruction where students work with partners and the class to construct mathematical explanations that make sense to them while attempting to solve problems. Furthermore, students are presented with opportunities to verbally explain their thinking processes to the teacher and class, and it is this exchange of ideas, it is thought, that provides the foundation for true understanding of mathematical concepts (Chapko & Buchko, 2004). It is a

step-by-step approach with differentiation built in to help students at all levels.

Conclusion

For the purposes of this study back-to-basics and traditional instructional methodologies were both found to be grounded in the research literature over many decades with documented classroom successes. Both methodologies have their advocates and their detractors. However, for this study both methodologies would be considered standards of care and the study participants therefore would be thought to have participated from the 3rd-grade through the 4th-grade in two equally strong learning methodologies, literally good instruction compared to good instruction.

CHAPTER THREE

Methodology

Participants

Number of participants. The maximum accrual for this study will be *N* = 32. The sample of participants was a randomly formed group of fourth grade students (*n* = 16) who participated in the CAP for two years and a naturally formed group of fourth grade students (*n* = 16) who participated in the CAP for two years. All participants completed 3rd-grade and 4th-grade in the same research school.

Gender of participants. The gender of the randomly selected group of 4th-grade CAP students was 60% males and 40% females and the gender of the naturally formed group of 4th-grade TAP students was 50% males and 50% females. The percent of male and female participants was congruent with the research school enrollment patterns.

Age range of participants. The age range of the randomly selected group of 4th-grade CAP students was from 9 years 1 month to 10 years 1 month of age and the age range of the naturally formed group of 4th-grade TAP students was from 9 years 1 month to 10 years 1 month of age. The age range of the participants was congruent with the research school age range patterns.

Racial and ethnic origin of participants. The racial and ethnic origin ratio was congruent with enrollment patterns in the participating school. The school enrollment was congruent with the district ethnic origin enrollment. In the research school 96% of the students were white, 2% were African-American, and 2% were other.

Inclusion criteria of participants. Students were eligible for this study if they completed the 3rd-grade and the 4th-grade in the research school and participated in the CAP or TAP and completed all norm-referenced and criterion referenced assessments. Students with Individual Educational Plans (IEP) verified for inclusion in one or more Special Education classes were not be included in the study.

Method of participant identification. The 32 students who were selected as participants for this study were a randomly selected group of CAP students (n = 16) who attended the research school and completed the 3rd-grade and 4th-grade and a naturally formed group of TAP students (n = 16) who attended the research school and completed the 3rd-grade and 4th-grade. No individual identifiers were attached to the achievement or life skills data.

Description of Procedures

Research design. The pretest-posttest two-group comparative survey study design is displayed in the following notation:

Group 1 X_1 0_1 X_2 O_2

Group 2 X_1 0_1 X_3 O_2

Group 1 = Randomly selected and stratified for gender same school 4th-grade students (*n* = 16) participating in the Core Academic Program (CAP)

Group 2 = Naturally formed same school 4th-grade students participating in the TAP (*n* = 16)

X_1 = students who completed 3rd-grade and 4th-grade in the research school.

X_2 = 4th-grade students who completed two school years of CAP in the research school.

X_3 = 4th-grade students who completed two school years of TAP in the research school.

O_1 = Pretest (1) Achievement: (a) Terra Nova (TN) Normal Curve Equivalent (NCE) scores as measured in October 2006 for (*i*) reading total, (*ii*) language total, (*iii*) math total, (*iv*) social studies, and (v) science; (b) Essential Learner Outcomes (ELO) ELO cutscores for (*i*) reading (*ii*) writing, and (*iii*) math. (2) Life Skills: (a) life skills as reported at end of participants, 3rd-grade school year.

O_2 = Posttest (1) Achievement: (a) Terra Nova (TN) Normal Curve Equivalent (NCE) scores as measured in October 2007 for (*i*) reading total, (*ii*) language total, (*iii*) math total, (*iv*) social studies, and (v) science; (b) Essential Learner Outcomes (ELO) ELO cutscores for (*i*) reading, (*ii*) writing, and (*iii*) math. (2) Life Skills: (a) life skills as reported at end of participants, 4th-grade school year.

Purpose of the Study

The purpose of this study was to determine the effect of a founding Core Academic Program (CAP) on participating 4th-grade students' achievement and perceptions of life skills compared to 4th-grade students completing the same school's traditional academic program (TAP). The study analyzed norm-referenced and criterion referenced achievement data and life skills data to determine student skill improvement and pretest to posttest change over time, and determine posttest to posttest independent variable strength and program efficacy.

Dependent Measures

Two dependent variables were (1) achievement and 2) life skills. Achievement, was measured using; (a) Norm Referenced Test (NRT) Terra Nova subtest NCE scores for reading total, language total, math total, social studies, science, and (b) Criterion Referenced Test (CRT) scores,

known as Essential Learner Outcomes (ELOs) cutscores for reading, writing, and math.

Life Skills Perception was collected using the research school district written Life Skills standards. This data was collected retrospectively from students' 3rd-grade and 4th-grade school years.

Research Questions and Data Analysis

The following research questions were used to analyze student participation in CAP and TAP measuring norm-referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research Question #1: Did students who participated in the CAP lose, maintain, or improve their 3rd-grade Terra Nova NCE scores compared to their 4th-grade Terra Nova NCE scores for (a) reading total, (b) language total, (c) math total subsets, (d) social studies, and (e) science?

Sub-Question 1a. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for reading total after completing a CAP?

Sub-Question 1b. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for language total after completing a CAP?

Sub-Question 1c. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for math total scores after completing a CAP?

Sub-Question 1d. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for social studies scores after completing a CAP?

Sub-Question 1e. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for science scores after completing a CAP?

Research Sub-questions #1a, 1b, 1c, 1d, and 1e were analyzed using dependent *t* tests to examine the significance of the difference between the CAP students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Posttest Achievement Research Question #2: Did students who participated in the TAP lose, maintain, or improve their 3rd-grade Terra Nova NCE scores compared to their 4th-grade Terra Nova NCE scores for (a)

reading total, (b) language total, (c) math total, (d) social studies, and (e) science?

Sub-Question 2a. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for reading total after completing a TAP?

Sub-Question 2b. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for language total after completing a TAP?

Sub-Question 2c. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for math total scores after completing a TAP?

Sub-Question 2d. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for social studies scores after completing a TAP?

Sub-Question 2e. Was there a significant difference between students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE scores for science scores after completing a TAP?

Research Sub-questions #2a, 2b, 2c, 2d, and 2e were analyzed using dependent *t* tests to examine the

significance of the difference between the TAP students' ending 3rd-grade compared to ending 4th-grade Terra Nova NCE achievement scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Achievement Research Question #3: Did students who participated in the CAP and the TAP have congruent or different ending 4th-grade Terra Nova NCE scores for (a) reading total, (b) language total, (c) math total, (d) social studies, and (e) science?

Sub-Question 3a. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for reading total compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for reading total?

Sub-Question 3b. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for language total compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for language total?

Sub-Question 3c. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for math total compared to the TAP

students ending 4th-grade Terra Nova NCE achievement scores for math total?

Sub-Question 3d. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for social studies compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for social studies?

Sub-Question 3e. Was there a significant difference between CAP students ending 4th-grade Terra Nova NCE achievement scores for science compared to the TAP students ending 4th-grade Terra Nova NCE achievement scores for science?

Research Sub-Question #3a, 3b, 3c, 3d, and 3e were analyzed using an independent *t* test to examine the significance of the difference between CAP students' ending 4th-grade compared to TAP students' ending 4th-grade Terra Nova NCE achievement scores for (a) reading total, (b) language total, (c) reading total, (d) social studies, and (e) science. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following research questions were used to analyze student participation in CAP and TAP measuring criterion referenced achievement outcomes.

Overarching Pretest-Posttest Achievement Research Question #4: Did students who participated in the CAP lose, maintain, or improve their ending 3rd-grade ELO cutscores compared to their ending 4th-grade ELO cutscores for (a) reading, (b) writing, and (c) math?

Sub-Question 4a. Was there a significant difference between CAP students ending 3rd-grade cutscores for reading compared to their ending 4th-grade cutscores for reading after completing a CAP?

Sub-Question 4b. Was there a significant difference between CAP students ending 3rd-grade cutscores for writing compared to their ending 4th-grade cutscores for writing after completing a CAP?

Sub-Question 4c. Was there a significant difference between CAP students ending 3rd-grade cutscores for math compared to their ending 4th-grade cutscores for math after completing a CAP?

Researching Sub-Questions #4a, 4b, and 4c were analyzed using dependent *t* tests to examine the significance of the difference between the CAP students' ending 3rd-grade compared to their ending 4th-grade ELO

cutscores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Posttest Achievement Research Question #5: Did students who participated in the TAP lose, maintain, or improve their ending 3rd-grade ELO cutscores compared to their ending 4th-grade ELO cutscores for (a) reading, (b) writing, and (c) math?

Sub-Question 5a. Was there a significant difference between TAP students ending 3rd-grade cutscores for reading compared to their ending 4th-grade cutscores for reading after completing a TAP?

Sub-Question 5b. Was there a significant difference between TAP students ending 3rd-grade cutscores for writing compared to their ending 4th-grade cutscores for writing after completing a TAP?

Sub-Question 5c. Was there a significant difference between TAP students ending 3rd-grade scores for math compared to their ending 4th-grade cutscores for math after completing a TAP?

Research Sub-Questions #5a, 5b, and 5c were analyzed using dependent *t* tests to examine the significance of the difference between TAP students' ending 3rd-grade compared

to ending 4th-grade ELO achievement cutscores for (a) reading, (b) writing, and (c) math. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Achievement Research Question #6: Did students who participated in the CAP and the TAP have congruent or different ending 3rd-grade ELO cutscores for (a) reading, (b) writing, and (c) math compared to ending 4th-grade ELO cutscores?

Sub-Question 6a. Was there a significant difference between CAP students ending 3rd-grade ELO scores for reading compared to TAP students ending 4th-grade ELO cutscores for reading?

Sub-Question 6b. Was there a significant difference between CAP students ending 3rd-grade ELO scores for writing compared to TAP students ending 4th-grade ELO cutscores for writing?

Sub-Question 6c. Was there a significant difference between CAP students ending 3rd-grade ELO cutscores for math compared to TAP students ending 4th-grade ELO cutscores for math?

Research Sub-Question #6a, 6b, and 6c were analyzed using independent *t* tests to examine the significance of

the difference between CAP students' ending 4th-grade compared to TAP students' ending 4th-grade ELO cutscores for (a) reading, (b) writing, and (c) math. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

The following research questions were used to analyze student participation in CAP and TAP measuring life skill perceptions.

Overarching Pretest-Posttest Life Skills Perception Research Question #7: Did students who participated in the CAP lose, maintain, or improve their ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores?

Sub-Question 7a. Was there a significant difference between students' ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores after completing the CAP?

Research Sub-Question #7a was analyzed using a dependent *t* test to examine the significance of the difference between the CAP students' ending 3rd-grade compared to their ending 4th-grade life skills perception scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Pretest-Posttest Life Skills Perception Research Question #8: Did students who participated in the TAP lose, maintain, or improve their ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores?

Sub-Question 8a. Was there a significant difference between students' ending 3rd-grade life skills perception scores (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and

body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions compared to their ending 4th-grade life skills perception scores after completing the TAP?

Research Sub-Question #8a was analyzed using a dependent *t* test to examine the significance of the difference between the TAP students' ending 3rd-grade compared to their ending 4th-grade life skills perception scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha level will be employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Overarching Posttest-Posttest Life Skills Perception Research Question #9: Did students who participated in the CAP and the TAP have congruent or different ending 4th-grade life skills (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and

body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions perception scores?

Sub-Question 9a. Was there a significant difference between CAP students ending 4th-grade life skills perception scores compared to TAP students ending 4th-grade life skills (1) responds appropriately to oral/written directions (2) identifies a problem and seeks the best solutions, (3) cooperates with others to complete a task or goal, (4) uses good work habits, (5) demonstrates responsibility, (6) sets and pursues goals, (7) finds answers to questions and concerns, (8) trustworthy and honest, (9) demonstrates self control over emotions and body, (10) has a positive attitude, (11) keeps trying, (12) takes pride in classroom and school, (13) respects individual differences, (14) respects the rights of others, and (15) uses kind words and actions perception scores?

Research Sub-Question #9a was analyzed using an independent *t* test to examine the significance of the difference between CAP students' ending 4th-grade life skills perception scores compared to TAP students' ending 4th-grade life skills perception scores. Because multiple statistical tests were conducted, a one-tailed .01 alpha

level was employed to help control for Type 1 errors. Means and standard deviations are displayed on tables.

Data Collection Procedures

All study achievement and life skills data were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained. Achievement and life skills perception data were utilized to determine pretest-posttest skill improvement over time and posttest-posttest program efficacy for the randomly assigned students (n = 16) participating in the CAP and for the naturally formed group of students (n = 16) participating in the TAP. Non-coded numbers were used to display individual de-identified achievement and life skills perception data. Aggregated group data, descriptive statistics, and inferential statistical analysis were utilized and reported with means and standard deviations on tables.

Performance site. The research was conducted in the public school setting through normal educational practices. The study procedures did not interfere in any way with the everyday educational practices of the public school and did not involve coercion or discomfort of any kind. All data was analyzed in the office of the primary investigator at the research school. Data was stored on spreadsheets and

computer disks for statistical analysis in the office of the primary researcher and the dissertation chair. Data and computer disks were stored on a password-protected computer. No individual identifiers will be attached to the data.

Institutional Review Board (IRB) for the Protection of Human Subjects approval category. The exemption categories for this study were provided under 45CFR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of research support from the school district is located in Appendix A.

CHAPTER FOUR

Results

The purpose of this study is to determine the effect of a founding back-to-basics Core Academic Program (CAP) on participating 4th-grade students' achievement and perceptions of life skills compared to the achievement and perceptions of life skills of 4th-grade students completing the same school's standard of care Traditional Academic Program (TAP). The study analyzed achievement of the Core Academy Program (CAP) and TAP students to determine pretest to posttest achievement gain across time and compare the posttest scores of CAP and TAP students to determine intervention effectiveness.

The study analyzed achievement data of CAP compared to TAP students to determine if students in the two programs have different or congruent achievement outcomes. All student achievement data dependent measures including the the Terra Nova achievement test, the Essential Learner Outcomes assessments, and the Life Skills coursework grades were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Student Demographic Information

Table 1 displays the gender information of individual 4th-grade students in the Core Academy Program. Table 2 displays the gender information of individual 4th-grade students in the Traditional Academic Program. Individual 4th-grade students in the Core Academy Program Terra Nova Achievement Test reading, language, math, social studies, and science Normal Curve Equivalent scores are displayed in Table 3. Individual 4th-grade students in the Traditional Academic Program Terra Nova Achievement Test reading, language, math, social studies, and science Normal Curve Equivalent scores are displayed in Table 4.

Research Question #1

The first hypothesis was tested using the dependent *t* test. Tests analyzed Core Academy Program students' 3rd-grade pretest compared to 4th-grade posttest Terra Nova Achievement Test reading, language, math, social studies, and science Normal Curve Equivalent scores. Results were displayed in Table 5. As seen in Table 5, the null hypothesis was not rejected for three of the five achievement subtests measured reading, language, and social studies and the null hypothesis was rejected for two of the five achievement subtests measured math and science. The pretest reading score (M = 70.56, SD = 12.14) compared to

the posttest reading score (M = 66.00, SD = 15.00) was not statistically significantly different, $t(15) = -1.67$, p = .06 (one-tailed), d = .33. The pretest language score (M = 68.38, SD = 19.62) compared to the posttest language score (M = 68.81, SD = 15.18) was not statistically significantly different, $t(15) = 0.12$, p = .45 (one-tailed), d = .01. The pretest math score (M = 76.63, SD = 18.61) compared to the posttest math score (M = 70.75, SD = 17.24) was statistically significantly different, $t(15) = -2.16$, p = .02 (one-tailed), d = .33. The pretest social studies score (M = 71.06, SD = 14.28) compared to the posttest social studies score (M = 69.24, SD = 16.12) was not statistically significantly different, $t(15) = -0.33$, p = .37 (one-tailed), d = .07. The pretest science score (M = 74.63, SD = 14.86) compared to the posttest science score (M = 65.44, SD = 18.20) was statistically significantly different, $t(15) = -2.82$, p = .01 (one-tailed), d = .56.

Overall, pretest-posttest results indicated that CAP students did not significantly improve their reading, language, math, social studies, and science achievement subtest scores. Comparing CAP students' norm-referenced test NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 66.00 is congruent with a standard score of

111, a percentile rank of 77, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest language mean score of 68.81 is congruent with a standard score of 113, a percentile rank of 81, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest math mean score of 70.75 is congruent with a standard score of 114, a percentile rank of 83, a stanine score of 7, the lowest stanine in the above average range, and a descriptive designation of above average. An NRT NCE posttest social studies mean score of 69.94 is congruent with a standard score of 114, a percentile rank of 83, a stanine score of 7, the lowest stanine in the above average range, and a descriptive designation of above average. An NRT NCE posttest science mean score of 65.44 is congruent with a standard score of 110, a percentile rank of 75, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. Achievement gain was observed for the language pretest-posttest comparison. However reading, math, social studies, and science achievement scores were all lower at posttest.

Research Question #2

The second hypothesis was tested using the dependent *t* test. Tests analyzed Traditional Academic Program students' 3rd-grade pretest compared to 4th-grade posttest Terra Nova Achievement Test reading, language, math, social studies, and science Normal Curve Equivalent scores. Results were displayed in Table 6. As seen in Table 6, the null hypothesis was not rejected for any of the five achievement subtests measured reading, language, math, social studies, and science. The pretest reading score (M = 63.50, SD = 14.64) compared to the posttest reading score (M = 62.94, SD = 12.86) was not statistically significantly different, $t(15) = -0.23$, $p = .41$ (one-tailed), $d = .04$. The pretest language score (M = 60.00, SD = 15.03) compared to the posttest language score (M = 57.63, SD = 10.46) was not statistically significantly different, $t(15) = -0.87$, $p = .20$ (one-tailed), $d = .19$. The pretest math score (M = 65.81, SD = 21.56) compared to the posttest math score (M = 62.19, SD = 17.02) was not statistically significantly different, $t(15) = -1.01$, $p = .16$ (one-tailed), $d = .16$. The pretest social studies score (M = 62.50, SD = 20.96) compared to the posttest social studies score (M = 65.44, SD = 16.13) was not statistically significantly different, $t(15) = 0.80$, $p = .22$ (one-tailed), $d = .05$. The pretest

science score (M = 60.44, SD = 19.89) compared to the posttest science score (M = 61.31, SD = 13.70) was not statistically significantly different, $t(15) = .19$, $p = .42$ (one-tailed), $d = .05$.

Overall, pretest-posttest results indicated that TAP students did not significantly improve their reading, language, math, social studies, and science achievement subtest scores. Comparing TAP students' norm-referenced test NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 62.94 is congruent with a standard score of 109, a percentile rank of 73, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest language mean score of 57.63 is congruent with a standard score of 105, a percentile rank of 63, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest math mean score of 62.19 is congruent with a standard score of 109, a percentile rank of 73, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest social studies mean score of 65.44 is congruent with a standard score of 110, a percentile rank of 75, a stanine score of 6, the highest stanine in the

average range, and a descriptive designation of average. An NRT NCE posttest science mean score of 61.31 is congruent with a standard score of 108, a percentile rank of 70, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. Achievement gain was observed for social studies and science pretest-posttest comparisons. Reading, language, and math test scores were all lower at posttest.

Research Question #3

The third hypothesis was tested using the independent *t* test. Tests compared CAP students' 4th-grade posttest compared to TAP students 4th-grade posttest Terra Nova Achievement Test reading, language, math, social studies, and science Normal Curve Equivalent scores. Results were displayed in Table 7. As seen in Table 7, the null hypothesis was rejected for the language achievement subtest where the CAP students' posttest mean score was greater. The null hypothesis was not rejected for reading, math, social studies, and science posttest CAP verses TAP comparisons. The CAP reading posttest score (M = 66.00, SD = 15.00) compared to the TAP reading posttest score (M = 62.94, SD = 12.86) was not statistically significantly different, $t(30) = 0.62$, $p = .27$ (one-tailed), $d = .22$. The CAP language posttest score (M = 68.81, SD = 15.18)

compared to the TAP language posttest score (M = 57.63, SD = 10.46) was statistically significantly different, $t(30)$ = 2.43, p = .01 (one-tailed), d = .87. The CAP math posttest score (M = 70.75, SD = 17.24) compared to the TAP math posttest score (M = 62.19, SD = 17.02) was not statistically significantly different, $t(30)$ = 1.41, p = .08 (one-tailed), d = .50. The CAP social studies posttest score (M = 69.94, SD = 16.12) compared to the TAP social studies posttest score (M = 65.44, SD = 16.13) was not statistically significantly different, $t(30)$ = 0.79, p = .22 (one-tailed), d = .28. The CAP science posttest score (M = 65.44, SD = 18.20) compared to the TAP science posttest score (M = 61.31, SD = 13.70) was not statistically significantly different, $t(30)$ = 0.72, p = .24 (one-tailed), d = .13.

Overall, posttest-posttest results indicated that while CAP students' posttest reading, math, social studies, and science mean scores were numerically greater than TAP students, CAP and TAP students did not perform statistically significantly differently on these norm-referenced measures. The CAP students' posttest language, mean score was statistically significantly greater than the TAP students' and the null hypothesis was rejected for the language comparison.

Research Question #4

Individual 4th-grade students in the Core Academy Program Essential Learner Outcome Achievement Test reading, writing, and math cut scores are displayed in Table 8. Table 9 displays the individual 4th-grade students in the Traditional Academic Program Essential Learner Outcome Achievement Test reading, writing, and math cut scores.

The fourth hypothesis was tested using the dependent *t* test. Tests analyzed Core Academy Program students' 3rd-grade pretest compared to 4th-grade posttest reading, writing, and math Essential Learner Outcome scores. Results were displayed in Table 10. As seen in Table 10, the null hypothesis was rejected for all three Essential Learner Outcome achievement tests, reading, writing, and math. Reading and math posttest scores were in the direction of test score improvement. The writing posttest score was in the direction of lower test score performance. The pretest reading score (M = 33.88, SD = 3.81) compared to the posttest reading score (M = 53.25, SD = 6.91) was statistically significantly different, $t(15) = 15.05$, p = .000 (one-tailed), d = 3.61. The pretest writing score (M = 23.94, SD = 2.93) compared to the posttest writing score (M = 22.00, SD = 3.81) was statistically significantly different, $t(15) = -2.23$, p = .02 (one-tailed), d = .57.

The pretest math score (M = 49.50, SD = 7.32) compared to the posttest math score (M = 68.75, SD = 5.80) was statistically significantly different, $t(15) = 8.01$, p = .000 (one-tailed), d = 2.93.

Overall, pretest-posttest results indicated that CAP students did significantly improve their reading and math essential learner outcome scores over time but did not significantly improve their writing score over time where a statistically significant test score decrease was observed. Comparing CAP students' essential learner outcome posttest scores with the research school districts cut scores and cut score nomenclature puts their performance in perspective. A reading score of 53.25 is 14.25 points above the cut score required for mastery (39) and is considered to be within the proficiency range. A writing score of 22.00 is 6 points above the cut score required for mastery (16) and is considered to be within the proficiency range. A math score of 68.75 is 14.75 points above the cut score required for mastery (54) and is considered to be within the proficiency range.

Research Question #5

The fifth hypothesis was tested using the dependent t test. Tests analyzed Traditional Academic Program students' 3rd-grade pretest compared to 4th-grade posttest reading,

writing, and math Essential Learner Outcome scores. Results were displayed in Table 11. As seen in Table 11, the null hypothesis was rejected for two Essential Learner Outcome achievement tests, reading and math. Reading and math posttest scores were in the direction of test score improvement. The writing posttest score was in the direction of lower test score performance. The pretest reading score (M = 32.38, SD = 5.33) compared to the posttest reading score (M = 49.31, SD = 10.96) was statistically significantly different, $t(15) = 7.84$, p = .000 (one-tailed), d = 2.07. The pretest writing score (M = 20.19, SD = 2.90) compared to the posttest writing score (M = 19.19, SD = 4.32) was not statistically significantly different, $t(15) = -0.82$, p = .21 (one-tailed), d = .28. The pretest math score (M = 50.81, SD = 2.88) compared to the posttest math score (M = 62.88, SD = 8.73) was statistically significantly different, $t(15) = 6.25$, p = .000 (one-tailed), d = 2.08.

Overall, pretest-posttest results indicated that TAP students did significantly improve their reading and math essential learner outcome scores over time but did not significantly improve their writing score over time where a not statistically significant decrease was observed. Comparing TAP students' essential learner outcome posttest

scores with the research school districts cut scores and cut score nomenclature puts their performance in perspective. A reading score of 49.31 is 10.31 points above the cut score required for mastery (39) and is considered to be within the proficiency range. A writing score of 19.19 is 3.19 points above the cut score required for mastery (16) and is considered to be within the proficiency range. A math score of 62.88 is 8.88 points above the cut score required for mastery (54) and is considered to be within the barely proficiency range.

Research Question #6

The sixth hypothesis was tested using the independent *t* test. Tests compared Core Academy Program students 4th-grade posttest compared to Traditional Academic Students 4th-grade posttest reading, writing, and math Essential Learner Outcome scores. Results were displayed in Table 12. As seen in Table 12, the null hypothesis was rejected for writing and math essential learner outcome tests where the CAP students' mean scores for writing and math were greater than the TAP students' mean scores for writing and math. The null hypothesis was not rejected for the reading Essential Learner Outcome test where the CAP students' mean score for reading was greater than the TAP students' mean score for reading. The CAP posttest reading score (*M* =

53.25, *SD* = 6.91) compared to the TAP posttest reading score (*M* = 49.31, *SD* = 10.96) was not statistically significantly different, *t*(30) = 1.22, *p* = .12 (one-tailed), *d* = .44. The CAP posttest writing score (*M* = 22.00, *SD* = 3.81) compared to the TAP posttest writing score (*M* = 19.19, *SD* = 4.32) was statistically significantly different, *t*(30) = 1.95, *p* = .03 (one-tailed), *d* = .69. The CAP posttest math score (*M* = 68.75, *SD* = 8.73) compared to the TAP posttest math score (*M* = 62.88, *SD* = 2.88) was statistically significantly different, *t*(30) = 2.24, *p* = .02 (one-tailed), *d* = 1.01.

Overall, posttest-posttest results indicated that CAP students' posttest essential learner outcome scores for writing and math were statistically significantly greater than TAP students' posttest essential learner outcome scores for writing and math. While the CAP students' posttest essential learner outcome score for reading was greater than TAP students' posttest essential learner outcome score for reading, no statistical difference was observed.

Research Question #7

The seventh hypothesis was tested using the dependent *t* test. Tests analyzed Core Academy Program students' 3rd-grade pretest compared to 4th-grade posttest teacher

perception life skills scores for: 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and 15. Uses kind words and actions. Results were displayed in Table 14. As seen in Table 14 the pretest-posttest dependent *t* test results for CAP students' life skills scores were as follows: 1. Responds appropriately to oral/written directions pretest score (M = 2.00, SD = 0.00) compared to the posttest score (M = 2.13, SD = 0.34) was not statistically significantly different $t(15) = 1.46$, p = .08 (one-tailed), d = .76. 2. Identifies a problem and seeks the best solutions pretest score (M = 2.00, SD = 0.35) compared to the posttest score (M = 2.00, SD = 0.00) was not statistically significantly different $t(15) = 0.00$, p = .50 (one-tailed), d = 0.00. 3. Cooperates with others to complete a task or goal pretest score (M = 2.00, SD = 0.00) compared to the posttest score (M = 2.19, SD = 0.40)

was statistically significantly different $t(15) = 1.86$, $p = .04$ (one-tailed), $d = .95$. 4. Uses good work habits pretest score ($M = 2.06$, $SD = .43$) compared to the posttest score ($M = 2.13$, $SD = 0.50$) was not statistically significantly different $t(15) = 0.37$, $p = .36$ (one-tailed), $d = .15$. 5. Demonstrates responsibility pretest score ($M = 2.19$, $SD = .63$) compared to the posttest score ($M = 2.13$, $SD = .34$) was not statistically significantly different $t(15) = -.44$, $p = .33$ (one-tailed), $d = .33$. 6. Sets and pursues goals pretest score ($M = 2.06$, $SD = 0.24$) compared to the posttest score ($M = 2.00$, $SD = 0.00$) was not statistically significantly different $t(15) = -1.00$, $p = .17$ (one-tailed), $d = .50$. 7. Finds answers to questions and concerns pretest score ($M = 2.13$, $SD = 0.33$) compared to the posttest score ($M = 2.00$, $SD = 0.00$) was not statistically significantly different $t(15) = -1.46$, $p = .08$(one-tailed), $d = .81$. 8. Trustworthy and honest pretest score ($M = 2.31$, $SD = .46$) compared to the posttest score ($M = 2.25$, $SD = .45$) was not statistically significantly different $t(15) = -.44$, $p = .33$ (one-tailed), $d = .13$. 9. Demonstrates self control over emotions and body pretest score ($M = 2.31$, $SD = 0.46$) compared to the posttest score ($M = 2.00$, $SD = 0.00$) was significantly different $t(15) = -2.61$, $p = .01$ (one-tailed), $d = 1.35$. 10. Has a positive

attitude pretest score (M = 2.06, SD = .56) compared to the posttest score (M = 2.38, SD = 0.50) was statistically significantly different $t(15) = 1.78$, p = .05 (one-tailed), d = .60. 11. Keeps trying pretest score (M = 2.44, SD = 0.50) compared to the posttest score (M = 2.00, SD = 0.00) was statistically significantly different $t(15) = -3.42$, p = .002 (one-tailed), d = 1.76. 12. Takes pride in classroom and school pretest score (M = 2.06, SD = 0.24) compared to the posttest score (M = 2.06, SD = 0.25) was not statistically significantly different $t(15) = 0.00$, p = 50 (one-tailed), d = 0.00. 13. Respects individual differences pretest score (M = 2.06, SD = 0.24) compared to the posttest score (M = 2.00, SD = 0.00) was not statistically significantly different $t(15) = -1.00$, p = .17 (one-tailed), d = 0.50. 14. Respects the life of others pretest score (M = 2.06, SD = 0.24) compared to the posttest score (M = 2.31, SD = .48) was statistically significantly different $t(15) = 1.73$, p = .05 (one-tailed), d = .69. 15. Uses kind words and actions pretest score (M = 2.19, SD = 0.53) compared to the posttest score (M = 2.38, SD = .50) was not statistically significantly different $t(15) = 1.38$, p = .09 (one-tailed), d = .37.

Overall, as seen in Table 14, the null hypothesis was rejected for three of the fifteen perception life skills in

the direction of improved life skills scores (a) 3. Cooperates with others to complete a task or goal, (b) 10. Has a positive attitude, and (c) 14. Respects the rights of others. The null hypothesis was not rejected for three of the fifteen perception life skills in the direction of improved life skills scores (a) 1. Responds appropriately to oral/written directions, (b) 4. Uses good work habits and (c) 15. Uses kind words and actions. The null hypothesis was not rejected for two of the fifteen perception life skills with unchanged pretest-posttest scores (a) 2. Identifies a problem and seeks the best solutions and (b) 12. Takes pride in classroom and school. The null hypothesis was rejected for two of the fifteen perception life skills in the direction of declining life skills scores (a) 9. Demonstrates self control over emotions and body and (b) Keeps trying. The null hypothesis was not rejected for five of the fifteen perception life skills in the direction of declining life skills scores (a) 5. Demonstrates responsibility, (b) 6. Sets and pursues goals, (c) 7. Finds answers to questions and concerns, (d) 8. Trustworthy and honest, (e) 13. Respects individual differences. Finally, all posttest teacher life skills perceptions scores awarded to CAP students were within the

satisfactory range whether the posttest score was in the direction of improvement, decline, or stability.

Research Question #8

The eighth hypothesis was tested using the dependent *t* test. Tests analyzed Traditional Academic Program students' 3rd-grade pretest compared to 4th-grade posttest teacher perception life skills scores for: 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and 15. Uses kind words and actions. Results were displayed in Table 15. As seen in Table 15 the pretest-posttest dependent *t* test results for TAP students' life skills scores were as follows: 1. Responds appropriately to oral/written directions pretest score (M = 1.88, SD = .33) compared to the posttest score (M = 2.81, SD = 0.39) was statistically significantly different $t(15) = 15.00$, p = .0001 (one-tailed), d = 2.58. 2. Identifies a problem and

seeks the best solutions pretest score (M = 2.00, SD = 0.35) compared to the posttest score (M = 2.69, SD = 0.39) was statistically significantly different $t(15) = 5.74$, p = .0001 (one-tailed), d = 1.68. 3. Cooperates with others to complete a task or goal pretest score (M = 2.13, SD = 0.33) compared to the posttest score (M = 2.63, SD = 0.48) was statistically significantly different $t(15) = 3.87$, p = .001 (one-tailed), d = 1.22. 4. Uses good work habits pretest score (M = 2.13, SD = .33) compared to the posttest score (M = 2.81, SD = 0.39) was statistically significantly different $t(15) = 5.74$, p = .0001 (one-tailed), d = 1.89. 5. Demonstrates responsibility pretest score (M = 2.06, SD = .24) compared to the posttest score (M = 2.94, SD = .24) was statistically significantly different $t(15) = 10.25$, p = .0001 (one-tailed), d = 3.67. 6. Sets and pursues goals pretest score (M = 2.06, SD = .24) compared to the posttest score (M = 3.00, SD = 0.00) was statistically significantly different $t(15) = 15.00$, p = .001 (one-tailed), d = 7.83. 7. Finds answers to questions and concerns pretest score (M = 2.06, SD = 0.24) compared to the posttest score (M = 3.00, SD = 0.00) was statistically significantly different $t(15) = 15.00$, p = .00001 (one-tailed), d = 7.83. 8. Trustworthy and honest pretest score (M = 2.00, SD = .0.00) compared to the posttest score (M = 2.75, SD = .43) was

statistically significantly different $t(15) = 6.71$, $p = .0001$ (one-tailed), $d = 3.41$. 9. Demonstrates self control over emotions and body pretest score ($M = 2.00$, $SD = 0.00$) compared to the posttest score ($M = 2.81$, $SD = .39$) was statistically significantly different $t(15) = 8.06$, $p = .0001$ (one-tailed), $d = 4.05$. 10. Has a positive attitude pretest score ($M = 2.13$, $SD = .33$) compared to the posttest score ($M = 3.00$, $SD = 0.00$) was statistically significantly different $t(15) = 10.25$, $p = .0001$ (one-tailed), $d = 5.11$. 11. Keeps trying pretest score ($M = 2.00$, $SD = 0.00$) compared to the posttest score ($M = 2.94$, $SD = .24$) was statistically significantly different $t(15) = 15.00$, $p = .0001$ (one-tailed), $d = 7.83$. 12. Takes pride in classroom and school pretest score ($M = 2.00$, $SD = 0.00$) compared to the posttest score ($M = 3.00$, $SD = 0.00$) was statistically significantly different $t(15) = 0.00$, $p =$ ns (one-tailed), $d = 0.00$. 13. Respects individual differences pretest score (M = 2.00, SD = 0.00) compared to the posttest score (M = 3.00, SD = 0.00) was statistically significantly different $t(15) = 0.00$, $p =$ ns (one-tailed), $d = 0.00$. 14. Respects the life of others pretest score ($M = 2.00$, $SD = 0.00$) compared to the posttest score ($M = 2.81$, $SD = .39$) was statistically significantly different $t(15) = 8.06$, $p = .0001$ (one-tailed), $d = 4.05$. 15. Uses kind words and

actions pretest score (M = 2.00, SD = 0.00) compared to the posttest score (M = 2.56, SD = .50) was significantly different $t(15) = 4.39$, p = .0003 (one-tailed), d = 2.32.

Overall, as seen in Table 15, the null hypothesis was rejected for thirteen of the fifteen perception life skills (a) 1. Responds appropriately to oral/written directions (b) 2. Identifies a problem and seeks the best solutions (c) 3. Cooperates with others to complete a task or goal, (d) 4. Uses good work habits (e) 5. Demonstrates responsibility, (f) 6. Sets and pursues goals (g) 7. Finds answers to questions and concerns (h) 8. Trustworthy and honest, (i) 9. Demonstrates self control over emotions and body, (j) 10. Has a positive attitude, (k) 11. Keeps trying, (l) 14. Respects the right of others, and (m) 15. Uses kind words and actions. All thirteen of these statistically significant comparisons were in the direction of pretest-posttest life skills improvement. The null hypothesis was not rejected for two of the fifteen perception life skills (a) 12. Takes pride in classroom and school and (b) 13. Respects individual differences. Both of the not statistically significant comparisons were in the direction of pretest-posttest life skills improvement. Finally, ten posttest teacher life skills perceptions scores awarded to TAP students were within the satisfactory

range while five of the posttest teacher life skills perceptions scores awarded to TAP students were within the exceeds expectations range. All posttest scores were all in the direction of skill score improvement.

Research Question #9

The ninth hypothesis was tested using the independent *t* test. Tests analyzed teacher life skills perceptions scores awarded to students participating in the Traditional Academic Program 4th-Grade posttest scores compared to teacher life skills perceptions scores awarded to students participating in the Core Academic Program 4th-Grade posttest scores for: 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and 15. Uses kind words and actions. Results were displayed in Table 16. As seen in Table 16 the posttest-posttest independent *t* test results comparing TAP and CAP students' life skills scores were as

follows: 1. Responds appropriately to oral/written directions TAP posttest score (M = 2.81, SD = .39) compared to the CAP posttest score (M = 2.13, SD = 0.34) was statistically significantly different $t(30) = -5.20$, p = .0001 (one-tailed), d = 1.88. 2. Identifies a problem and seeks the best solutions TAP posttest score (M = 2.69, SD = 0.46) compared to the CAP posttest score (M = 2.00, SD = 0.00) was statistically significantly different $t(30) = -5.74$, p = .0001 (one-tailed), d = 3.00. 3. Cooperates with others to complete a task or goal TAP posttest score (M = 2.63, SD = 0.48) compared to the CAP posttest score (M = 2.19, SD = 0.40) was statistically significantly different $t(30) = -2.72$, p = .01 (one-tailed), d = .50. 4. Uses good work habits TAP posttest score (M = 2.81, SD = .39) compared to the CAP posttest score (M = 2.13, SD = 0.50) was statistically significantly different $t(30) = -4.28$, p = .0001 (one-tailed), d = 1.51. 5. Demonstrates responsibility TAP posttest score (M = 2.94, SD = .24) compared to the CAP posttest score (M = 2.13, SD = .34) was statistically significantly different $t(30) = -7.68$, p = .0001 (one-tailed), d = 2.80. 6. Sets and pursues goals TAP posttest score (M = 3.00, SD = .0.00) compared to the CAP posttest score (M = 2.00, SD = 0.00) was not statistically significantly different $t(30) = 0.00$, p = .50 (one-tailed),

d = 0.00. 7. Finds answers to questions and concerns TAP posttest score (*M* = 3.00, *SD* = 0.00) compared to the CAP posttest score (*M* = 2.00, *SD* = 0.00) was not statistically significantly different *t*(30) = 0.00, *p* = .50 (one-tailed), *d* = 0.00. 8. Trustworthy and honest TAP posttest score (*M* = 2.75, *SD* = .0.43) compared to the CAP posttest score (*M* = 2.25, *SD* = .45) was statistically significantly different *t*(30) = -3.16, *p* = .002 (one-tailed), *d* = 1.14. 9. Demonstrates self control over emotions and body TAP posttest score (*M* = 2.81, *SD* = 0.39) compared to the CAP posttest score (*M* = 2.00, *SD* = 0.00) was statistically significantly different *t*(30) = -8.06, *p* = .0001 (one-tailed), *d* = 4.05. 10. Has a positive attitude TAP posttest score (*M* = 3.00, *SD* = 0.00) compared to the CAP posttest score (*M* = 2.39, *SD* = 0.50) was statistically significantly different *t*(30) = -5.00, *p* = .0001 (one-tailed), *d* = 2.48. 11. Keeps trying TAP posttest score (*M* = 2.94, *SD* = 0.24) compared to the CAP posttest score (*M* = 2.00, *SD* = 0.00) was statistically significantly different *t*(30) = -15.00, *p* = .0001 (one-tailed), *d* = 7.83. 12. Takes pride in classroom and school TAP posttest score (*M* = 3.00, *SD* = 0.00) compared to the CAP posttest score (*M* = 2.06, *SD* = 0.25) was statistically significantly different *t*(30) = -15.00, *p* = .0001 (one-tailed), *d* = 7.83. 13. Respects

individual differences TAP posttest score (*M* = 3.00, *SD* = 0.00) compared to the CAP posttest score (*M* = 2.00, *SD* = 0.00) was not statistically significantly different *t*(30) = 0.00, *p* = ,50 (one-tailed), *d* = 0.00. 14. Respects the life of others TAP posttest score (*M* = 2.81, *SD* = 0.39) compared to the CAP posttest score (*M* = 2.31, *SD* = .48) was statistically significantly different *t*(30) = -3.20, *p* = .002 (one-tailed), *d* = 1.13. 15. Uses kind words and actions TAP posttest score (*M* = 2.56, *SD* = 0.50) compared to the CAP posttest score (*M* = 2.38, *SD* = .50) was not statistically significantly different *t*(30) = -1.05, *p* = .15 (one-tailed), *d* =.36.

Overall, as seen in Table 16 the null hypothesis was rejected for eleven of the fifteen perception life skills scores posttest-posttest comparisons indicating that TAP students' posttest teacher perception life skill scores were statistically significantly greater than CAP students' posttest scores for (a) 1. Responds appropriately to oral/written directions, (b) 2. Identifies a problem and seeks the best solution, (c) 3. Cooperates with others to complete a task or goal, (d) 4. Uses good work habits, (e) 5. Demonstrates responsibility, (f) 8. Trustworthy and honest, (g) 9. Demonstrates self control over mind and body, (h) 10. Has a positive attitude, (i) 11. Keeps

trying, (j) 12. Takes pride in classroom and school, and (k) 14. Respects the right of others. The null hypothesis was not rejected for four of the fifteen perception life skills scores posttest-posttest comparisons indicating that TAP students' posttest teacher perception life skill scores were not statistically significantly greater than CAP students' posttest scores for (a) 6. Sets and pursues goals, (b) 7. Finds answers to questions and concerns, (c) 13. Respects individual differences, and (d) 15. Uses kind words and actions. Finally, ten posttest teacher life skills perceptions scores awarded to TAP students were within the satisfactory range while five of the posttest teacher life skills perceptions scores awarded to TAP students were within the exceeds expectations range. All 15 posttest teacher life skills perceptions scores awarded to CAP students were within the satisfactory range.

Table 1

Gender Information of Individual 4th-Grade Students in the Core Academy Program

Student number (a, b, c)	Gender
1.	Female
2.	Female
3.	Male
4.	Male
5.	Male
6.	Male
7.	Female
8.	Female
9.	Male
10.	Male
11.	Female
12.	Male
13. (a)	Female
14.	Male
15. (a)	Male
16.	Female

(a) Note: 13% of students in the research school received free or reduced-price meals and are therefore categorized as low income.

(b) Note: 10% of students in the research school were categorized as racially diverse. No students in this group were racially diverse.

(c) Note: No students with verified special education needs participated in this study.

Table 2

Gender Information of Individual 4th-Grade Students in the Traditional Academic Program

Student number (a, b, c)	Gender
1. (a)	Male
2.	Male
3.	Female
4. (a)	Male
5.	Female
6.	Female
7.	Male
8.	Male
9.	Male
10. (a, b)	Female
11.	Female
12.	Male
13. (a, b)	Male
14.	Female
15. (a, b)	Female
16. (a)	Female

(a) Note: 13% of students in the research school received free or reduced-price meals and are therefore categorized as low income.

(b) Note: 10% of students in the research school were categorized as racially diverse.

(c) Note: No students with verified special education needs participated in this study.

Table 3

Individual 4th-Grade Students in the Core Academy Program Terra Nova Achievement Test Reading, Language, Math, Social Studies, and Science Normal Curve Equivalent Scores

	(b)		(c)		(d)		(e)		(f)	
(a)	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1.	69	70	77	80	73	61	60	58	65	55
2.	91	91	85	88	89	87	75	79	75	93
3.	83	79	83	80	87	87	76	89	89	89
4.	65	80	87	67	93	86	92	69	81	73
5.	73	83	74	74	99	99	88	86	83	79
6.	59	59	47	54	99	76	91	57	99	61
7.	58	37	43	50	40	44	42	40	41	34
8.	68	64	76	86	75	64	63	56	72	60
9.	68	65	50	65	63	70	67	82	88	69
10.	58	58	51	48	64	75	61	58	58	57
11.	70	77	53	82	57	57	63	73	80	60
12.	73	60	99	78	99	77	73	88	67	66
13.	47	41	34	45	66	48	52	45	69	58
14.	87	75	73	80	99	90	88	80	95	99
15.	72	50	68	47	60	41	70	68	62	35
16.	88	67	94	77	63	70	76	91	70	59

(a) Note. Student numbers correspond with Table 1.

(b) Reading. (c) Language. (d) Math. (e) Social Studies.

(f) Science.

Table 4

Individual 4th-Grade Students in the Traditional Academic Program Terra Nova Achievement Test Reading, Language, Math, Social Studies, and Science Normal Curve Equivalent Scores

	(b)		(c)		(d)		(e)		(f)	
(a)	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1.	58	66	40	50	55	54	38	64	32	71
2.	60	69	87	64	93	76	65	92	71	88
3.	37	30	34	38	36	18	30	40	35	41
4.	59	68	66	60	68	65	83	65	51	57
5.	64	66	72	78	61	61	61	58	65	55
6.	94	81	73	74	94	99	75	72	80	55
7.	95	79	80	64	95	60	96	94	99	73
8.	66	53	62	50	93	83	61	55	65	64
9.	69	78	60	70	50	56	81	89	92	69
10.	49	60	43	54	43	52	31	56	48	48
11.	58	53	55	53	70	64	66	59	45	47
12.	51	64	48	59	63	60	47	50	49	68
13.	63	64	69	55	64	57	85	83	78	67
14.	72	71	70	56	90	73	87	62	67	69
15.	62	55	48	47	41	56	52	57	42	36
16.	59	50	53	50	37	61	42	51	48	73

(a) Note. Student numbers correspond with Table 2.

(b) Reading. (c) Language. (d) Math. (e) Social Studies.

(f) Science.

Table 5

Core Academy Program Students 3rd-Grade Pretest Compared to 4th-Grade Posttest Terra Nova Achievement Test Reading, Language, Math, Social Studies, and Science Normal Curve Equivalent Scores

	Pretest Scores		Posttest Scores (a)				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	70.56	(12.14)	66.00	(15.00)	.33	-1.67	.06*
Language	68.38	(19.62)	68.81	(15.18)	.01	0.12	.45*
Math	76.63	(18.61)	70.75	(17.24)	.33	-2.16	.02**
S/Studies	71.06	(14.28)	69.94	(16.12)	.07	-0.33	.37*
Science	74.63	(14.86)	65.44	(18.20)	.56	-2.82	.01***

(a) Note: Negative *t* result is in the direction of a lower mean posttest score.

**ns*. ***p* = .02. ****p* = .001.

Table 6

Traditional Academic Program Students 3rd-Grade Pretest Compared to 4th-Grade Posttest Terra Nova Achievement Test Reading, Language, Math, Social Studies, and Science Normal Curve Equivalent Scores

	Pretest Scores		Posttest Scores (a)				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	63.50	(14.64)	62.94	(12.86)	.04	-0.23	.41*
Language	60.00	(15.03)	57.63	(10.46)	.19	-0.87	.20*
Math	65.81	(21.58)	62.19	(17.02)	.19	-1.01	.16*
S/Studies	62.50	(20.96)	65.44	(16.13)	.16	0.80	.22*
Science	60.44	(19.89)	61.31	(13.70)	.05	0.19	.42*

(a) Note: Negative *t* result is in the direction of lower mean posttest scores.

**ns*.

Table 7

Core Academy Program Students 4th-Grade Posttest Compared to Traditional Academic Students 4th-Grade Posttest Terra Nova Achievement Test Reading, Language, Math, Social Studies, and Science Normal Curve Equivalent Scores

	Traditional Academic Program Posttest Scores		Core Academy Program Posttest Scores				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	62.94	(12.86)	66.00	(15.00)	.22	0.62	.27*
Language	57.63	(10.46)	68.81	(15.18)	.87	2.43	.01**
Math	62.19	(17.02)	70.75	(17.24)	.50	1.41	.08*
S/Studies	65.44	(16.13)	69.94	(16.12)	.28	0.79	.22*
Science	61.31	(13.70)	65.44	(18.20)	.13	0.72	.24*

**ns*. ***p* = .01.

Table 8

Individual 4th-Grade Students in the Core Academy Program Essential Learner Outcome Achievement Test Reading, Writing, and Math Cut Scores

	Reading		Writing		Math	
(a)	Pre	Post	Pre	Post	Pre	Post
1.	29	58	26	26	53	69
2.	37	58	21	21	54	70
3.	39	57	26	23	50	71
4.	38	58	26	26	52	70
5.	38	60	23	27	24	76
6.	35	56	23	18	54	76
7.	31	39	22	19	46	62
8.	32	51	24	20	52	64
9.	36	55	22	21	52	67
10.	31	46	20	17	48	70
11.	29	53	19	21	48	67
12.	35	58	26	20	55	75
13.	26	40	24	15	48	58
14.	37	61	23	26	54	74
15.	34	46	30	25	49	58
16.	35	56	28	27	53	73

(a) Note. Student numbers correspond with Table 1.

Table 9

Individual 4th-Grade Students in the Traditional Academic Program Essential Learner Outcome Achievement Test Reading, Writing, and Math Cut Scores

	Reading		Writing		Math	
(a)	Pre	Post	Pre	Post	Pre	Post
1.	25	46	24	19	50	63
2.	33	58	22	19	54	65
3.	21	15	15	19	49	38
4.	36	52	17	15	52	64
5.	34	53	16	19	51	79
6.	38	54	20	30	55	69
7.	39	60	21	19	53	69
8.	27	44	24	19	50	65
9.	36	60	22	18	46	56
10.	29	53	19	15	49	58
11.	40	42	19	15	48	57
12.	29	52	22	16	50	63
13.	34	49	25	24	55	63
14.	36	59	18	27	54	71
15.	32	41	19	16	51	65
16.	29	51	20	17	46	61

(a) Note. Student numbers correspond with Table 2.

Table 10

Core Academy Program Students 3rd-Grade Pretest Compared to 4th-Grade Posttest Reading, Writing, and Math Essential Learner Outcome Scores

	Pretest Scores		Posttest Scores (a)				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	33.88	(3.81)	53.25	(6.91)	3.61	15.05	.000**
Writing	23.94	(2.93)	22.00	(3.81)	.57	-2.23	.02*
Math	49.50	(7.32)	68.75	(5.80)	2.93	8.01	.000**

(a) Note: Negative *t* result is in the direction of lower mean posttest score.

*p = .02. **p < .0001.

Table 11

Traditional Academic Program Students 3rd-Grade Pretest Compared to 4th-Grade Posttest Reading, Writing, and Math Essential Learner Outcome Scores

	Pretest Scores		Posttest Scores (a)				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	32.38	(5.33)	49.31	(10.96)	2.07	7.84	.000**
Writing	20.19	(2.90)	19.19	(4.32)	.28	-0.82	.21*
Math	50.81	(2.88)	62.88	(8.73)	2.08	6.25	.000**

(a) Note: Negative *t* result is in the direction of lower mean posttest score.

**ns.* ***p* < .0001.

Table 12

Core Academy Program Students 4th-Grade Posttest Compared to Traditional Academic Students 4th-Grade Posttest Reading, Writing, and Math Essential Learner Outcome Scores

	Traditional Academic Program Posttest Scores		Core Academy Program Posttest Scores				
Source	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
Reading	49.31	(10.96)	53.25	(6.91)	.44	1.22	.12*
Writing	19.19	(4.32)	22.00	(3.81)	.69	1.95	.03**
Math	62.88	(2.88)	68.75	(8.73)	1.01	2.24	.02***

**ns*. ***p* = .03. ****p* = .02.

Table 13

Teacher Life Skills Perceptions Awarded to Students Participating in the Core Academy Program and the Traditional Academic Program

Domain Number	Life Skills
1.	Responds appropriately to oral/written directions
2.	Identifies a problem and seeks the best solutions
3.	Cooperates with others to complete a task or goal
4.	Uses good work habits
5.	Demonstrates responsibility
6.	Sets and pursues goals
7.	Finds answers to questions and concerns
8.	Trustworthy and honest
9.	Demonstrates self control over emotions and body
10.	Has a positive attitude
11.	Keeps trying
12.	Takes pride in classroom and school
13.	Respects individual differences
14.	Respects the rights of others
15.	Uses kind words and actions

(a) Note: Rubric used by teachers to rate students on the 15 domains: 1 = Needs Improvement. 2 = Satisfactory. 3 = Exceeds Expectations.

Table 14

Teacher Life Skills Perceptions Awarded to Students Participating in the Core Academy Program 3rd-Grade Pretest Compared to 4th-Grade Posttest Scores

	Pretest Scores		Posttest Scores (b)				
Source (a)	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
1.	2.00	(0.00)	2.13	(0.34)	.76	1.46	.08*
2.	2.00	(0.35)	2.00	(0.00)	.00	0.00	.50*
3.	2.00	(0.00)	2.19	(0.40)	.95	1.86	.04***
4.	2.06	(0.43)	2.13	(0.50)	.15	0.37	.36*
5.	2.19	(0.63)	2.13	(0.34)	.33	-0.44	.33*
6.	2.06	(0.24)	2.00	(0.00)	.50	-1.00	.17*
7.	2.13	(0.33)	2.00	(0.00)	.81	-1.46	.08*
8.	2.31	(0.46)	2.25	(0.45)	.13	-0.44	.33*
9.	2.31	(0.46)	2.00	(0.00)	1.35	-2.61	.01****
10.	2.06	(0.56)	2.38	(0.50)	.60	1.78	.05**
11.	2.44	(0.50)	2.00	(0.00)	1.76	-3.42	.002*****
12.	2.06	(0.24)	2.06	(0.25)	.00	0.00	.50*
13.	2.06	(0.24)	2.00	(0.00)	.50	-1.00	.17*
14.	2.06	(0.24)	2.31	(0.48)	.69	1.73	.05*
15.	2.19	(0.53)	2.38	(0.50)	.37	1.38	.09*

(a) Note: 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and 15. Uses kind words and actions.

(b) Note: Negative *t* result is in the direction of lower mean posttest score.

**ns*. ***p* = .05. ****p* = .04. *****p* = .01. ******p* = .002.

Table 15

Teacher Life Skills Perceptions Awarded to Students Participating in the Traditional Academic Program 3rd-Grade Pretest Compared to 4th-Grade Posttest Scores

	Pretest Scores		Posttest Scores (b)				
Source (a)	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
1.	1.88	(0.33)	2.81	(0.39)	2.58	15.00	.0001***
2.	2.00	(0.35)	2.69	(0.46)	1.68	5.74	.0001***
3.	2.13	(0.33)	2.63	(0.48)	1.22	3.87	.001*
4.	2.13	(0.33)	2.81	(0.39)	1.89	5.74	.0001***
5.	2.06	(0.24)	2.94	(0.24)	3.67	10.25	.0001***
6.	2.06	(0.24)	3.00	(0.00)	7.83	15.00	.0001***
7.	2.06	(0.24)	3.00	(0.00)	7.83	15.00	.0001***
8.	2.00	(0.00)	2.75	(0.43)	3.41	6.71	.0001***
9.	2.00	(0.00)	2.81	(0.39)	4.05	8.06	.0001***
10.	2.13	(0.33)	3.00	(0.00)	5.11	10.25	.0001***
11.	2.00	(0.00)	2.94	(0.24)	7.83	15.00	.0001***
12.	2.00	(0.00)	3.00	(0.00)	0.00	0.00	.ns
13.	2.00	(0.00)	3.00	(0.00)	0.00	0.00	.ns
14.	2.00	(0.00)	2.81	(0.39)	4.05	8.06	.0001***
15.	2.00	(0.00)	2.56	(0.50)	2.32	4.39	.0003**

(a) Note: 1. Responds appropriately to oral/written directions, 2. Identifies a problem and seeks the best solutions, 3. Cooperates with others to complete a task or goal, 4. Uses good work habits, 5. Demonstrates responsibility, 6. Sets and pursues goals, 7. Finds answers to questions and concerns, 8. Trustworthy and honest, 9. Demonstrates self control over emotions and body, 10. Has a positive attitude, 11. Keeps trying, 12. Takes pride in classroom and school, 13. Respects individual differences, 14. Respects the rights of others, and 15. Uses kind words and actions.

*p = .001. **p = .0003. ***p < .0001.

Table 16

Teacher Life Skills Perceptions Awarded to Students Participating in the Traditional Academic Program 4th-Grade Posttest Scores Compared to Teacher Life Skills Perceptions Awarded to Students Participating in the Core Academic Program 4th-Grade Posttest Scores

	Traditional Academic Program Posttest Scores		Core Academy Program Posttest Scores				
Source (a)	*M*	*SD*	*M*	*SD*	*d*	*t*	*p*
1.	2.81	(0.39)	2.13	(0.34)	1.88	-5.20	.0001*****
2.	2.69	(0.46)	2.00	(0.00)	3.00	-5.74	.0001*****
3.	2.63	(0.48)	2.19	(0.40)	0.50	-2.72	.01**
4.	2.81	(0.39)	2.13	(0.50)	1.51	-4.28	.0001****
5.	2.94	(0.24)	2.13	(0.34)	2.80	-7.68	.0001*****
6.	3.00	(0.00)	2.00	(0.00)	0.00	0.00	.50*
7.	3.00	(0.00)	2.00	(0.00)	0.00	0.00	.50*
8.	2.75	(0.43)	2.25	(0.45)	1.14	-3.16	.002***
9.	2.81	(0.39)	2.00	(0.00)	4.05	-8.06	.0001*****
10.	3.00	(0.00)	2.39	(0.50)	2.48	-5.00	.0001*****
11.	2.94	(0.24)	2.00	(0.00)	7.83	-15.00	.0001*****
12.	3.00	(0.00)	2.06	(0.25)	7.83	-15.00	.0001*****
13.	3.00	(0.00)	2.00	(0.00)	0.00	0.00	.50*
14.	2.81	(0.39)	2.31	(0.48)	1.13	-3.20	.002***
15.	2.56	(0.50)	2.38	(0.50)	.36	-1.05	.15*

(a) Note: See Table 15 Note a.

**ns*. ***p* = .01. ****p* = .002. *****p* = .0001. ******p* < .0001.

CHAPTER 5

Conclusions and Discussions

The purpose of this study is to determine the effect of a founding back-to-basics Core Academic Program (CAP) on participating students' 4th-grade achievement and perceptions of life skills compared to the achievement and perceptions of life skills of 4th-grade students completing the same school's standard of care Traditional Academic Program (TAP). The study analyzed achievement of the Core Academy Program (CAP) and TAP students to determine pretest to posttest achievement gain across time and compare the posttest scores of CAP and TAP students to determine intervention effectiveness.

The study analyzed achievement data of CAP compared to TAP students to determine if students in the two programs have different or congruent achievement outcomes. All student achievement data dependent measures including the the Terra Nova achievement test, the Essential Learner Outcomes assessments, and the Life Skills coursework grades were retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel and from the Combined University of Nebraska Medical Center/University of Nebraska at Omaha Institutional Review Board for the Protection of Human

Subjects was obtained before data were collected and analyzed.

This chapter contains the conclusions and discussion of the findings from this research effort. The chapter begins with the conclusions reached from calculating the data. The next section contains a discussion of those conclusions. The discussion includes an assessment of the significance of those findings. The discussion also includes recommendations for future research.

Conclusions

Research question #1. Overall, pretest-posttest results indicated that CAP students did not significantly improve their reading, language, math, social studies, and science achievement subtest scores. Comparing CAP students' norm-referenced test NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 66.00 is congruent with a standard score of 111, a percentile rank of 77, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest language mean score of 68.81 is congruent with a standard score of 113, a percentile rank of 81, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest

math mean score of 70.75 is congruent with a standard score of 114, a percentile rank of 83, a stanine score of 7, the lowest stanine in the above average range, and a descriptive designation of above average. An NRT NCE posttest social studies mean score of 69.94 is congruent with a standard score of 114, a percentile rank of 83, a stanine score of 7, the lowest stanine in the above average range, and a descriptive designation of above average. An NRT NCE posttest science mean score of 65.44 is congruent with a standard score of 110, a percentile rank of 75, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. Achievement gain was observed for the language pretest-posttest comparison. However reading, math, social studies, and science achievement scores were all lower at posttest.

Research question #2. Overall, pretest-posttest results indicated that TAP students did not significantly improve their reading, language, math, social studies, and science achievement subtest scores. Comparing TAP students' norm-referenced test NCE scores with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading mean score of 62.94 is congruent with a standard score of 109, a percentile rank of 73, a stanine score of 6, the highest stanine in the average range, and a

descriptive designation of average. An NRT NCE posttest language mean score of 57.63 is congruent with a standard score of 105, a percentile rank of 63, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest math mean score of 62.19 is congruent with a standard score of 109, a percentile rank of 73, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest social studies mean score of 65.44 is congruent with a standard score of 110, a percentile rank of 75, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. An NRT NCE posttest science mean score of 61.31 is congruent with a standard score of 108, a percentile rank of 70, a stanine score of 6, the highest stanine in the average range, and a descriptive designation of average. Achievement gain was observed for social studies and science pretest-posttest comparisons. Reading, language, and math test scores were all lower at posttest.

Research question #3. Overall, posttest-posttest results indicated that while CAP students' posttest reading, math, social studies, and science mean scores were numerically greater than TAP students, CAP and TAP students did not perform statistically significantly differently on

these norm-referenced measures. The CAP students' posttest language, mean score was statistically significantly greater than the TAP students and the null hypothesis was rejected for the language comparison.

Research question #4. Overall, pretest-posttest results indicated that CAP students did significantly improve their reading and math essential learner outcome scores over time but did not significantly improve their writing score over time where a statistically significant test score decrease was observed. Comparing CAP students' essential learner outcome posttest scores with the research school districts cut scores and cut score nomenclature puts their performance in perspective. A reading score of 53.25 is 14.25 points above the cut score required for mastery (39) and is considered to be within the proficiency range. A writing score of 22.00 is 6 points above the cut score required for mastery (16) and is considered to be within the proficiency range. A math score of 68.75 is 14.75 points above the cut score required for mastery (54) and is considered to be within the proficiency range.

Research question #5. Overall, pretest-posttest results indicated that TAP students did significantly improve their reading and math essential learner outcome scores over time but did not significantly improve their

writing score over time where a not statistically significant decrease was observed. Comparing TAP students' essential learner outcome posttest scores with the research school districts cut scores and cut score nomenclature puts their performance in perspective. A reading score of 49.31 is 10.31 points above the cut score required for mastery (39) and is considered to be within the proficiency range. A writing score of 19.19 is 3.19 points above the cut score required for mastery (16) and is considered to be within the proficiency range. A math score of 62.88 is 8.88 points above the cut score required for mastery (54) and is considered to be within the barely proficiency range.

Research question #6. Overall, posttest-posttest results indicated that CAP students' posttest essential learner outcome scores for writing and math were statistically significantly greater than TAP students' posttest essential learner outcome scores for writing and math. While the CAP students' posttest essential learner outcome score for reading was greater than TAP students, no statistical difference was observed.

Research question #7. Overall, as seen in Table 14, the null hypothesis was rejected for three of the fifteen perception life skills in the direction of improved life skills scores (a) 3. Cooperates with others to complete a

task or goal, (b) 10. Has a positive attitude, and (c) 14. Respects the rights of others. The null hypothesis was not rejected for three of the fifteen perception life skills in the direction of improved life skills scores (a) 1. Responds appropriately to oral/written directions, (b) 4. Uses good work habits and (c) 15. Uses kind words and actions. The null hypothesis was not rejected for two of the fifteen perception life skills with unchanged pretest-posttest scores (a) 2. Identifies a problem and seeks the best solutions and (b) 12. Takes pride in classroom and school. The null hypothesis was rejected for two of the fifteen perception life skills in the direction of declining life skills scores (a) 9. Demonstrates self control over emotions and body and (b) Keeps trying. The null hypothesis was not rejected for five of the fifteen perception life skills in the direction of declining life skills scores (a) 5. Demonstrates responsibility, (b) 6. Sets and pursues goals, (c) 7. Finds answers to questions and concerns, (d) 8. Trustworthy and honest, (e) 13. Respects individual differences. Finally, all posttest teacher life skills perceptions scores awarded to CAP students were within the satisfactory range whether the posttest score was in the direction of improvement, decline, or stability.

Research question #8. Overall, pretest-posttest restults indicated that TAP students the null hypothesis was rejected for thirteen of the fifteen perception life skills (a) 1. Responds appropriately to oral/written directions (b) 2. Identifies a problem and seeks the best solutions (c) 3. Cooperates with others to complete a task or goal, (d) 4. Uses good work habits (e) 5. Demonstrates responsibility, (f) 6. Sets and pursues goals (g) 7. Finds answers to questions and concerns (h) 8. Trustworthy and honest, (i) 9. Demonstrates self control over emotions and body, (j) 10. Has a positive attitude, (k) 11. Keeps trying, (l) 14. Respects the right of others, and (m) 15. Uses kinds words and actions. All thirteen of these statistically significant comparisons were in the direction of pretest-posttest life skills improvement. The null hypothesis was not rejected for two of the fifteen perception life skills (a) 12. Takes pride in classroom and school and (b) 13. Respects individual differences. Both of the not statistically significant comparisons were in the direction of pretest-posttest life skills improvement. Finally, ten posttest teacher life skills perceptions scores awarded to TAP students were within the satisfactory range while five of the posttest teacher life skills perceptions scores awarded to TAP students were within the

exceeds expectations range. All posttest scores were all in the direction of skill score improvement.

Research question #9. Overall, posttest-posttest results indicated that TAP students' posttest teacher perception life skill scores were statistically significantly greater than CAP students' posttest scores for (a) 1. Responds appropriately to oral/written directions, (b) 2. Identifies a problem and seeks the best solution, (c) 3. Cooperates with others to complete a task or goal, (d) 4. Uses good work habits, (e) 5. Demonstrates responsibility, (f) 8. Trustworthy and honest, (g) 9. Demonstrates self control over mind and body, (h) 10. Has a positive attitude, (i) 11. Keeps trying, (j) 12. Takes pride in classroom and school, and (k) 14. Respects the right of others. The null hypothesis was not rejected for four of the fifteen perception life skills scores posttest-posttest comparisons indicating that TAP students' posttest teacher perception life skill scores were not statistically significantly greater than CAP students' posttest scores for (a) 6. (a) Sets and pursues goals, (b) 7. Finds answers to questions and concerns, (c) 13. Respects individual differences, and (d) 15. Uses kind words and actions. Finally, ten posttest teacher life skills perceptions scores awarded to TAP students were within the satisfactory

range while five of the posttest teacher life skills perceptions scores awarded to TAP students were within the exceeds expectations range. All fifteen posttest teacher life skills perceptions scores awarded to CAP students were within the satisfactory range.

Discussion

The data shows that both CAP and TAP learning experiences resulted in numerical equipoise for norm referenced reading, math, social studies, and science test score results. However, CAP students' norm referenced language NCE scores were statistically significantly greater at posttest. Furthermore, the CAP students' criterion referenced writing and math cutscores were also statistically greater at posttest. Finally, the teacher life skills perceptions awarded to students were greater for TAP students at posttest indicating a dissociation or independence between measured achievement test scores and assigned life skills improvement scores. The curriculum in the CAP emphasizes diagramming sentences and phonetic reading skill development. Spaulding (2003) phonics is introduced in the primary years and the foundation is built upon in the 3rd-grade and the 4th-grade. Learning activities are modeled on a "see it, hear it, say it, and do it" structure that clearly meets the learning styles of

many students whose parents believed that participation in CAP would be in the best interest of their student. Parents of CAP students chose the program participation. For example, in this study, 45% of the CAP students live outside of the attendance area of the research school. Many parents in making a program choice are also making a school choice. The CAP is a magnet program that draws students from other areas to the school and the program. Fuller (1996) stated that the families that leave a neighborhood school to access a magnet program are better educated and more involved in their child's education. Public school choice can increase parental involvement, encourage innovation and keep parents from exiting to a private system (Godwin, Leland, Baxter, & Southworth, 2006). Even though there has been little research that shows that choice schools do a better job of boosting achievement parents who reported making residence selections according to school, viewed their children's achievement more positively than parents who reported less residency choice (Falbo, Glover, Holcombe & Stokes, 2005; Fuller, 1996). The concept of parental choice is indeed complex as stated by Smrekar and Goldring (1999). Parents who review options available to them through thorough investigative strategies as well as parents who choose not to investigate tend to be

satisfied with their educational choice. The background experiences of parents others close to them, whether positive or negative concern, is a strong motivating factor in the educational program selected for their child. Some evidence exists that parents seeking programs other that general educational programs seek to consider their parental needs more than the social, emotional and learning style needs of their child. Castleman & Littky (2007) stated to be successful in the 21st Century, students need to know how to establish a work ethic, communicate verbally and in writing, work directly with and influence people, synthesize information and creatively solve problems. For the good of our children and our future, we cannot continue to fragment education, reducing it to disconnected individual parts. We need to start with the student, not the subject. As Marzano (2001) stated in his book, *Classroom Instruction that Works,* the instructional strategies that affect student achievement are: identifying similarities and differences, summarizing and note-taking, reinforcing effort and providing recognition, homework and practice, nonlinguistic representations, cooperative learning, setting objectives and providing feedback, generating and testing hypothesis, and questions, cues and

advance organizers. These strategies are taught in both the CAP and TAP.

In this study the CAP was teacher centered while using direct instruction, desks separated into rows, and individual work sheets in all subject areas. Classrooms were self-contained with four walls. Students interacted with the teacher on a limited basis and were on the same page at the same time, with little differentiation. The major part of instructional time was spent on the core curriculum of reading, writing, and math skill development with textbooks. Each grade level stressed and recognized academic achievement with an honor roll. Students received letter grades at all levels, including kindergarten. Homework was assigned three days a week. Students and parents acknowledged school expectations and their responsibility by signing a compact each year. A high degree of parental involvement in the educational decision-making process was requested and expected. High expectations were established for parents as well as students and teachers.

The TAP was child centered with direct and indirect instruction. Desks may have been in rows, circles, groups, or any other models the teachers feel fit for the class. Student activities in the traditional classroom involved

seatwork along with working in small and large groups. The teacher mainly gave instruction although there were times that the students taught one another concepts they had learned. Students independently used worksheets, completed other assignments, or took tests that provided review exercises, questions, and/or other activities to apply and practice the content they had studied (Herman, Egleson, Hood, & O'Connell, 2002). All curricular areas were covered but language arts and math received a greater portion of curriculum time. Students may have worked individually or cooperatively. Students received letter grades beginning in second grade. The kindergarten and first grade received markings of needs improvement, satisfactory, or exceeds expectations. Homework was given as needed and parental involvement varied depending on the student.

Both programs have been recognized for their excellence and have consistently received school district wide financial support, training, and recognition. Parents over the time of the study also remained enthusiastic about their students CAP and TAP school, program, teachers and school leader. Giving parents an opportunity to choose what best fits for their child as Algozzone (1999) found in his research where parents who perceived a special academic focus worked to improve the overall education their child

was receiving because they thought their children could learn more and that their test scores would improve with the additional parent attention.

Given the positive overall findings of this study it may be said that both groups of students benefited and that either CAP or TAP classroom would well serve parents choosing either option. Because classrooms do not exist in a vacuum the success of the CAP and TAP programs must also be considered as indicative of the overall successful and positive qualities evidenced in the school as a whole. The positive student outcomes of this study may in fact be due in great measure to the school itself rather than to any differences assigned to the studies independent variables. Finally, it may be that, taken all together, CAP and TAP were found to be alike in securing learning success for all students--and that is a very good thing.

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Appendix A: Letter of Support—Millard Public School District, Omaha, Nebraska (Available upon request)