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The Effect of a Required Character Education and Class-Wide Peer Tutoring Program on 5th-Grade Students’ Reading and Writing Performance

Anthony P. Dancer

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The Effect of a Required Character Education and Class-Wide Peer Tutoring Program on 5th-Grade Students’ Reading and Writing Performance

by

Anthony P. Dancer

A Dissertation

Presented to the Faculty of The Graduate College of the University of Nebraska In Partial Fulfillment of Requirements For the Degree of Doctor of Education In Educational Administration Omaha, Nebraska December 2007

Supervisory Committee

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ABSTRACT

THE EFFECT OF A REQUIRED CHARACTER EDUCATION
AND CLASS-WIDE PEER TUTORING PROGRAM ON 5th-GRADE
STUDENTS’ READING AND WRITING PERFORMANCE

Anthony P. Dancer
University of Nebraska at Omaha

Advisor: Dr. John W. Hill

The purpose of the study was to determine the effect of a required school year long Character Education and Class-Wide Peer Tutoring program (CE+CWPT) for students who scored at or below proficiency in one, two, or three of their reading fluency, reading comprehension, or writing assessments at the beginning of their 5th-grade school year. The study analyzed performance on criterion referenced tests, performance on norm-referenced tests, behavioral referrals, and attendance to determine what relationship, if any, exists between levels of achievement amongst students participating in a required CE+CWPT program. Following a year of program participation, 5th-grade students with one or two areas of measured non-proficiency (n = 14) demonstrated a significant pretest-posttest improvement on their reading fluency scores but did not significantly improve their reading comprehension and writing scores. 5th-grade students with three areas of
measured non-proficiency \((n = 8)\) demonstrated a significant pretest-posttest improvement on reading fluency scores and writing scores but did not significantly improve their reading comprehension scores. On posttest-posttest comparisons, there were no significant differences between the groups on reading fluency, reading comprehension, and writing scores. Behavioral comparisons for both groups indicated that the percentage of zero office referrals improved from pretest to posttest with a corresponding decrease for one or more office referrals. Posttest-posttest behavioral comparisons support improvement primarily in the area of office referral frequencies and percents for both groups. The observed level of absence frequencies was consistent with reported elementary school behavioral issues. In light of the study results, program scale-up of the required CE+CWPT program should be considered.
ACKNOWLEDGEMENTS

I feel so blessed to have had the spiritual faith to persevere as I worked on this dissertation. I am also fortunate to have had people in my life to encourage me to complete this project. I want to thank all of those people who helped me to accomplish this goal.

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and Meadows Elementary School students, staff, and parents. You are special!

Last, and certainly not least, I am so appreciative of my family. My parents who have always encouraged me to work hard and trust God, my brother who always had something funny to say to relieve the stress, and my wife and four children who not only supported me throughout the process—but hung in there with me as I spent countless hours on this project. Words cannot express how much I thank and appreciate all of you.
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CHAPTER ONE

Introduction

While many students are succeeding in school, those that are failing seem to be falling further behind in reading and writing (Fountas, 2001). Students who cannot read or write drop out of school and are not prepared to get along in society (Greenwald, Persky, Campbell, & Mazzeo, 1999). Just twenty years ago as many as twenty-five percent of students were expected to complete their school years unable to read grade-level texts with 80 percent accuracy (Burmark, 2001). Today, the No Child Left Behind (NCLB) Act (2002) requires educators to improve all student outcomes. This new legislation has raised the benchmarks for school accountability and student success in reading and writing across the country.

Two-thirds of adolescents struggle to read and write proficiently, and nearly forty percent of elementary students demonstrate poor rates of reading and writing performance (National Center for Education Statistics, 2003). Research indicates that the older children are, the more difficult it is to teach them to read or write (Fitzgerald & Shanahan, 2000). If a child cannot read and write well by the end of third grade the odds are that he or she will struggle to catch up. Rasinski (2003) states
that the effects of falling behind and feeling like a failure in the elementary grade years can be devastating for students, and for that reason, early identification and intervention of reading and writing skill deficits are crucial.

Children who demonstrate limited reading and writing skills tend to receive instruction that emphasizes accuracy in identifying sounds, letters, and words rather than the construction of meaning (Klenk, 2000). Many children do not like to write because they are afraid of being judged on their writing convention errors alone rather than the meaning they had hoped to convey through their word choices (Graham, Harris, & Lawson, 2001). Students write with increased proficiency and enthusiasm when they are given ample opportunities to practice writing during school, have important reasons for writing, and utilize computers for publishing final drafts (Graham & Harris, 2002). There is consensus based on the available research that reading and writing impact one another and motivated students will engage in more reading and writing activities, thus more likely to become more successful (Baker & Wigfield, 1999).

Children who have difficulty mastering the basic codes of the reading and writing processes are more at-risk for future academic failure (Rimm-Kaufman, Kagan, & Byers,
Research has generally shown that tutoring is an effective way to meet the needs of students struggling with reading and writing, particularly in grades four and above (Elbaum, Vaughn, Hughes, & Moody, 2000). Comparative studies indicate that when highly qualified individuals implement a well-designed intervention, the academic benefit to students is evident (Elbaum, Vaughn, Hughes, & Moody, 1999). Many tutoring programs combine reading and writing activities rather than presenting them in isolation (Fountas, 2001). A high percentage of students who struggle with reading also struggle with writing. Because tutors want their students to learn to write well, they acquaint them with high quality books written by well-known authors that encourage students to read like a writer (Smith, 2003). The most effective tutoring programs give students support in completing specific tasks and introduces them to strategies that will enable them to read, write, learn, and teach them to know when, where, why, and how to use these strategies (Hock, et al., 1995).

Bransford et al. (2000) reported that social interaction in classrooms and within the tutoring experience increases the likelihood that struggling students will stay with difficult instructional tasks and become part of the learning experience. This finding
supports the widely accepted principle of shared interaction and cooperative learning (King-Sears & Bradley, 1995). In the school setting, peer tutoring involves placing students in groups where they learn to be responsible for their own learning while developing an acceptance and appreciation for the reading and writing of others as well (Skinner, Cashwell, & Skinner, 2000). Shared interaction improves academic achievement, allows for acceptance of students of other races and ethnic origins, encourages mutual concern among students, and supports students' positive social attitudes and behavior (Arthur, 2003). These are all elements of the Character Education (CE) philosophy where students learn the power of choice, and that choice is the responsibility to do their best in school.

Abourjilie (2000) states that one of the most important issues facing public education today is that of CE and its importance in assisting students who are attempting to improve their reading, writing, and behavior. Abourjilie goes on to say that teaching CE and incorporating morals and values into a public school through shared interaction and cooperative learning activities will have a positive effect on student achievement, pro-social behavior, and the reduction in
risky behavior such as drug use and teen pregnancy. McElmeel (2002) also describes CE as a philosophy that presents students with ways to understand why learning is important inviting students to listen, share, explore, and reflect. Trelease’s research (2001) supports the need for behavioral intervention as an aid during the learning process theorizing that behavior, poverty, and illiteracy have a relationship. Available data indicates that eighty-two percent of prison inmates are school dropouts, sixty-percent of inmates are illiterate, and inmates are twice as likely to be ranked in the bottom levels of literacy as is the general population (Trelease, 2001).

When Class-Wide Peer Tutoring (CWPT) is utilized in combination with Character Education these literacy skill building and character-building processes give students regular practice in developing important virtues at the same time they are learning academic material related to becoming better readers and writers (Gordon, 2003). CWPT improves academic performance, increases positive social interactions, and reduces disruptive behavior due to its integration of CE philosophies (Dineen, Clark, & Risley, 1977). These philosophies emphasize integration of universal values during the academic learning process. Tutoring programs emphasize improved reading and writing
skills and strategies, motivate, improve test scores, improve grades, and lead students to the recognition that learning is about succeeding in life (Gordon, 2003).

**Purpose of the Study**

The purpose of the study was to determine the effect of a required school year long Character Education and Class-Wide Peer Tutoring program (CE+CWPT) for students who scored at or below proficiency in one, two, or three of their reading fluency, reading comprehension, or writing assessments at the beginning of their 5th-grade school year. The study analyzed performance on criterion referenced tests, performance on norm-referenced tests, behavioral referrals, and attendance to determine what relationship, if any, exists between levels of achievement among students who participated in the required yearlong CE+CWPT program.

**Research Questions**

The following research questions were used to analyze student participation in the CE+CWPT program measuring norm-referenced reading comprehension outcomes and criterion-referenced reading fluency and writing outcomes.

**Overarching Pretest-Posttest Achievement Research**

**Question # 1:** Did students determined to be non-proficient on one or two beginning 5th-grade reading fluency or
reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade scores following participation in a required school-year long CE+CWPT program.

Sub-Question 1a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading fluency scores as measured by the Dynamic Indicators of Basic Early Literacy (DIBEL) assessment after completing the required CE+CWPT program?

Sub-Question 1b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading comprehension scores as measured by the Iowa Test of Basic Skills (ITBS) assessment after completing the required CE+CWPT program?

Sub-Question 1c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade writing scores as measured by the Fall Writing Assessment District Scored (FWADS) assessment after completing the required CE+CWPT program?

Overarching Pretest-Posttest Achievement Research Question # 2: Did students determined to be non-proficient on three beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to
ending 5th-grade scores following participation in a
required school-year long CE+CWPT program.

Sub-Question 2a. Was there a significant
difference between students’ beginning 5th-grade compared
to ending 5th-grade reading fluency scores as measured by
the Dynamic Indicators of Basic Early Literacy (DIBEL)
assessment after completing the required CE+CWPT program?

Sub-Question 2b. Was there a significant
difference between students’ beginning 5th-grade compared
to ending 5th-grade reading comprehension scores as
measured by the Iowa Test of Basic Skills (ITBS) assessment
after completing the required CE+CWPT program?

Sub-Question 2c. Was there a significant
difference between students’ beginning 5th-grade compared
to ending 5th-grade writing scores as measured by the Fall
Writing Assessment District Scored (FWADS) assessment after
completing the required CE+CWPT program?

Overarching Posttest-Posttest Achievement Research
Question # 3: Did students determined to be non-proficient
on one or two reading fluency or reading comprehension or
writing outcome assessments compared to students determined
to be non-proficient on three reading fluency or reading
comprehension or writing outcome assessments have congruent
or different ending 5th-grade scores following
participation in a required school-year long CE+CWPT program.

Sub-Question 3a. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade reading fluency scores as measured by the Dynamic Indicators of Basic Early Literacy (DIBEL) assessment after completing the required CE+CWPT program?

Sub-Question 3b. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade reading comprehension scores as measured by the Iowa Test of Basic Skills (ITBS) assessment after completing the required CE+CWPT program?

Sub-Question 3c. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade Fall Writing Assessment District Scored (FWADS) assessment after completing the required CE+CWPT program?
The following research questions were used to analyze student participation in the CE+CWPT program measuring behavior outcomes.

Overarching Pretest-Posttest Behavior Research

Question # 4: Did students determined to be non-proficient on one or two beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade tardy, absence, and office referral frequency totals using data from the School Information Management System (SIMS) following participation in a required school-year long CE+CWPT program.

Sub-Question 4a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 4b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 4c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade office referral frequencies as measured by the SIMS after completing the required CE+CWPT program?
Overarching Pretest-Posttest Behavior Research

Question # 5: Did students determined to be non-proficient on three beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade tardy, absence, and office referral frequency totals using data from the School Information Management System (SIMS) following participation in a required school-year long CE+CWPT program.

Sub-Question 5a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 5b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 5c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade office referral frequencies as measured by the SIMS after completing the required CE+CWPT program?

Overarching Posttest-Posttest Behavior Research

Question # 6: Did students determined to be non-proficient on one or two reading fluency or reading comprehension or
writing outcome assessments compared to students determined to be non-proficient on three reading fluency or reading comprehension or writing outcome assessments have congruent or different ending 5th-grade behavior outcomes following participation in a required school-year long CE+CWPT program.

Sub-Question 6a. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 6b. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 6c. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade office referral frequencies as measured by the SIMS after completing the required CE+CWPT program?
Assumptions

The study had several strong features including (a) all students participating in the study were educated in the same school building, (b) all students were assessed and taught utilizing the same district-approved curriculum and assessments, (c) all students had equal access to all materials and resources within the school district, (d) building expectations for student behaviors were based on a well-defined social skills program where life skills and academic/behavioral expectations were taught, reinforced, and acknowledged daily, (e) the research school’s building principal was the lead instructor during the required CE+CWPT program, and (f) both paraprofessionals assigned to assist the building principal during the required CE+CWPT program were certified to teach in the state of Nebraska and had previous teaching experience utilizing direct and strategy reading instruction. It was also assumed that (g) all teachers in the research school had fully implemented the building-adopted social skills training as the primary means of providing effective discipline and collecting student referral data through the school information system. In addition to that, (h) the entire staff in the research school was expected to treat all students with equal respect and educational support. A further assumption
was that (i) children who were successfully engaged in academic activities utilizing research proven interventions would be less likely to demonstrate behaviors such as unexcused absences and office referrals. As the school administrator, the researcher had ethical access to the study outcome data.

**Delimitations of the Study**

The study was delimited to 5th-grade students enrolled in the research school and the achievement and behavior findings collected during the fall of 2005 and the spring and fall of 2006. Fifth-grade students are required to participate in the research school district’s annual assessment program each school year which includes the administration of the Iowa Test of Basic Skills (ITBS), the fall writing assessment-district scored (FWADS), and the dynamic indicator of basic early literacy skills (DIBELS) assessments. Data on attendance and behavior is collected routinely and uniformly throughout the school year utilizing the school information system.

**Limitations of the study**

This exploratory study was confined to 5th-grade students ($N = 22$) participating in a required CE+CWPT program. Study participants would have scored at or below proficiency in one, two, or three of their reading fluency,
reading comprehension, or writing assessments at the beginning of their 5th-grade school year. The study consisted of two research arms. The first arm \((n = 8)\) was a naturally formed group consisting of students determined to be non-proficient in one or two areas of measured literacy. The second arm \((n = 14)\) was a naturally formed group consisting of students determined to be non-proficient in all three areas of measured literacy.

**Definitions of Terms**

*Assessment*. Assessment is defined as a process of collecting data for the purpose of making decisions about individuals and groups. In the study, the (a) fall writing assessment-district scored (FWADS), (b) Dynamic Indicators of Basic Early Literacy Skills (DIBELS), and (c) Iowa Test of Basic Skills (ITBS) were utilized as assessments to determine student proficiency in writing, reading fluency, and reading comprehension.

*Attendance*. Attendance is defined as the frequency with which a student is present in school. In the study, attendance was counted on a per student basis utilizing the School Information Management System (SIMS) database.

*Behavioral data*. Behavioral data is defined as attendance, tardy, and discipline referral information for each study participant. These three behavioral dependent
measures are a direct result of the participants' behavior and were uniformly collected and recorded by school personnel and available in the school information managements system (SIMS) database.

Character Education (CE). CE is defined as deliberate instruction in basic values and morals, ideally woven into lessons throughout the curriculum. A national movement is under way to include character education in school curricula as a means of addressing what many educators, policymakers, and community members view as a decline in values among children, particularly honesty, respect, responsibility, empathy, and civic duty (Bulach, 2002; James, 2003). In the study character education philosophies emphasizing safe, respectful, and responsible behavior were emphasized during CE+CWPT sessions.

Class-Wide Peer Tutoring (CWPT). Class-wide peer tutoring is defined as the entire class engaging simultaneously with instructional content while working in tutoring dyads. During CWPT students can participate as both tutor and tutee, or they can participate only as the tutor or tutee (Fulk & King, 2001; Greenwood & Delquadri, 1995).

Criterion-Referenced Tests (CRTs). Criterion-Referenced Tests are defined as tests that measure a
person’s skills in terms of absolute mastery (Bond, 1996; Salvia & Ysseldyke, 2004). CRT scores report how well students perform relative to a predetermined performance level on a specified set of educational goals and outcomes. The CRTs used in the study included the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment and the fall writing assessment-district scored (FWADS).

_Cutscore._ A cutscore is defined as the established score, at or above which, a student is expected to perform to demonstrate proficiency. The cutscore used to identify participants in the study included a Dynamic Indicators of Basic Early Literacy Skills (DIBELS) score of 104 or less, a district writing assessment (FWADS) score of 4 or less, or an Iowa Test of Basic Skills (ITBS) Reading NCE score of 50 or less.

_Decoding._ Decoding is defined as the various skills a student uses to decipher a printed sentence into an understandable statement. Decoding is the method or strategy a student uses to figure out a word (Kane, 1999).

_Dynamic Indicators of Basic Early Literacy Skills (DIBELS)._ The DIBELS assessment is defined as a set of standardized, individually administered measures of early literacy development. They are designed to be short (one minute) fluency measures used to regularly monitor the
development of early literacy and early reading skills. The DIBELS assessment is comprised of measures to test fluency in the following areas: initial sounds, letter naming, phoneme segmentation, nonsense words, oral reading, retelling, and word use (Good & Kaminski 1996; Kaminski & Cummings, 2007; 1996; Kaminski & Good, 1997; Kaminski & Good, 1998). In the study a cut score of 104 or less on the DIBELS assessment was established to identify study participants.

Direct Instruction (DI). Direct instruction is defined as a model for teaching that emphasizes well-developed and carefully planned lessons. It is based on the theory that clear instruction eliminating misinterpretations can greatly improve and accelerate learning (Carnine, Silbert, Kame’enui, & Tarver, 2004; Slavin, 1987). Direct Instruction refers to a rigorously developed, highly scripted method for teaching that is fast-paced and provides constant interaction between the students and the teacher (Bloom, 1971). The goal of DI is to move students to mastery as quickly as possible and a large portion of classroom time is spent on fast-paced teacher-directed instruction, punctuated by rhythmic choral-group and individual-student responses initiated by a teacher signal (Carnine et al., 2004).
Dyad. A dyad is defined as a group of two students (tutor/tutee) who work together during class-wide peer tutoring (CWPT).

Fall Writing Assessment-District Scored (FWADS). FWADS is defined as the fall district writing assessment utilized by the research school’s district to help students prepare for the state writing assessment and to help meet building school improvement goals. Consistent in design to the state writing assessment, the FWADS is a two-day writing assessment administered to all district students from grades 3-6. Each day, students are allotted 40 minutes of uninterrupted writing time. On the first day, students write a rough draft, and on the second day, students write a final draft. Dictionaries and thesauruses are allowed. Consulting any other materials or talking to classmates is not. The final drafts are collected by each individual classroom teacher and sent to the district administration office for scoring. Names are replaced with district codes to maintain anonymity. A team of readers comprised of teacher representatives from each elementary school is assembled at the administration office and trained by the local Educational Service Unit (ESU). The team then spends two days scoring the papers holistically on a four-point scale using a holistic writing rubric. Each paper is scored
twice with the final score equaling the sum of the two scores. If the two scores assigned to a given paper are not congruent, the paper is read for a third time by a different reader with the paper receiving the sum of the two higher scores. The maximum score is eight (8) and the minimum score is two (2). However, papers may be deemed non-scoreable if they are off topic or written in the incorrect genre. Non-scoreable papers were considered non-proficient in the study. Once all scores have been tabulated, the district returns assessment data to the schools. Scores of 4 or higher were considered proficient and scores of 3 or lower were considered non-proficient.

Holistic Scoring. Holistic scoring is defined as a type of assessment where scorers provide one overall score based on their first impression of the overall quality of writing as opposed to a variety of scores that quantify strengths and weaknesses (Baldwin, 2004). In this study holistic scoring was utilized during the fall writing assessment-district scored (FWADS).

Intervention. An intervention is defined as the action taken to improve a situation. In this study strategy instruction (SI), direct instruction (DI), and class-wide peer tutoring (CWPT) were interventions utilized to help study participants improve reading fluency, reading
comprehension, and writing skills.

**Iowa Test of Basic Skills (ITBS).** The Iowa Test of Basic Skills is defined as an assessment developed by the University of Iowa that provides an in-depth evaluation of students' achievement of important educational objectives that yield reliable and comprehensive information about the development of students reading, language, mathematics skills, and about their ability to think critically (Hoover, Dunbar, & Frisbie, 2001). In this study a normal curve equivalent (NCE) cut score of 50 or less on the ITBS was established to identify study participants.

**Literacy.** Literacy is defined as an individual's ability to read, write, communicate, compute, and solve problems at levels of proficiency necessary to function in society (Dubin & Kuhlman, 1992).

**Meta-cognition.** Meta-cognition is defined as a very complex phenomenon that refers to the cognitive control of processes like perception, action, memory, and reasoning (Martinez, 2006). It involves thinking about one's thinking processes and has to do with the active monitoring and regulation of cognitive processes.

**Mnemonics.** Mnemonics is defined as a memory enhancing instructional strategy that involves teaching students to link new information that is taught to information that
they already know (Levin, 1993; Swanson, 1999). Utilization of mnemonic devices provides a visual or verbal prompt for students who may have difficulty retaining information. For example, in terms of school content, HOMES is a long standing mnemonic device utilized to remember the great lakes - [H]uron, [O]ntario, [M]ichigan, [E]rie, and [S]uperior (Ellis, 1992).

Normal Curve Equivalent (NCE). Normal curve equivalent is defined as a standard score with a mean equal to 50 and a standard deviation equal to 21.06. Running from 1 to 99, the numbers on the NCE line indicate how many students out of a hundred have a lower score. NCE scores are often used to compare standardized test performance over a period of years.

Non-proficient. Non-proficient is defined as when a student cannot produce the designated quality of work to demonstrate mastery of a particular standard for a particular subject matter. In this study a student was determined to be non-proficient if they had a Dynamic Indicators of Basic Early Literacy Skills (DIBELS) score of 104 or less, a district writing assessment (FWADS) score of 4 or less, or an Iowa Test of Basic Skills (ITBS) Reading NCE score of 50 or less.
**Norm-referenced Tests (NRTs).** Norm-Referenced tests are defined as a test that measures and compares an individual’s performance to the performance of a similar group of students who have also taken the test (Salvia & Ysseldyke, 2004). The NRT used in this study was the Iowa Test of Basic Skills.

**Office referral.** An office referral is defined as a document written by a staff member that explains the facts about a student’s misbehavior. Examples of such behavior include disrespect, aggression, profanity, physical violence, cheating, and stealing. All office referral data is stored in the School Information Management System (SIMS) database.

**Paraprofessional.** A paraprofessional is defined as a person to whom a particular aspect of a professional task is delegated but who typically is not licensed to practice as a fully qualified professional. In this study both paraprofessionals who were assigned to assist during the required CE+CWPT program were certified to teach in the state of Nebraska.

**Peer.** A peer is defined as a person who is equal to another in abilities, qualifications, age, background, and social status.
**Proficiency.** Proficiency is defined as the designated quality of work a student must produce to demonstrate mastery of a particular standard for a particular subject matter. In this study a student was determined to be proficient if they had a Dynamic Indicators of Basic Early Literacy Skills (DIBELS) score of 105 or higher, a district writing assessment (FWADS) score of 5 or higher, or an Iowa Test of Basic Skills (ITBS) Reading NCE score of 51 or higher.

**Reading Comprehension.** Reading comprehension is defined as understanding a text that is read, or the process of constructing meaning from a text. Comprehension is a construction process because it involves all of the elements of the reading process working together as a text is read to create a representation of the text in the reader's mind (Masson, Carpenter, & Just, 1982).

**Reading Fluency.** Reading fluency is defined as the quality or condition of being fluent, in particular, the ability to read easily, quickly, accurately, and with great expression (Hawke, 2006; National Reading Panel, 2000; Rasinski, 2003). Fluency is a set of skills that allows readers to rapidly decode text while maintaining high comprehension.
**School Information Management System (SIMS).** SIMS is defined as a computer-based student information and data management system that is used by the research school district. It is used to collect and record a variety of student data including but not limited to grades, test scores, attendance, and discipline referral information.

**Six Pillars of Character.** The six pillars of character are the standards of conduct that arise out of trustworthiness, respect, responsibility, fairness, caring and citizenship (Character Counts! Coalition, 2000). These values constitute the ground rules of moral and ethical decision-making that impact social and academic growth. In this study, students were taught to use the following mnemonic to remember that people with good character are terrific—[T]rustworthiness, [R]espect, [R]esponsibility, [F]airness, [C]aring, and [C]itizenship.

**Six Traits of Writing.** Six Traits of Writing is defined as the six qualities that are inherent in good writing that were first articulated in 1984 by the Analytical Writing Assessment Committee of the Beaverton, Oregon School District. The Six Traits are (a) ideas, (b) organization, (c) voice, (d) word choice, (e) sentence fluency, and (f) conventions (Spandel, 2005).
Strategy. A strategy is defined as a tool, plan, or method used for accomplishing a task. In this study strategy instruction (SI) and direct instruction (DI) were teaching interventions utilized to encourage strategy use among study participants.

Strategy Instruction (SI). Strategy instruction is defined as a scientifically based widely used model for remediation of student learning and academic difficulty (Beckman, 2002). SI is a top-down cognitive paradigm processing approach that emphasizes graphic organizers thought to provide a type of mental scaffolding on which to build new understanding.

Tardy. Tardy is defined as an excused or unexcused incidence of a student not being in the classroom when the bell rings to begin class. In this study, tardy information was recorded on a per student basis utilizing the School Information System (SIMS) database.

Tutee. A tutee is defined as the pupil of a tutor or the person who is being tutored during CWPT. In this study tutor/tutee dyads engaged simultaneously with instructional content during CWPT sessions.

Tutor. A tutor is defined as a private instructor who teaches or reinforces a specific educational subject or skill to an individual student (tutee). Such one-on-one
attention allows the tutor to help improve the tutee's knowledge or skills more rapidly (Gordon, 2003; Hock, 2000). In this study tutor/tutee dyads engaged simultaneously with instructional content during CWPT sessions.

**Significance of the Study**

This study has the potential to contribute to research, practice, and policy. It is of significant interest to educators seeking ways to improve student achievement in reading and writing and fuller classroom participation. The results of this study helped determine the effects of a required CE+CWPT program on student academic and social outcomes for students identified with two levels of serious emerging literacy problems—students who were determined to be non proficient in one or two literacy areas and students determined to be non-proficient in all three literacy areas, reading comprehension, reading fluency, and writing. The study may further contribute to discussion of the required implementation of this intervention on an annual school year basis for students determined to have emerging literacy problems.

*Contribution to research.* There is little research to date regarding the achievement of students participating in a required CE+CWPT program. The results of this study may
help determine how a required CE+CWPT program would affect the behavior and academic performance of students struggling in reading, writing, or both.

Contribution to practice. The results of the study may assist the future planning of educators. Teachers and administrators can gain helpful insights that will enable them to design programs that will better facilitate student growth in reading, writing, and behavioral outcomes. Based on the outcome of the study, the research school may decide whether to utilize and potentially expand the required CE+CWPT program on an annual basis.

Contribution to policy. The policies encompassing curriculum and program design for 5th-grade students are generated at the district and state level. The district and state determine curriculum and assessment expectations including what is written, taught, and assessed in schools. All 5th-grade students in the research school are required to take specific district and state assessments each year. This research will help determine whether or not the efforts of teachers and administrators are facilitating student growth in reading, writing, and behavioral outcomes. Providing students with additional support through required CE+CWPT programs may aid in this endeavor. In light of the study results, expansion of the required
CE+CWPT program should be considered.

Organization of the Study

The literature review relevant to this study is presented in chapter 2. This chapter reviews professional literature on tutoring, direct instruction, strategy instruction, and character education. Chapter 3 describes the research design, methodology, 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 was accepted or rejected in each case. Chapter 4 reports the research findings including data analysis, tables, descriptive statistics, and inferential statistics. Chapter 5 provides conclusions and a discussion of the research findings.
CHAPTER TWO

Review of the Literature

Tutoring

Tutoring has a long and respected history in our country. In fact, tutorial instruction such as parents teaching their offspring how to make fires was probably the first pedagogy among primitive societies (Jenkins & Jenkins, 1987). Tutoring itself has been around longer than our current school forms of education. In fact, it wasn’t until the 20th century that American public schooling began tutoring as a standard means of assisting students in the early acquisition of literacy skills (Gordon, 2003).

Since the 1990s, the practice of tutoring has become quite specific. Tutoring increasingly refers to remedial instruction that is delivered by one teacher to one student, and this teacher is typically not the student’s classroom teacher. The tutor might be another professional educator (Elbaum, Vaughn, Hughes, & Moody, 2000), a paraprofessional (Morris, 2006), a parent (Elksnin & Elksnin, 1991), a volunteer (Rimm-Kaufman, Kagan, & Byers, 1999), or a peer (Utley, et al., 2001). In instances in which the classroom teacher is the tutor, the instructional setting is normally outside the regular classroom.
As schools continue to look for ways to improve student performance, tutoring consistently emerges as a way to assist the process. Just eleven years ago, during his address to the nation, President William Jefferson Clinton, called for the mobilization of a million volunteer reading tutors all across America (Shanahan, 1998). Then President Clinton requested that our country unleash the energy and enthusiasm of college students to help every child learn to read. Clinton believed that we could increase elementary reading achievement through the use of tutors.

According to the U.S. Department of Education (1997), research has consistently shown that well-designed tutoring programs can be effective in improving children's reading skills. When tutoring is coordinated with good classroom reading practices, students perform better than when tutoring is unrelated to classroom instruction (Gordon, 2003). In their research, Venezky and Jain (1996) found that students with below-average reading skills who are tutored show significant gains in reading when compared with similar students who do not receive tutoring. Tutoring has also been shown to significantly improve the scores of students on quizzes, tests, and semester grades that they earn in classes (Hock, Schumaker, & Deshler, 1995). Tutoring supports both short term and long term strategy
skill development and this allows students to use these powerful learning strategies during tutoring sessions and when performing independently in their regular classrooms (Hock et al., 1995).

In general, the amount of tutoring a student receives is based on four considerations: (a) urgency of goals, (b) subject, (c) student age and interest, and (d) cost and availability (Heron, Welsch, & Goodard, 2003). A brief description of each consideration follows:

**Urgency of goals.** When a student needs quick review and test strategies before he/she takes tests such as the ITBS, every day for a week or two would be a sufficient amount of time to receive tutoring services.

**Subject.** Skills such as reading, writing, and mathematical concepts are best learned gradually. Therefore, two or three times a week is thought to be a sufficient amount of time for a student working on these skills to receive tutoring. For rote memorization or concrete skills such as times tables or long division, daily or almost-daily practice is important.

**Student age and interest.** A child’s enthusiasm towards tutoring and his/her age must always be considered. It is imperative to balance the demands of the subject matter with the ability of the student.
Cost and availability. Once limited to upper income families who could afford the specialized service, tutoring has now become an important option available to all students who are struggling in school. Under the NCLB Act, hundreds of thousands of dollars was authorized by congress to pay for tutoring and academic support. However, these funds are only available to students attending schools that are not meeting their NCLB growth targets for test scores. Subsequently, in January 2002, President George W. Bush signed the reauthorization of the Elementary and Secondary Education Act (McConnell, 2007). In the past, schools would have been under no obligation to use Title I federal poverty grants to pay for outside tutoring as they are now.

Types of Tutoring

There are five basic tutoring systems. Four of the tutoring systems will be described below and the class-wide tutoring format will be reviewed separately.

Home-based-tutoring. In the home-based tutoring format, parents or siblings serve as tutors. Home-based tutoring programs have not been widely studied, but existing data demonstrates that parents and siblings can tutor their children effectively (Barbetta & Heron, 1991; Elksnin & Elksnin, 1991). Many parents want to help their children's academic skill development and overwhelming
research shows that they can successfully instruct their child at home. Involving parents in the educational process enhances learning and the extra practice provided by home-based tutoring can help slower learners and average and above-average learners progress at a more rapid pace (Miller, Barbetta, and Heron, 1994). Many parents are concerned about their child's loss of hard-won academic gains over the summer months and utilize the home-based tutoring method during the summer with minimal support from professionals.

One-to-one tutoring. In one-to-one tutoring, only select tutor-tutee dyads participate (Heron et al., 2003). Students needing directive and remedial assistance are candidates for this arrangement. This method differs procedurally from other tutoring programs in its identification of participating tutors and tutees. Only select tutees, typically students needing remedial support, participate in the one-to-one tutoring format (Elbaum et al., 2000). These students are paired with select tutors. Each member of the dyad may receive and provide tutoring in the same content area, or tutors can provide instruction in a content area in which they are highly skilled. It provides specificity of the tutoring and is flexible in its
scheduling. One-to-one tutoring can be applied successfully to a variety of subject areas.

**Cross-age tutoring.** Cross-age tutoring occurs when tutor-tutee dyads are composed of pairs of students of unequal ages from different grades. For example, sixth grade students tutoring third grade students in reading. Studies have shown that cross-age tutoring has been demonstrated to be an effective tutoring format (Gumpel & Frank, 1999; Schrader & Valus, 1990). Cross-age tutoring occurs when an older student is matched with a younger student to deliver instruction. An age difference of two or more years usually delineates the roles of the students. An advantage of utilizing the cross-age tutoring format is that there does not have to be large differences in skill levels between the tutor and tutee as both members of the dyad benefit from the experience. The cross-age tutoring format can be used to teach a wide variety of subjects to students with varying abilities (Fogarty & Wang, 1982).

**Small-group tutoring.** In small-group tutoring, a small group of tutor-tutee dyads—a subset of the entire class—convenes to practice individualized skills (Heron, 2003). Two procedural variations are possible within small-group tutoring. The sessions can be conducted with select students who need additional practice with skills, or the
whole class can participate in the tutoring process on a rotating basis. While the teacher works with one group, a second group participates in peer tutoring, and the remainder of the class engages in independent seatwork or other cooperative groups. In small group tutoring, students change groups daily or weekly so that all children are provided with opportunities to engage in all activities. This small-group tutoring format is flexible and provides teachers with the opportunity to schedule selected students and specific times of tutoring.

Class-Wide Peer Tutoring

Class-wide peer tutoring (CWPT) involves dividing the entire class into student pairs who then engage simultaneously with instructional content. The CWPT format was utilized during this study to provide students with the opportunity to practice and enhance their reading and writing skills. This intervention is well defined and has been thoroughly proven to have a positive effect on student performance (Greenwood, Delquadri, & Hall, 1999). CWPT involves the entire class simultaneously participating in tutoring dyads. During each tutoring session, students can participate as both tutor and tutee, or they can participate only as the tutor or tutee. The advantage of CWPT is that it can be used to teach skills across a wide
range of subject areas, ability and age levels, and scheduling concerns (Miller et al., 1994). CWPT has been shown to be effective in increasing measures of curriculum-based achievement.

Research indicates that there is a wide range of student ability in any one classroom (Slavin, 1987). Since general education programs do not always accommodate for student variability, empirically based instructional practices such as CWPT are being used to accelerate learning for many students so that they may succeed (Graham & Harris, 1997). CWPT is a scientifically based method that works for all students, including those who have problems paying attention, problems learning, and problems with emotions and behavior (Utley et al., 2001). CWPT is one of the most widely studied and most highly recommended strategies for promoting achievement among diverse groups of learners (Allsopp, 1997; Kamps, Barbeta, Leonard, & Delquadri 1994; Mathes, Howard, Allen, & Fuchs, 1998). Nearly two decades of research has shown CWPT to be effective and published studies have indicated that CWPT significantly improved student reading comprehension, and mastery of other basic academic skills (Mathes, Fuchs, Fuchs, Henley, & Sanders 1994; Greenwood, Delquadri, & Carta, 1997).
CWPT is a powerful instructional procedure with a long history of use that actively engages all students while providing mastery, accuracy, and fluency (Kamps et al., 1994). It is based on social psychological theories and is considered a successful strategy for promoting student social skills (Dineen, Clark, & Risley, 1977) and increasing academic achievement (Greenwood, Terry, Utley, Montagna, & Walker, 1993). When structured appropriately CWPT produces mutual benefits for service providers and recipients by allowing teachers the opportunity to actively engage all students simultaneously.

As an instructional method CWPT has been shown to greatly increase the level of active student responding while providing students with opportunities to receive more time on task, immediate and specific feedback, more practices in short periods of time, and positive social and academic supports (King-Sears & Bradley, 1995). CWPT provides a way for students to get one-on-one help while practicing and learning, and more importantly, students have guided opportunities to apply learning strategies to improve their performance. The benefits of CWPT have been found to last even when a student moves into a classroom where similar methods are not being utilized (Gordon, 2003). For example, Juniper Gardens Children’s Project
developed the class-wide peer tutoring system in collaboration with regular classroom teachers. Two-year and twelve-year classroom follow up studies indicated that CWPT led to fast and effective student learning outcomes (Greenwood & Delquadri, 1995; Greenwood et al., 1993).

The CWPT method has been successfully used as an effective instructional practice for students who tutor one another within the same classroom rather than being pulled out. Peer tutoring strategies are suitable for students in heterogeneous classrooms because all tutoring occurs within the same room. This tutoring method can effectively assist the teacher by providing two important learning variables: many opportunities for students to respond to academic tasks, and frequent and immediate feedback (Allsopp, 1997).

The structure of CWPT. The CWPT structure is most appropriate for pupils who are in need of academic, behavioral, or interpersonal assistance, as well as those who might benefit from providing such help (Gordon, 2003). The effects of CWPT have been well established. Research indicates that often students learn better from other students and that measurable growth in reading and writing is evident when children are encouraged to work together (Kamps et al., 1994). Hock (2000) states that an effective peer tutoring program provides students with short-term
support and opportunities to learn powerful strategies that support independent learning. Greenwood and Delquadri (1995) write that the head tutor, or classroom teacher, has a crucial role in making sure that the CWPT structure is effective for each individual student. Fulk and King (2001) write that this tutoring method can be used with either standardized, commercially prepared, or teacher-made materials. Selecting materials of the proper difficulty level is key, and if materials are self-correcting, students may be paired regardless of skill levels. Research suggests that teachers make random student partner assignments when using self-correcting material (Greenwood et al., 1997). Otherwise, teachers will need to pair students after pre-testing student skill levels.

Before success can be expected, the head tutor, who is most often the teacher, must model the peer tutoring structure to students and give them time to practice it before they actually do it. Next, children are taught what good tutor and tutee behaviors are and how to tell their partners in a respectful way when they have answered incorrectly. During this process, students are given tips and shown how to respond appropriately when another child tells them that they have made a mistake. Research has indicated that practicing the behaviors associated with
CWPT will help avoid many problems later (Pressley et al., 2000).

There are four primary components to the CWPT program: (a) weekly competing teams, (b) a highly structured tutoring procedure, (c) daily/weekly point earnings and public posting of pupil performance, and (d) direct practice in functional instructional activities (Delquadri, Greenwood, Whorton, Carta, and Hall, 1986). The use of CWPT allows for weekly competition between teams with an emphasis on students working together towards a common goal of learning. The CWPT procedure requires 30 minutes. Each student in the dyad receives 10 minutes of tutoring, and 5 to 10 minutes is used to add and post individual team points. When utilizing CWPT, the more correct items completed by the students, the more points they earn for themselves and their team. Tutoring pairs are changed on a weekly basis if new content is to be learned. Restructuring weekly teams ensures that all students are on a winning team sooner or later. CWPT provides students with opportunities to practice what they are learning, to talk about what they are learning, and to read aloud and write.
Teacher's Role

In CWPT, the teacher's role changes from primary deliverer of instruction to facilitator and monitor of peer-teaching activities. The CWPT structure involves the entire class in tutoring dyads using a game format (Greenwood et al., 1997). Each dyad consists of a tutor and tutee where students may be paired randomly or matched by ability. Student roles are exchanged within the tutoring sessions, allowing each individual to be both the tutor/teacher and the tutee/student. The procedure requires 30 minutes, and the most effective time block is one in which each student in the dyad receives 10 minutes of tutoring, and 5 to 10 minutes is used to add and post individual team points at the end (Mathes et al., 1994).

The CWPT structure is hands-on and children are taught how to keep track of their partner's right answers and their own--allowing them to see that they are getting better over time. Team membership will be rotated to new teams frequently to encourage active participation of all members and increase opportunities for students to win while they are learning. The use of CWPT avoids direct competition between tutoring pairs, but allows competition between teams with an emphasis on collaboration rather than competition. Both members of the tutoring pair are on the
same team and working toward a common goal of completing as many items as possible, correctly, in the allotted tutoring time. The tutee proceeds through the tutoring material as many times as possible. The more correct items the students complete, the more points they earn for themselves and their team—and the more learning is taking place (Greenwood, et al., 1997).

Immediately after the tutoring session has concluded, students’ total daily points are recorded and posted in front of the classroom. This provides another opportunity for the teacher to verbally reinforce students for their progress by evaluating their performances. While some students will be intrinsically motivated with the academic and social benefits of CWPT from the start, others will rely more on the extrinsic motivators. CWPT relies more on the intrinsic motivation and fades or decreases the use of the extrinsic motivators as soon as they are no longer needed.

Student Benefits of Class-wide Peer Tutoring

The positive effects of CWPT have been documented and replicated extensively over the years and benefits tutors, tutees, and classroom teachers in many ways (Greenwood, Carta, Delquadri, & Finney, 1989; Mathes et al., 1994). The CWPT structure helps teachers make sure that students have
someone to sit next to them and personally explain the work in a way that is just right for them while also providing more opportunities for students to talk about what they are learning (Delquadri, 1986). Students benefit from CWPT as they are provided with opportunities to ask questions when they are confused, without fear of being embarrassed in front of the whole class. In return, they have someone who can tell them immediately whether their answers are right or wrong and someone to help and encourage them to finish assignments. Research has shown significant academic gains by students tutored by their peers (Barbetta, Heron & Heward, 1993; Dineen et al., 1977).

Recent studies have shown that tutors as well as tutees can make academic gains during peer tutoring (Delquadri, et al., 1986). The CWPT experience improves self-concept and positive attitudes toward school as students take ownership of learning and become more responsible for completing assignments and controlling their behavior (Greenwood & Delquadri, 1995). Educators and students alike have been enthusiastic about the use of CWPT (Greenwood, Arreaga-Mayer, Utley, Gavin, & Terry, 2001). Teachers often report that students improve academic skills, on-task behaviors, and social skills as a result of utilizing the CWPT method (Elbaum et al., 2000). Research
indicates that students enjoy both the role of tutor and tutee, giving them a positive attitude toward learning. This outlook increases positive social interactions while reducing disruptive behaviors. Given the critical importance of behavior to children’s school and later life success, the social and academic benefits of school interventions such as CWPT deserve close scrutiny.

The instruction utilized in CWPT is based primarily on two widely accepted and scientifically based methods: direct instruction (DI) (Engelmann & Carnine, 1991) and strategy instruction (SI) (Pressley & Woloshyn, 1995). These methods may also be effectively utilized in combination (Lyon, 1995). Following is a review of these methodologies.

Direct Instruction

Learning to read in the elementary years is essential for successful educational performance. The 2001 NAEP reported that 37% of grade 4 students cannot read at a basic level and only 32% read at or above a proficient level. The decline in reading scores and the increase in the number of children having difficulty reading go hand-in-hand with a change in how reading has been taught in our schools (Hall & Moats, 1999). Therefore, a research-validated and comprehensive reading approach is necessary
if all students are to achieve the goal of reading acquisition (Kameenui & Carnine, 1998)).

Direct Instruction (DI) is an effective intervention that improves children’s academic performance (Swanson, 1999). The DI approach is a model for teaching that emphasizes carefully planned lessons designed around small learning increments and clearly defined teaching tasks. Direct instruction is typically the most selected definition of quality instruction when students are expected to master a broad spectrum of knowledge and skills— and the primary purpose for providing quality instruction is so that students may be successful on academic tasks (Kemper & MacIver, 2002). In a study conducted by Gersten and colleagues (1988) children who received true DI at the elementary school level were much more likely to graduate from high school and to be accepted into college and to show long-term gains in reading and language.

DI has a history of effective results with at-risk students, especially as an intervention for struggling readers (Carnine, Silbert, Kame’enui, & Tarver, 2004). The DI intervention has been developed and refined for decades and is shaped to succeed with students of virtually any background (Swanson, 1999). The improvements gained through
competent, widespread use of DI decreases the need for remedial reading programs in schools. Lessons taught utilizing DI are designed to promote success for students the first time and do not require teacher modification to achieve student success. DI is an effective way to teach students who struggle academically as the approach is highly scripted, fast-paced, and involves constant interaction between the students and the teacher (Bloom, 1971).

Highly scripted. The DI approach is fully scripted, from what the teacher will say, to the anticipated student responses, to the correctional procedures (Watkins & Slocum, 2004). The scripts are based on extensive research regarding student retention, and every aspect of every script is based upon results that were demonstrated through research (Adams & Engelmann, 1996). The scripted material is designed and utilized to ensure reliability across lessons and this consistency ensures that students will clearly understand information presented during instruction. The great advantage of this approach is that every teacher using the script becomes the beneficiary of that research and will teach much more effectively than if left to his or her own devices. The rationale for scripted presentation is that if the teacher presents an adequate
set of examples with clear consistent wording, students will learn the material with less confusion (Adams & Engelmann, 1996; Engelmann & Carnine, 1991; Gersten, Woodward, & Darch, 1986). The philosophy behind DI scripting is based on the theory that clear instruction eliminating misinterpretations can greatly improve and accelerate learning (Slavin, 1987). Therefore, the scripted lessons are a crucial component of DI success.

*Fast-paced.* The goal of DI is to accelerate learning by maximizing efficiency in the design and delivery of instruction, thus accelerating student learning (Merchand-Martella, Slocum, & Martella, 2004). Because the purpose of DI is to swiftly move learners to mastery, a large percentage of classroom time is spent on fast-paced instruction. The fast-paced lessons contribute to student attentiveness and provide numerous opportunities for all students to respond, reduce errors, increase practice time, and reduce the chances of inappropriate behavior (Hall, 2002). The fast pace of DI achieves the highest level of student responses within a limited amount of time. As a result of this brisk pace, students are actively engaged in the lesson, remain on task, and remain focused on the skills being taught. Because there is a short amount of time between when students learn information and when they
have the opportunity to use it, their retention is typically higher as a result of the lesson structure.

**Constant interaction.** The DI approach requires intensive participation and interaction by both the instructor and the learner. Typically during DI, the student/teacher interaction is constant and intense as the scripted lessons require the entire class to continually respond verbally or in writing when given a signal by the teacher. Utilizing DI, the teacher does not move on until everyone is able to demonstrate fluency, proficiency or mastery, depending on the goal of the lesson.

*Research on the History of Direct Instruction*

DI is based on behavioral learning theory in education that grew out of the work of Siegfried Engelmann (Bereiter & Engelmann, 1966). Engelmann’s background was as a preschool teacher who sought to identify teaching methods that would accelerate the progress of historically disadvantaged elementary school students. Engelmann theorized (1991) that children learn by working through a sequence of tasks, with carefully timed comments from the teacher. Engelmann believed that if children were taught a wide variety of concepts at a faster than normal rate, they would experience a higher level of academic success (Engelmann, 1969). Engelmann based his philosophy of
effective instruction on the idea that virtually all students can experience success, and when they do not experience success, something is wrong with the instruction (Becker & Carnine, 1981). Based on the hypothesis that all students can learn if they are taught, Engelmann developed his strategy that served as the basis for a theory of instruction.

The history of DI revolves around Project Follow Through, the largest longitudinal educational experiment ever conducted (Grossen, 1995; Meyer, 1984). The study involved 75,000 children in 180 different sites, lasting for twenty-eight years. It cost over one billion dollars to conduct the experiment. Public Law 90-92 (1979) authorized Project Follow Through to evaluate the effectiveness of nine models of instruction on measures of three dimensions: academic basic skills, cognition, and affect (Stallings & Kaskowitz, 1974). The intent of the study was to evaluate whether the poorest school, both academically and economically, could be brought up to a level of achievement comparable to mainstream schools with a main goal of breaking the cycle of poverty through improved education (Grossen, 1995). Among the programs to be implemented were the Open Education Model (Muskopf & Moss, 1972; Spiess, 1976), Cognitively-Oriented Curriculum Model (Ford, 1987;
Rhine, 1981), The Responsive Education Model (National Association for the Education of Young Children, 1964), Bank Street Early Childhood Education Model (Rhine, 1981), Tucson Early Education Model (Webster & Schroeder, 1979), Language Development Model (Henderson, 2000), Behavior Analysis Model (American Institutes for Research, 1970), Florida Parent Education Model (Mork, 1983), and the DI Model (Adams & Engelmann, 1996). Two independent agencies were hired by the US Department of Education to collect and evaluate the effects of the various models during the study. Of the nine models evaluated, DI produced the highest average performance of any program in all three dimensions (Watkins, 1988). DI also showed the highest improvement in self-esteem scores (Lingenfelter, 2005) and was ranked first in achievement for poor students (Goldman, 2000), students who were not poor (Watkins & Slocum, 2004), urban students (Kemper & MacIver, 2002), rural students (Watkins & Slocum, 2004), African American students (Carnine et al., 2004), Hispanic students (Carnine et al., 2004), and Native American students (Gersten et al., 1988). The findings from Project Follow Through concluded that DI is the most effective model for teaching academic skills and for affective outcomes related to students of diverse backgrounds (Carnine et al., 2004).
Major long-term studies have demonstrated powerful evidence of DI success and disturbing evidence for the futility of the more popular techniques that dominate our schools (Bruck, Treiman, Caravalos, Genesee, & Cassar, 1998; Slavin, 1994; Graham & Harris, 1994; Stahl, McKenna & Pagnucco, 1994; Stahl & Miller, 1989;). Over the last forty years data has continued to accumulate indicating that students who receive high quality instruction demonstrate more successful school learning than students who do not (Joyce, Weil, & Calhoun, 2003). DI is supported by this research more than any other instructional program, and there is strong evidence that it has a positive effect on student achievement (Watkins & Slocum, 2004).

Features of Direct Instruction

The most noticeable features of DI are the external elements associated with the approach. Carnine (2003) writes that DI is an approach to teaching that is skills-oriented and teacher-directed. The DI method emphasizes use of small-group, face-to-face instruction by teachers using carefully articulated lessons in which cognitive skills are broken down into small units, sequenced deliberately, and taught explicitly (Carnine, et al., 2004). While DI was originally developed as an approach to help predominately impoverished children who were not academically successful
in traditional public school programs, the intervention also works effectively and efficiently with students who come from average and above average income groups (Carnine et al., 2004; Slavin, 1994). DI is beneficial to students because there is so much individual attention, it moves quickly, students are challenged continuously, each child contributes to the group, and lessons focus on a successful conclusion (Pressley et al., 1992). Typically DI skills are taught in sequence until students have fully internalized them and are able to generalize their learning in new, untaught situations (Mastropieeri & Scruggs, 1997). Because the goal of DI is to move students to mastery as quickly as possible, a large portion of classroom time is spent on teacher-directed instruction, punctuated by rhythmic choral-group and individual-student responses initiated by a teacher signal (Carnine et al., 2004). A signal is a visual or audible cue that is given by the teacher to instigate a student response during DI. Utilizing signals, the teacher allows enough time for each student to be able to process the question and formulate an answer. The instructor is then able to analyze the comprehension of the entire group as they answer in unison. Following is a step-by-step illustration of a teacher/student interaction
utilizing DI during a reading lesson (Engelmann, Hanner, & Johnson, 1999):

1. The teacher prints on the chalkboard the words: rear, leaf, mean, and ears.

2. The teacher points at each word, pauses, and gives a signal for students to say the word by asking, “What word?” The students respond chorally to each word when the teacher points to it and gives the signal.

3. After the students have successfully read the entire list of words, the teacher replaces the vowels ea in each word with the vowels oa. The teacher then repeats the second step utilizing the new words roar, loaf, moan, and oars.

4. After the students have successfully read the entire list of words, the teacher will need to combine the previously reviewed words and form a new list. This list of words will need to contain a combination of the previously reviewed words. The new list of words could be rear, loaf, mean, and oars. The instructor again repeats the second step.

After the students have successfully read the entire list of words, the teacher changes the list back to its original form. The instructor then repeats steps 2-4 with
the original list of words to confirm that mastery has occurred.

Typically DI focuses on isolated sub-skills, letter sounds, linguistic units, and phonological-awareness units, such as beats of select consonant-vowel-consonant (CVC) words, D-O-G D(clap)-O(clap)-G(clap) or C-A-T C(clap)-A(clap)-T(clap) (Hill, Swain, & Nero, 2003). Lyon (1995) writes that students who can reflect on sound elements in words are on their way to becoming more efficient readers and unlocking the mystery of the alphabetic system (Grandgenett et al., 1991). DI helps students become more successful readers by promoting small group lessons that are well sequenced, highly focused, and provide struggling learners with opportunities to respond and receive corrective feedback on the accuracy of their responses (Slavin, 1987; Spector, 1995).

The features of DI are consistent with what is known about developmental appropriateness and include a focus on teaching concepts in much greater depth than typical in most schools. (Binder, 1996; Kameenui & Carnine, 1998). The DI approach emphasizes progressive learning therefore lessons are arranged logically so that students learn what they need first in order to grasp subsequent concepts. After students have shown enough progress they are moved to
higher performing groups and gradually the teacher can move from a more teacher-guided to a more student-guided format (Adams & Engelmann, 1996; Kameenui & Carnine, 1998). The research concludes that DI teaches everything that is meant by “literacy”. The features of DI include an emphasis on teaching pre-reading, decoding, comprehension, spelling, writing, reading, and editing of stories (Carnine et al., 2004). Research demonstrates that DI excels in educating children for life, giving them skills they need, along with self-esteem and positive feelings about school and learning (Pressley et al., 1992).

**Research on Direct Instruction’s Effect on Reading**

DI changes the behavior of students who are struggling in reading. The decoding tendencies of struggling readers suggest what must be done during DI to effectively change the student’s behavior. Students with these types of problems frequently make word identification mistakes and make a higher percentage of errors when reading connected sentences than when reading words in word lists (Ruchti, 2005). These struggling learners look at the beginning of a word and guess and do not understand the relationship between the arrangement of letters in a word and the pronunciation of the word (Carnine et al., 2004). Due to these challenges, the student’s reading rate is
insufficient making it difficult to comprehend the details of the passage even when they decode it accurately (Johnson, 1999). DI helps students who have these types of problems by providing them with opportunities to practice decoding during reading instruction. The DI approach regularly provides struggling readers with opportunities to read word lists that emphasize the pronunciation of various letter combinations. During this process students will practice and subsequently read sentences and passages that include many of the words and letter combinations that have been previously taught.

Direct instruction emphasizes reading comprehension in a way that demonstrates the relationship between what is decoded and how it is to be understood (Ruchti, 2005). This approach to teaching helps students succeed in reading tasks by teaching them to utilize effective skills and strategies to replace their previously ineffective approach to reading. Mastropeiri and Scruggs (1997) write that comprehension is the main goal of learning to read and as students become accurate and fluent decoders, reading comprehension becomes their main focus. Reading comprehension is a complex process that requires a number of separate skills. When students are asked to answer questions about a written passage, they may have to
identify the meanings of words, understand the structure of sentences, follow directions, and then write their answers correctly. For students who have not mastered the skills associated with comprehension, they would not have the ability to accurately complete this task (Carnine et al., 2004). Engelemann and colleagues (1999) write that utilizing DI can help change the behavior of students who lack the skills to comprehend what they read by systematically replacing older strategies with newer ones by (a) teaching students to follow directions, (b) teaching students to utilize memory for information, (c) teaching statement-repetition, (d) teaching vocabulary and common information, and (e) enhancing the struggling reader’s low self-image through motivation.

Following directions. Typically students who lack comprehension skills do not follow instructions correctly (Carnine et al., 2003). Students with these types of problems have often been reinforced for simply raising their hand and asking the teacher questions. While this strategy may have worked in other content areas, these students have not developed the necessary skills to follow instructions that are presented verbally or in writing during reading instruction. DI provides extensive practice in following directions. For example, the directions may
ask students to “underline the nouns” in one lesson while requiring them to “circle the nouns” in a subsequent lesson. In addition to that, students are required to follow directions when chorally responding to the teacher signal during DI. The DI approach addresses the skill of following instructions in a way that students cannot figure out from the format of the activity alone. Therefore, students learn the strategy of reading carefully and attending to the detail of following directions.

Memory for information. Research indicates that students who struggle to comprehend what they read typically have a poor memory for information (Oakhill, Hartt, & Samols, 2005). This is usually due to the way previously studied curricular material has been sequenced. In the past, students with these types of problems have never been required to learn information one day and then use it that day and from then on. The DI approach emphasizes that whatever is taught is used. Vocabulary words that are introduced during DI reading lessons are typically integrated so that students will use these same words when following directions, making analogies and deductions, identifying flaws in arguments, and in various other reading activities (Nelson-Herber, 1986). This non-spiral approach to instruction demonstrates to students
that they must develop strategies for retaining the information that is taught and relating it to other information.

*Statement-repetition.* Struggling readers typically have poor statement-repetition skills (Carnine et al., 2004). This problem can be attributed to the fact that students are not usually required to practice these skills across the curriculum. The lack of statement-repetition skills places struggling readers at a great disadvantage when they attempt to read and retain information. DI assists students with these types of problems by providing them with practice in statement repetition. The emphasis on statement-repetition during DI helps students become more simplistic in repeating statements during reading. The DI approach helps reinforce the general strategy that one must be very precise when dealing with statements in what is read as well as in what is heard. Many of these students typically have strong feelings about a topic, but they are unable to articulate the facts that support their beliefs or the conclusions drawn from the evidence (Gersten et al., 1986).

*Vocabulary and common information.* Struggling readers typically have a deficiency in vocabulary and common information (Carnine et al., 2004). This prevents students
from constructing the appropriate schemata when reading about situations that assume basic information or vocabulary knowledge. For example, the learner might understand the word “biblical” while not realizing its relationship to the word “Bible”. DI can be used to introduce fact systems and vocabulary words to compensate for these types of deficiencies.

Motivation through success. Conclusively, research has demonstrated that struggling readers typically are not highly motivated learners (Engelmann et al., 1999; Mastropieri & Scruggs, 1997). For these students, reading has been a punishing experience. Utilizing DI provides opportunities for struggling learners that address their low self-images. DI is designed so that students can succeed in learning sophisticated skills—and feel better about reading as a result of it (Tarver, 1999). The goal of DI is to create competent learners, and when students are successful during the small lessons, they build the confidence necessary to learn larger and more complex ideas (Lingenfelter, 2005). Any task that a student is asked to do independently during DI is typically related to something that has been previously taught. This gives each student an opportunity to believe that they are capable of succeeding, and to succeed. As a result of this
instructional approach, the student continues to gain confidence and is motivated to learn more. DI is effective in improving overall reading achievement, while also enhancing students' self-esteem, confidence, attitudes toward school, and sense of responsibility (Adams & Engelmann, 1996). As a result of DI, struggling readers begin to take pride in learning to read for understanding. Studies have demonstrated that DI works, providing rapid gains, gains that persist, gains that increase self-esteem because children have real skills they can be proud of (Carlson & Francis, 2002). Tarver (1999) writes that with such evidence of success utilizing DI, it is apparent that the teacher is responsible for student learning. Students are not to be blamed for their failure to learn. If the learner has not learned, the teacher has not taught.

**Strategy Instruction**

Strategy Instruction is a widely used and scientifically based model for remediation of learning and academic difficulty that has been shown to improve the performance of students (Marzano, Pickering, & Pollock, 2001; Swanson, 1999). With the passage of the federal No Child Left Behind (NCLB) legislation (2002), the interest in identifying such proven practices that have been known to demonstrably raise student achievement has been intense.
Unlike many other educational techniques and interventions, SI is a powerful student-centered approach to teaching that is backed by years of quality research. In fact, strategic approaches to learning new concepts and skills are often what separate good learners from poor ones (Coley & Hoffman, 1990; Foster, 1989).

Students who are struggling in school benefit when taught strategies and need to be explicitly taught not only subject content, but also effective ways to learn that content (Duffy et al., 1987; Palinscar & Brown, 1987). When students learn why, where, and when to use a particular strategy, they acquire the cognitive command of it necessary to succeed (Gunning, 2005). Given ample encouragement, feedback, and opportunities to use these strategies, children are thought to improve in their ability to process information, which, in turn, leads to improved academic performance (Beckman & Weller, 1990). For more than two decades there has been an abundance of support regarding the use of SI as an effective way to improve academic performance for children. SI supplies students with the same tools and techniques that efficient learners use to understand and learn new material or skills. With continued guidance and ample opportunities for practice, students learn to integrate new information with
what they already know, in a way that makes sense—making it easier for them to recall the information or skill at a later time, even in a different situation or setting (Swanson, 1999). This method of instruction is appropriate and effective for students who are struggling academically, as well as for those who are not. All students can benefit from understanding the strategies that good learners use and skillful teachers can play a critical part in guiding students to use strategies until their use becomes an automatic part of each student’s repertoire (Marzano et al., 2001).

Meichenbaum and Biemiller (1998) share the philosophy that students become strategic thinkers when they use SI to complete classroom assignments. The SI proceeds stepwise and includes the following order of steps: (a) describe the strategy, (b) model its use, (c) provide ample assisted practice time, (d) promote student self-monitoring and evaluation of personal strategy use, and (e) encourage continued use and generalization of the strategy. During SI, the teacher will describe each strategy to the students so they will be able to obtain an understanding of strategy use and the purpose of using strategies to help them learn. This strategic instruction will help students understand why strategy use is important, when strategies can be used,
and how to appropriately use these strategic methods during the learning process (Swanson, 1999). During SI the teacher will model strategy use to students and provide them with ample assisted practice time. This practice results in automaticity so the learner does not have to think about using the strategy in future situations. The teacher will monitor, provide cues, and give feedback that encourages students to continue to use strategies in all learning situations. As a result of this instruction, students will likely use strategies when they see how it works for them as it will have become part of their learning schema.

SI was first introduced in the 1970s. In 1976 Robert Gagne and Weinstein first began to use the term cognitive strategy instruction (Gagne, 1977). Gagne used strategy in reference to problem solving and Weinstein in reference to study strategies. Since then, intense research has been conducted which included developing and testing these cognitive strategies in a wide range of academic areas including reading and writing (Gall, Jacobsen, & Bullock, 1990; Marzano et al., 2001; Pressley & Woloshyn, 1995).

Research on Strategy Instruction’s Effect on Reading Comprehension and Fluency

Although usually associated with drawing meaning from passages, reading comprehension occurs at the word,
sentence, and passage levels (Gersten & Baker, 2001). Reading comprehension is related to reading fluency, therefore, the more fluent the reader, the more cognitive space is allowed for processing of the meaning of the text (Rasinski, 2003). Typically, students who are low in fluency also have difficulty comprehending what they read. SI improves the reading comprehension and fluency skills of students by helping them learn to decode and learn the meanings of words so they may efficiently comprehend what they read (Mastropieri & Scuggs, 1997). When students can read fluently and with automatic decoding of text, the learner’s attention can become more focused on extracting meaning from the passage (Rasinski, 2003). SI is an effective way of teaching children who have learning difficulties and has been shown to have a positive effect on their reading skills (Graves, 1992; Lauterbach & Bender, 1995). Bryant (1999) states that both fluency and comprehension improve when strategies are taught and consistently modeled through SI in a manner that is systematic, sequential, explicit, and direct. Therefore, teaching fast and efficient word reading will have a strong impact on the learner’s comprehension skills (Lauterbach & Bender, 1995).
Strategic reading instruction is established in the research as a means of assisting students to develop their reading proficiency. In general, these studies suggest that students can be taught to use strategies and that strategy use increases student’s awareness of their own performance as they read (Garner, 1987; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989; Pressley et al., 1992). SI encourages children to become so involved with reading that the student will learn to have feelings and responses about the characters and actions taking place. As a result of this emotional load, students will learn to relate what is happening in the story to their own lives (Schacter, 1996). When students are taught reading strategies, the students improve in their performances on tests of recall, are able to arrive at a richer understanding of text meaning, develop a more positive attitude towards reading, and progress in their abilities to use strategies (Auerbach & Paxton, 1997; Dole, Brown, & Trathen, 1996; Duffy et al., 1987; Janzen, 1996; Jimenez, 1997; Paris, Wasik, & Turner, 1991; Pearson & Fielding, 1991; Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989). Strategic readers are purposeful, thoughtful, and reflective about the reading process (Jimenez, 1997). Using comprehension strategies students reflect on what they already know about a topic
and plan their approach to a text accordingly. These strategy users monitor whether they understand what they have read by comparing their understanding of material just encountered with their world knowledge and previously read text (Elliot-Faust & Pressley, 1986; Markman, 1985). Based on this prior knowledge, the student can make predictions about the story and is able to detect if a reading technique is not permitting progress toward the goal of comprehension. Having noted comprehension failure, the reader would then attempt to use a different strategy. Students who use strategies tend to be versatile, self-aware people who deploy a wide variety of strategies as they read, using them in a flexible manner. These proficient learners read like they are talking, point with their eyes, use the pictures for clues, use context clues, listen to what they say as they read, read on rather than getting stuck on a word, filling in the blank by using meaning, think about what is happening in the story, correct themselves when they make a mistake, and check to see if what they have read makes sense, sounds right and looks right (Markman, 1985). These proficient readers monitor comprehension of what they are reading and take steps to repair any breakdowns while engaging with the text, asking questions of themselves, the author, and the
material itself (Pearson & Barr, 1992; Pressley & Woloshyn, 1995).

Passage rereading, also known as the repeated reading strategy, is another method that has been found to be particularly effective in improving the reading comprehension and fluency skills of at-risk students (Gagne, 1977; Rasinski, 2003). Repeated reading is a fluency-building strategy that consists of rereading a short, meaningful passage several times (Samuels, 1979). During this process, a fluency criterion is set and a passage of text is selected. A 5th-grade student reading at the 3rd-grade level, expected to be able to read 124 words per minute, would be provided reading material at the student’s reading level not grade level. After the criterion has been set, the student will need to practice reading and rereading the passage until he or she can achieve the fluency criterion. The process may then be repeated with new passages. It is recommended that the criterion for fluency is set in terms of speed and accuracy of oral reading according to the student’s fluency level working towards grade level proficiency (Rasinski, 2003). During SI, students learn to reread across the curriculum and in different situations as needed. When the same passage is read repeatedly, the number of word recognition
errors decrease while reading speed, oral reading expression, decoding skills, and comprehension improves (Rasinski, 2003; Samuels, 2002).

The research concludes that the most essential strategies to emphasize during SI depend on the needs of the learner and the requirements of the curriculum. There are many strategies and more and better methods will become available as a function of a large amount of educational research. Pressley et al. (1989) write that initially teachers need to identify a few powerful strategies that facilitate important academic performances and teach those identified strategies. Because not all students will find it easy to embed strategy use into their learning schema, differentiation of SI is required, with some students needing more scaffolding and individualized, intensive instruction than others (Hamman, 1998).

Scaffolded Learning

A scaffold is typically thought of as a temporary support for a building during construction. Once the configuration is strong enough to stand on its own, the scaffold is removed. In education, a scaffold supports students as they develop new skills or learn new concepts (Applebee & Langer, 1983). When the learner achieves proficiency, the support is gradually removed and the
student continues to develop the skills or knowledge on their own. Effective SI emphasizes graphic organizers thought to provide a type of mental scaffold on which to build new understanding and increase comprehension (Swanson, 1999). A graphic organizer is a visual representation of information used for constructing meaning. The goal in using graphic organizers during SI is to help students organize ideas and examine relationships as they read (Banikowski & Mehring, 1999). In doing so, students engage more of their core thinking skills and process information more intensely, improving long term recall. Hartman (2002) writes that graphic organizers are utilized as a scaffold during SI and are especially helpful to average, under-achieving, and struggling readers.

**Brief Graphic Organizer Descriptions**

The process of reviewing information and organizing it helps learners arrange the material in their minds, thus improving reading comprehension. The following graphic organizers are widely known as effective aids to reading comprehension: (a) storyboard, (b) story map, (c) timeline, (d) Venn diagram, and (e) the use of an acronym KWLH (Banikowski & Mehring, 1999). A brief description of each graphic organizer follows:
Storyboard. The storyboard, also known as the chain of events, can be used to help students understand how events are sequenced in a story. This organizer can also be used to help students describe some of the details that are associated with each event that took place in a story.

Story map. The story map is a graphic organizer that is useful to help students analyze their story. This organizational tool can help students identify the elements of a story and the theme or moral of the story. Some of the many elements may include the important characters, the setting of the story, the problem faced by the characters, how the problem is approached, and the outcome (Banikowski & Mehring, 1999).

Time line. The time line is a widely accepted and effective graphic organizer. This organizer is best used to help students make connections and understand complex relationships. For example, students may create a timeline of events that took place during a story to aid their reading comprehension.

Venn diagram. The Venn diagram helps students identify ways that each aspect of a story can be overlapping. This organizer is best used to help students understand and arrange events, issues, and concepts of a story.
**KWLH.** The KWLH organizer helps students stop and think before answering reading comprehension questions. This method is an effective way to help students organize learning into four different categories by asking themselves: *(i)* what do I *k*now, *(ii)* *w*hat would I like to know, *(iii)* what have I *l*earned, and *(iv)* *h*ow can I learn more. When utilizing this organizer, students will thoroughly complete and answer the first and second category questions before the lesson begins, and then complete the third and fourth category questions after the lesson has been taught.

Raymond (2000) writes that scaffolding originates from the work of the seminal Russian psychologist and educator Lev Vygotsky’s socio-cultural theory and his concept of the zone of proximal development (ZPD). Theoretically, the ZPD is the distance between what children can do alone and the next level of learning that they can be helped to achieve with competent assistance. One of the primary benefits of scaffolded learning is that the learner does not passively sit and listen to information presented by the instructor. Instead, through teacher prompting, the student is engaged and builds on prior knowledge and forms new knowledge. Scaffolded learning is meant to be temporary and the process helps students through the ZPD. As a result of this
progression, students learn to utilize strategies that enable them to complete tasks and master concepts independently (Chang, Chen & Sung, 2002). Utilizing SI, the teacher will need to provide scaffolds to facilitate the learner’s development (Hartman, 2002). These scaffolds help students build on prior knowledge and internalize new information as they read. The activities provided during scaffolded learning will need to be just beyond the level of what the learner can do alone (Olson & Pratt, 2000). The teacher will then provide the scaffolds so that each learner may accomplish tasks that otherwise could not be completed single-handedly (Bransford et al., 2000). Scaffolding must begin from what is near to the student's experience and build to what is further from their experience. At the beginning of a new task, the scaffolding must be concrete, external, and visible. One of the challenges with reading is that the processes are typically internal, hidden, and abstract. During SI, strategies such as visualization can be introduced, practiced, and used for making hidden processes external, visible, and available to students during reading by asking students to discuss vocabulary words and relate them to their own experiences before reading silently (Allan & Crandall, 1986). Scaffolded learning motivates students so that they want to
continue to learn as it minimizes the learner’s level of frustration. Utilizing scaffolds during SI improves the performance of students before, during, and after reading and the experience teaches these children to function as independent readers.

**Meta-Cognitive Learning Devices**

Flavell (1979) is generally credited for the term meta-cognition and his research indicates that strategy use helps students become aware of their own thinking as they read, write, and solve problems in school while also giving them an efficient way to acquire, store, and express information. Some of the more common meta-cognitive strategies taught during SI come in the form of mnemonics (De La Paz, Owens, Harris, & Graham, 2000).

**Mnemonics.** Mnemonics is a memory enhancing instructional strategy that involves teaching students to link new information that is taught to information that they already know (Levin, 1993). Utilization of mnemonic devices provides a visual or verbal prompt for students who may have difficulty retaining information. In this way, children whose learning modalities are primarily visual or verbal are able to create a picture, word, rhyme, or sentence that is attached to an idea they already have. According to Swanson (1999) the use of mnemonic strategies
have helped students significantly improve their academic achievement. Mnemonics can be utilized during reading and writing and do not require a wealth of additional materials or extensive planning and preparation time (Mastropieri & Scruggs, 1998). According to Levin (1993), mnemonic instruction is useful for students across a wide age range.

There are three different methods for teaching mnemonics. These meta-cognitive learning devices are: (a) keyword, (b) pegword, and (c) letter strategies. When taught appropriately, these meta-cognitive strategies assist children who are dependent on high levels of teacher support to become independent learners. These learning methods are more likely to be used by students when SI promotes a clear understanding that the use of the strategy will have a positive effect on their learning (Read, 2005).

Following is a brief description of each of these meta-cognitive strategies:

**Keyword.** The keyword strategy works best when the information to be learned is new to students (Mastropieri & Scruggs, 1998; Pressley, Levin, & Delaney, 1982). This method is based on linking new information to keywords that are already encoded to memory. A teacher might teach a new vocabulary word by first identifying a keyword that sounds similar to the word being taught and easily represented by
a picture or drawing. The teacher would then generate a picture that connects the word to be learned with its definition. To teach students the definition of the word, the teacher would ask the students to remember the keyword, envision the picture and how it relates to the definition, and finally recall the definition (Mastropieri Sweda, & Scruggs, 2000). For example, if a student is learning the definition of the Spanish word "cabina," which means "phone booth," for the English keyword the learner could think of a "cab-in-a" phone booth. The student could then invent an image of a cab trying to fit into a phone booth. When the student sees the word "cabina" in the reading text, they will be able to recall the image of the cab and retrieve the definition "phone booth."

**Pegword.** The pegword strategy, also known as the rhyme-key strategy, is an effective mnemonic device best utilized for ordered or unordered lists. A pegword is a two-step memory process that involves memorizing key words that can be associated with numbers and creating an image of the items that need to be remembered with key words (King-Sears, Mercer, & Sindelar, 1992). The pegword strategy uses rhyming words to represent numbers or order. The rhyming words provide visual images that can be associated with facts or events and can help students
associate the events with the number that rhymes with the peg word (Scruggs & Mastropieri, 2000). For example, if required to remember the terms bun, shoe, tree, door, and hive—a student might choose to utilize the following pegwords: bun = one, shoe = two, tree = three, door = four, and hive = five.

*Letter strategy.* The effective teaching of letter strategies involves the use of (a) acronyms and (b) acrostics.

**Acronym.** An acronym is an invented combination of letters with each letter acting as a cue to an idea that a student may invoke to complete a reading or writing activity (Ellis, 1992; King-Sears et al., 1992). For example, in terms of school content, HOMES is a long standing acronym for the great lakes—[H]uron, [O]ntario, [M]ichigan, [E]rie, and [S]uperior.

**Acrostic.** An acrostic is an invented sentence or poem where the first letter of each word is a cue to an idea that needs to be remembered. For example, [E]VERY [G]OOD [B]OY [D]OES [F]INE is an acrostic to remember the order of the G-clef notes on sheet music—E,G,B,D,F or (Mastropieri & Scruggs, 1998).

Swanson (1999) writes that many at risk students struggle to retrieve information previously stored in their
memory, thus negatively impacting their ability to express what they know when reading and writing. Well-developed meta-cognitive strategies utilizing mnemonics can aid information retrieval for students who demonstrate these types of problems.

Research on Strategy Instruction's Effect on Writing Performance

Over the past 25 years, the body of research on writing has grown from investigating technical and grammatical requirements to identifying the types of skills and strategies that good writers use when they write (Danoff, Harris, & Graham, 1993). The research reveals that skilled writers spend time planning, monitoring, evaluating, revising, and managing the writing process. In contrast, struggling writers rarely use strategies and lack the necessary skills to problem solve effectively (Gersten & Baker, 2001; Graham & Harris, 2002). According to the National Assessment of Educational Progress (NAEP) the writing performance of 16% of students in grades 4 and 8 and 22% of students in grade 12 fall below a basic level of writing achievement (Greenwald, Persky, Campbell, & Mazzeo, 1999). Many non-proficient writers have difficulty communicating ideas, expressing feelings, and persuading others when writing and their compositions are typically
brief, full of errors, poorly organized, and incomplete (Graham & Harris, 2002). Students who struggle with writing are less positive about the experience than higher achieving students and become overly dependent on the classroom teacher (Graham, Schwartz, & MacArthur, 1993; Pressley & Woloshyn, 1995). Non-proficient writers generally have considerable difficulty with the mental operations underlying effective writing and have a less mature conceptualization of what composing involves. SI helps students who have these types of problems. The SI approach provides struggling writers with specific ways to develop and organize ideas, control and regulate the writing process, and monitor the quality of the text produced (Englert, Raphael, Fear, & Anderson, 1988).

A great deal of attention has been given to the role of strategies in academic learning as research has demonstrated that students complete tasks better, easier, and quicker when strategies are utilized (Pressley & Woloshyn, 1995). Research demonstrates that good writers take very specific and systematic actions that less effective writers typically do not (Pearson, Roehler, Dole & Duffy, 1992). Proficient writers use three stages in preparing written work: planning, writing, and revising. Within those general areas, efficient writers make plans,
draw ideas from memory, develop concepts, create an image of the reader, test ideas and text against that image, translate ideas into words, and then transcribe words onto paper (Hayes & Flower, 1980). Capable writers draw on a powerful repertoire of strategies and are able to apply them when needed to produce quality work. Hayes and Flower (1986) write that SI provides students with strategies that will aid them during the writing process--thus enabling them to effectively complete written assignments.

Research on Strategy Instruction’s Process Approach to Writing

When used during writing activities, SI follows a process approach where students (a) brainstorm, (b) write rough drafts, (c) work with a peer for revision, and (d) publish a final corrected copy (Grandgenett, Lloyd, & Hill, 1991). Following is a brief description of each step associated with the SI approach to writing.

Brainstorm. The purpose of brainstorming is to produce ideas to write about, not to judge and edit the ideas that have been produced. Brainstorming is a step students complete as part of pre-writing or planning. Students may utilize who, what, where, when, why wheels or maps for brainstorming activities (Allen & Marcia, 1997, Goldberg, 1986; Hill, Swain, & Nero, 2003). During the brainstorming
process, students will need to be encouraged to write down any idea that comes to mind. Although some of the ideas generated from brainstorming may be discarded eventually or used later, it is important to make sure that all ideas are written down and nothing is discounted. Two additional brainstorming strategies that may be utilized during the writing process are (a) clustering and (b) freewriting (Allen & Marcia, 1997; Goldberg, 1986).

Clustering. Clustering involves taking the main topic, writing it down on paper, and drawing a circle around it. From this main circle, lines go out to connect aspects having to do with the main topic. This continues outward in any direction until the student feels like he/she has satisfactorily developed the supporting details. Charts, Venn diagrams, story maps, cause and effect diagrams, outlines, and timelines are other organizers that may be utilized during the brainstorming process.

Freewriting. Freewriting is a brainstorming strategy that is utilized to generate ideas or expand on thoughts that have been written down previously. Utilizing the freewriting strategy, a student will continuously write about the chosen topic for ten or fifteen minutes. The student will write down whatever comes into their mind. The writer will not judge what they have written until later.
When the student has finished freewriting, they will then review what was written. Although some of what has been written during the freewrite may not make sense, the student may find a few good ideas mixed in. The advantage of this strategy is that students are allowed to free up their internal critic and allow themselves to write things they normally would not write when being too self conscious during the typical process of writing. A common experience is that some students who utilize the freewriting strategy never finish their freewrite and it essentially becomes their rough draft (Allen & Marcia, 1997; Goldberg, 1986).

Write rough draft. During the second step of the SI process approach to writing, students will need to be encouraged to think about what they are going to write and organize their ideas. After the student has spent time brainstorming and generating ideas related to the topic, they will then begin to work on a rough draft. On their rough drafts, students' transcribe all of their ideas on paper and then expand on their thoughts. Neatness will not be emphasized during this time as the student will add and delete material several times before they are satisfied with their composition. Mnemonic devices such as POW ([P]ick my ideas, [O]rganize my notes, [W]rite and say more) and DEFENDS ([D]ecide on goals and theme, [E]stimate
main ideas and details, [F]igure best order of main ideas and details, [E]xpress the theme in the first sentence, [N]ote each main idea and supporting point, [D]rive home the message in the last sentence, [S]earch for errors and correct) are believed to assist students as they organize their thoughts and ideas when writing (Ellis, 1993).

Work with a peer for revision. Once students are satisfied with their work, they will review their writing with a peer before working on the final draft. When students work with a peer for revision, it gives the writer an opportunity to have a peer read, comment on, and recommend improvements. The peer reader will share and make suggestions for improvement by asking the writer who, what, when, where, why, and how questions about unclear parts of the composition (Gardner & Johnson, 1997). During this time, both the writer and peer reader will look for opportunities to utilize better words, correct mistakes, and talk about making the composition better (Adams, 1991; Sommers, 1982). The peer revision time is a good opportunity for both students to become better writers as it provides experience in looking critically at writing. Together the students will review the composition to see that the writer has utilized pre-writing strategies, included descriptive words, has a clear beginning-middle-
end, and has many details related to the topic. In addition to that both students will check spelling, conventions, capitalization, punctuation, grammar, vocabulary, and make sure that the composition makes sense.

*Publish a final corrected copy.* The concluding procedure associated with the SI approach to writing requires that the student produces a final corrected copy. In some situations the final copy can be as simple as a student recopying his/her work onto a clean piece of paper. The final corrected copy will need to include all products of revision and correcting that have occurred during the SI process approach. Unlike the rough draft, it is important that the final copy is written as neatly as possible for the sake of the reader. The final copy may also include pictures, charts, tables, or anything else that can be utilized to make the student’s writing more interesting.

As a result of the SI process approach to writing, students have been shown to utilize strategies to plan in advance of their writing and access, generate, and organize the knowledge they possess (Englert & Thomas, 1988; Graham, 1990; MacAuthur & Graham, 1987). Theoretically, SI has a strong effect on writing and results in an increase of strategy use among struggling writers (Danoff et al., 1993; De La Paz et al., 2000). Utilizing SI encourages non-
proficient writers to use strategies. As a result of effective strategy use, struggling writers are motivated to continue to use strategies when they write. In addition to that, struggling learners come to the realization that the task of writing becomes much easier when strategies are used during the process. The goal of SI is to encourage habitual and flexible use of strategies that will aid students as they write. It is believed that with sufficient practice, strategies will become so integrated into a student’s everyday life that they will become unaware that they are using them (Pressley & Woloshyn, 1995). As a result of the SI process approach to writing, students will likely continue to use strategies when they see how it works for them as it will have become part of their learning schema and repertoire.

*Strategy Instruction and Direct Instruction Utilized in Combination*

Combining a Direct instruction/Strategy instruction (DI+SI) approach to teaching has proven to be the most powerful instructional technique available for teaching students who have problems in reading (Swanson & Hoskyn, 1998). Research has demonstrated that a DI+SI approach has a greater positive effect on learning than either method utilized alone (Ellis, 1993; Karp & Voltz, 2000; Swanson,
Swanson (1999) writes that a DI+SI model yields the greatest results for students, and used together represent teaching approaches that are the most likely to result in improved reading, writing, and learning outcomes.

Direct instruction (DI) and Strategy instruction (SI) can be found in the same lesson as they compliment one another and have important elements in common. Rosenshine (1995) writes that DI and SI overlap in several different ways. Both interventions assume that effective methods of instruction include daily review and statements of an instructional objective that include presentation of new material, guided practice, independent practice, and evaluations. In addition to that, DI and SI follow a sequence of events that include a statement of the learning objective, review of previously learned material, presentation of information, probes to assess level of student understanding, group instruction and independent practice, assessment and feedback, and distributed practice and review (Rosenshine & Stevens, 1986; Slavin et al., 1987). Conclusively, both research proven methods require a step-by-step progression from subtopic to subtopic with the use of many examples, demonstrations, and visual prompts—requiring that all skills are taught to mastery level criterion (Swanson, 1999).
Research has demonstrated that a DI+SI model yields the highest effect sizes in reading and writing for participants across diverse samples, classroom settings, and ages (Lovett et al., 1994; Lyon, 1995; Swanson, 1999). With such evidence of success it is crucial that schools consider ways to implement a DI+SI intervention to gain maximum benefits from each approach. Teaching basic skills to students through DI and then teaching those same students strategies to store and retrieve the information they have learned through SI will ensure a successful educational experience for all learners (Swanson, 1999). However, for at risk students, these approaches are crucial for the retention of new skills (Lyon, 1995). Decisively, research has demonstrated that a DI+SI approach to teaching is essential to educators who are seeking research-proven ways to make an impact on student achievement.

Character Education

There is growing concern regarding the education of students considered least likely to succeed in our public schools (Hess & Finn, 2004; National Center for Educational Statistics, 2003). This concern has led to intensified interest in utilizing Character Education (CE) (McDougal, 2006; Otten, 2005) in conjunction with research-based academic interventions in schools to provide students with
pro-social (Beets, 2007; Elias & Arnold, 2006) responses that reflect inner strength and a desire to do one's best to succeed in school (Georgia, 2006). There is growing evidence to suggest that CE is beneficial to student's social and academic skills and helps create school environments that encourage all learners to realize their potential (Benninga, Berkowitz, Kuehn, & Smith, 2003). Singh (2001) writes that students need CE just as much as they need to learn to read and write. In a very real sense CE is looked upon as a potential antidote to student failure, drugs, gangs, teen pregnancy, and suicide. By increasing our students' sense of internal control, which results in improved school discipline, schools may educate not only the minds but also the conscience of children (U.S. Department of Education, 2004).

A major thrust of NCLB is designed to meet the educational needs of students who are struggling with academic and behavioral issues requiring schools to educate not only students' academic performance but also their character (Johannessen, 2001; Saunders, 2004). Both the federal government (Benninga, Berkowitz, Kuehn, & Smith, 2006) and the National Education Association (Saunders, 2004) agree that schools have this dual responsibility. A growing body of research supports the notion that high
quality CE, also known as morals education (Castillon, 1990; Cockrell, 1998), can promote academic success and the growth of such programs in the United States has coincided with the rise in high stakes testing of student achievement (Abourjilie, 2000; Benninga et al., 2003). It is believed that schools cannot achieve their educational goals by emphasizing academics alone, and to succeed, they must teach students such values as responsibility and perseverance when faced with social and academic challenges (Arthur, 2003; Kilpatrick, 1992). Given these realities, the conclusion is clear. Schools must not only help students become literate and well informed learners, they must also help children develop the capacity to live responsibly and put forth their best effort in school (Nelson, 2006).

Research on the History of Character Education in Schools

The enhancement of student character is a long-established mandate that derives from the very core of public education (Lickona & Davidson, 2005). In 1837, Horace Mann, the father of the common school, proposed that the highest and noblest goal of education pertained to moral nature. Mann believed that it was necessary for schools to teach virtue before knowledge theorizing that knowledge without virtue posed its own dangers (Amundson,
Lickona (1993) writes that the goal of the early public school was to help make people smart and good. Therefore, schools taught CE directly through discipline, the teacher’s example, and the daily school curriculum—utilizing the Bible as a sourcebook for both moral and religious instruction (Ryan, 2002).

When struggles eventually arose in schools over which version of the Bible to use, William Holmes McGuffey, a U.S. educator, offered his McGuffey Readers beginning in 1836 (Lickona, 1993). Based on landmarks of world literature, the set of six reading books, which increased in difficulty, were the basis for teaching literacy, as well as basic values such as honesty and charity (Westerhoff, 1978). McGuffey’s books reflected his personal philosophies and shaped the American character by helping frame our country’s morals and tastes (Sullivan, 1994). The reading text retained many of the same biblical stories that children were accustomed to reading, but added poems, exhortations, and heroic tales. While children practiced their reading and math, they also learned lessons about honesty, love of neighbor, kindness to animals, hard work, thriftiness, patriotism, and courage (McElmeel, 2002). The McGuffey Readers became the standardized reading text for most schools across the United States during the mid-to-
late nineteenth century—and practically every American who attended public schools during the second half of the nineteenth century learned moral and ethical lessons from the McGuffey reading text (Sullivan, 1994).

During the twentieth century CE began to become less important in our society, and by the mid twentieth century public schools began to turn away from the idea of implementing morals into the curriculum—and started to turn strictly to academics (Huitt & Vessels, 2003). The consensus supporting CE in the schools crumbled under the blows of several powerful forces including (a) Darwinism, (b) European philosophies, (c) a rise in feelings of celebrated worth, and (d) the pluralism of American society (Lickona, 1993; Ryan, 2002).

*Darwinism*. Darwinism, a theory of biological evolution developed by Charles Darwin, introduced evolution, which led people to see all things, including morality, as being in flux (Bowler, 1993). The development of these evolutionary ethics led many scientists, social thinkers, and physicians in late nineteenth and early twentieth-century, to use Darwinian arguments to devalue human life. In his autobiography, Darwin rejected the idea of objective moral standards, stating that one “can have for his rule of life, as far as I can see, only to follow those impulses
and instincts which are the strongest or which seem to him the best ones" (Darwin & Barlow, 1969, p. 94). This theory confused the focus on CE as Darwinism implied human inequality.

**European philosophies.** Shortly thereafter, the European philosophy of positivism, also known as logical positivism, arrived at American universities (Hanfling, 1981; Simon, 1963). Logical positivist leaders, most notably English philosopher A.J. Ayer, believed that assertions in ethics (e.g., "It is wrong to cheat") do not function logically as statements of fact but only as expressions of the speaker's feelings of approval or disapproval toward some action (Ayer, 1959; Roberts, 1960). As a result of the positivist theory, morality was made to seem a matter of personal judgment and not a subject for public debate and transmission through the schools.

**Rise in feelings of celebrated worth.** In the 1960s, there was a worldwide rise in celebrated worth, autonomy, and subjectivity of the person—emphasizing individual rights and freedom over responsibility. These feelings de-legitimized moral authority, eroded belief in objective norms, and turned people inward toward self-fulfillment, fueling the socially destabilizing sexual revolution (Wynn & Ryan, 1992).
Pluralism of American society. Finally, the rapidly intensifying pluralism of American society arose which challenged the selection of values taught in schools and believed that moral education violated the separation of church and state (Greenawalt, 2005; Lickona, 1993; Nord, 1995).

Ryan (2002) writes that despite these obstacles, the concept of CE made a comeback in the early 1980s due to growing concern over students’ poor academic achievement and behavior. The 1990s saw the beginning of a new CE movement—one that restored good character to its historical place as the central desirable outcome of the school’s moral enterprise (Lickona, 1993; Ryan, 2002). The CE movement of the 1990s was fueled by the policies of Secretary of Education William Bennett who actively called for schools to play a distinct role in molding the character of youth (Bennett, 1993). Former President William Jefferson Clinton echoed Bennett’s sentiments with a forceful call to schools in his January 23rd, 1996 State of the Union address challenging all schools to teach CE (Davis, 2003). Finally, President George Walker Bush has also taken a role in this process by expanding upon Clinton’s ideas to make CE a major part of the educational reform agenda (Bulach, 2002; Ryan, 2002). Bush has
supported training teachers to incorporate character-building lessons and activities in student coursework realizing that clearly there is a need in our society and in school settings to curb violence and to have citizens and students practice behaviors of a more civil and moral nature than currently is the pattern (Bulach, 2002; Ryan, 2002). According to research, it is crucial that schools simultaneously foster character development and learning which in turn helps to build classrooms where students are ready to learn and teachers are freer to teach (Benninga et al., 2003). Quality CE supports academic growth and development--helping schools create a safe, caring, and inclusive learning environment for every student (Lickona, 1991).

Research on the Six Pillars of Character

The CE philosophy works best when schools and communities work together to identify values to be taught in their classrooms (McElmeel, 2002). CE can be defined in terms of relationship virtues such as respect and fairness, self-oriented virtues such as fortitude, self-discipline, effort, and perseverance; or a combination of the two (U.S. Department of Education, 2005). When students understand the morals and values associated with CE, they begin to recognize the relationship between effort and success in
school, have less frustration, and exhibit reduced misbehavior (Bulach, 2002).

The core of CE is based on the ethical values that guide choices called the six pillars of character (Character Counts! Coalition, 2000). The Josephine Institute developed the six pillars of character during a summit conference that took place in Aspen, Colorado, in 1992. The Josephine institute, consisting of a group of diverse educators, youth leaders, and ethicists, agreed unanimously that the six pillars are clearly central to ethical people’s lives—regardless of their differences. The six pillars of character are (a) trustworthiness, (b) respect, (c) responsibility, (d) fairness, (e) caring, and (d) citizenship (Character Counts! Coalition, 2000). The six pillars branch out to other values such as honesty and accountability, and are believed to improve the ethical quality of decisions and choices that students make in and out of school. The ethical morals and values that are emphasized through CE may differ from one school to another as most universal virtues fold easily into one of the six pillars. However, according to research (Koerner, Brown, Rehn, & Riley, 1993; Ryan & Bohlin, 1999; Simon, 2001), regardless of which values are emphasized in schools—a positive impact on student academic performance has been
irrefutable when utilizing a CE program that also utilizes the six pillars of character (Character Counts! Coalition, 2000; McElmeel, 2002).

The existing data has demonstrated that children who are given clear behavioral standards and social skills, allowing them to feel safe, valued, confident and challenged, will exhibit better behavior and learn more during school (Benninga et al., 2003). Research conducted by the Character Education Partnership (Berkowitz & Bier, 2005; Lickona & Davidson, 2005) found that schools that incorporate CE into their curriculum have shown significant improvements in academic performance, school culture, and positive peer interaction. Another study conducted by the Development Studies Center, over a period of twenty years, reported similar findings (Schaps, Schaeffer, & McDonnell, 2001). By participating in CE programs, students demonstrated improved personal and social skills that made a positive impact on their academic performance (Lickona & Davidson, 2005).

Because social, ethical, and emotional growth of students based on morals education has been determined to be relevant to their academic performance, the goal of CE, that is to develop children by infusing these character traits into every aspect of their school culture, cannot be
discounted (Arthur, 2003; Character Counts Coalition, 2000; Pearson & Nicholson, 2000; Rebold, 2000). According to research, 40 states and over 1000 cities, counties, school districts, and chambers of commerce (including the President and House of Representatives) have endorsed the utilization of CE programs in schools (Character Counts Coalition, 2000). Educators that are infusing CE into their curricula and cultures are finding improved academic achievement, behavior, school culture, peer interaction, and parental involvement (Gordon, 2003).

Research has demonstrated that when school goals and activities are associated with CE programs they tend to reflect improved academic performance (Benninga et al., 2005). As students grow in character, it is believed that they also grow in capacity and commitment to do their best work, do the right thing, and lead lives of purpose particularly in classrooms where teachers embrace their students' diversity and respect them as individuals for who they are, what they experience, and what they must overcome every day (Berkowitz & Bier, 2005, Taylor-Thompson, 1995).
CHAPTER THREE
Research Methods

Participants

*Number of participants.* The number of participants in this study was 22. Students selected for required participation in CE+CWPT activities with two levels of serious emerging literacy problems had a Dynamic Indicators of Basic Early Literacy Skills (DIBELS) score of 104 or less, a district writing assessment (FWADS) score of 4 or less, or an Iowa Test of Basic Skills (ITBS) Reading NCE score of 50 or less. All participants attended the research school for their 4th-grade and 5th-grade school years.

*Gender of participants.* Of the total number of selected students \((N = 22)\) identified with two levels of serious emerging literacy problems the gender ratio was 13 (59%) boys and 9 (41%) girls. Of the total number of selected students \((n = 14)\) identified as non-proficient in one or two literacy areas, 10 or 71% were boys and 4 or 29% were girls. Of the total number of selected students \((n = 8)\) identified as non-proficient in all three literacy areas, 3 or 38% were boys and 5 or 62% were girls.

*Age range of participants.* The age range of study participants was from 9 years to 11 years. All participants were in the 5th-grade.
Racial and ethnic origin of participants. Of the total number of selected subjects ($n = 22$) identified with two levels of serious emerging literacy problems for the CE+CWPT group, the ethnic and racial origin of the participants was 13 (59%) Caucasian, 6 (27%) Hispanic, 2 (9%) African Americans, and 1 (5%) American Indian.

Inclusion criteria of participants. Of the total number of selected subjects ($N = 22$) identified with two levels of serious emerging literacy problems for the CE+CWPT group, all were 5th-grade students who attended the research school for the entire 4th-grade and 5th-grade school years and completed all study assessments. Students were eligible to participate in the study if they completed one full school year and determined to be non-proficient in one, two, or three literacy areas, reading comprehension, reading fluency, or writing.

Method of participant identification. Students with serious emerging literacy problems participating in CE+CWPT activities had a cut score of 104 or less on the DIBELS assessment, a cut score of 4 or less on the FWADS assessment, or an ITBS Reading NCE score of 50 or less. No individual identifiers were attached to the achievement or behavior data of the 22 participating students included in this naturally formed group.
**Description of Procedures**

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

Group 1  $X_1 \ 0 \ 1 \ X_2 \ 0 \ 2$

Group 2  $X_1 \ 0 \ 1 \ X_3 \ 0 \ 2$

Group 1 = naturally formed CE+CWPT group with one or two areas of measured non-proficiency ($n = 14$)

Group 2 = naturally formed CE+CWPT group with three areas of measured non-proficiency ($n = 8$)

$X_1$ = CE+CWPT

$X_2$ = one or two areas of measured non-proficiency in the three literacy areas reading fluency, reading comprehension, or writing

$X_3$ = three areas of measured non-proficiency in the three literacy areas reading fluency, reading comprehension, or writing

$O_1$ = Pretest (1) Fifth-grade achievement as measured by the research school districts beginning of school year (a)

Criterion-Referenced (i) FWADS (ii) DIBELS assessment (b)

Fifth-grade achievement as measured by the research school districts beginning of school year norm-referenced Iowa Test of Basic Skills (ITBS) (i) reading total normal curve equivalent (NCE) score. (2) Fifth-grade behavior as
measured by the research school districts beginning of school year (c) reported (i) attendance, (ii) tardy, and (iii) general office referral School Information Management System (SIMS) data.

\[ O_2 = \text{Posttest} \]

(1) Fifth-grade achievement as measured by the research school districts end of school year (a) Criterion-Referenced (i) FWADS (ii) DIBELS assessment (b) Fifth-grade achievement as measured by the research school districts beginning of school year norm-referenced Iowa Test of Basic Skills (ITBS) (i) reading total normal curve equivalent (NCE) score. (2) Fifth-grade behavior as measured by the research school districts beginning of school year (c) reported (i) attendance, (ii) tardy, and (iii) general office referral School Information Management System (SIMS) data.

Independent variable description

The purpose of this study was to determine the effect of a required school year long Character Education (CE) and Class-Wide Peer Tutoring (CWPT) program for students who scored at or below proficiency in one, two, or three of their reading fluency, reading comprehension, or writing assessments at the beginning of their 5th-grade school year. The study analyzed performance on criterion-referenced tests, performance on norm-referenced tests,
behavioral referrals, and attendance to determine what relationship, if any, exists between levels of achievement amongst students participating in required CE+CWPT.

Fifth-grade students from the required CE+CWPT program, who were determined to be non-proficient in one or two literacy areas, reading comprehension, reading fluency, or writing, served as one independent variable arm. Fifth-grade students from the required CE+CWPT program, who were determined to be non-proficient in all three literacy areas, reading comprehension, reading fluency, and writing, served as the second independent variable arm. Typically at the research school several 5th-grade students were pulled out of the classrooms at 12:00 p.m. for band or academic resource activities. Those remaining 5th-grade students, without band or academic resource obligations, use this time to read, write, or complete other assignments. Therefore, the 12:00-12:30 p.m. timeframe was chosen for required CE+CWPT so that the participating students would not miss classroom instructional time. All students who participated in the required CE+CWPT program met with the principal in the school Sunshine Room from 12:00 p.m. until 12:30 p.m. on Mondays, Wednesdays, and Fridays. The Sunshine Room is a large room in the research school that was typically shared by the building psychologist,
counselor, and speech pathologist. At the beginning of each tutoring session, the building principal spent two or three minutes reinforcing the expectation that everyone would do their best as applicable to the building character education philosophy and school rules. A positive “learning club” type of atmosphere was promoted and an emphasis was placed on safe, respectful, and responsible behaviors both inside and outside of CE+CWPT meeting times. Utilizing this positive environment, the building principal and two assigned paraprofessionals taught, practiced, and reinforced reading and writing strategies utilizing SI/DI every Monday and Wednesday. Both paraprofessionals were assigned to assist the principal during CE+CWPT so that it would be possible to divide the students into smaller groups for more effective and differentiated SI/DI. In addition to that, both paraprofessionals were legally certified teachers with previous experience utilizing the SI/DI teaching intervention. This was an added benefit to the program and study. The Monday and Wednesday CE+CWPT sessions focused primarily on teaching, reinforcing, and practicing decoding, fluency, comprehension, and writing strategies.

The Friday CE+CWPT session was uniquely recognized as a day of review and celebration. During the Friday CE+CWPT
session, previously learned academic material was reinforced and practiced utilizing tutoring dyads. Typically, the principal would divide the group of students into pairs and allow them to read brief passages from their classroom reading text. The tutees would begin by reading a brief passage to their tutor, who in turn would provide immediate error correction and give points for sentences read correctly by the tutee. After the reading had been completed, the tutee would respond to “who, what, when, where, and why” questions provided by the tutor concerning the reading passage. Other Friday activities typically included, passage rereading, choral reading, echo reading, poetry reading, poetry writing, and many other activities known to enhance reading fluency, reading comprehension, and writing skill development. At the conclusion of the Friday session, each dyad added up their team points accumulated for correct answers and wrote them on the board. Prizes were then awarded to the highest scoring dyad for that week. If more than one pair shared the high score for the week, all students participating in those dyads would receive the prize. Student pairs were changed weekly to increase the chances of winning for all students. After the winning dyad(s) had been recognized, all participating students were acknowledged for their hard work and received
a small snack, treat, or certificate. After this acknowledgment, the students were taken to the gym for a celebratory game before lunch. The Friday celebration activity served as tremendous motivation and added incentive for students to work hard and do their best during the required CE+CWPT program. While some students were more intrinsically motivated with the academic and social benefits associated with the required CE+CWPT program, others relied more on the extrinsic motivators. More importantly, effective learning had taken place and all of the participating students felt a sense of belonging due to their involvement in the program. Many of the students began to refer to the required CE+CWPT program as a required learning “club”, as promoted by the building principal.

Dependent Measures

These research questions focused on the dependent variables, achievement and behavior. The first of these, achievement, was analyzed using the following dependent measure (a) Norm-Referenced Test scores, these scores are derived from the Iowa Test of Basic Skills (ITBS), and include basic battery NCE scores for reading, (b) district writing test scores, and (c) the Dynamic Indicators of Basic Literacy Skills (DIBELS) assessment.
Behavior data was collected retrospectively from students’ 5th-grade school year. This (a) attendance, (b) tardy, and (c) discipline referral data was obtained from the School Information Management System (SIMS).

Research Questions, Sub-Questions, and Data Analysis

The following research questions were used to analyze student participation in the CE+CWPT program measuring norm-referenced reading comprehension outcomes and criterion-referenced reading fluency and writing outcomes.

Overarching Achievement Pretest-Posttest Research Question # 1: Did students determined to be non-proficient on one or two beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade scores following participation in a required school-year long CE+CWPT program.

Sub-Question 1a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading fluency scores as measured by the Dynamic Indicators of Basic Early Literacy (DIBEL) assessment after completing the required CE+CWPT program?

Sub-Question 1b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading comprehension scores as
measured by the Iowa Test of Basic Skills (ITBS) assessment after completing the required CE+CWPT program?

Sub-Question 1c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade writing scores as measured by the Writing Assessment State Scored (FWADS) assessment after completing the required CE+CWPT program?

Research Sub-Questions #1a, 1b, and 1c were analyzed using dependent t tests to examine the significance of the difference between students’ beginning 5th-grade reading fluency scores compared to ending 5th-grade reading fluency scores after completing the required CE+CWPT program, students’ beginning 5th-grade reading comprehension scores compared to ending 5th-grade reading comprehension scores after completing the required CE+CWPT program, and students’ beginning 5th-grade writing scores compared to ending 5th-grade writing scores after completing the required CE+CWPT program. 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 were displayed on tables.

Overarching Pretest-Posttest Achievement Research Question # 2: Did students determined to be non-proficient on three beginning 5th-grade reading fluency or reading
comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade scores following participation in a required school-year long CE+CWPT program.

Sub-Question 2a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading fluency scores as measured by the Dynamic Indicators of Basic Early Literacy (DIBEL) assessment after completing the required CE+CWPT program?

Sub-Question 2b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade reading comprehension scores as measured by the Iowa Test of Basic Skills (ITBS) assessment after completing the required CE+CWPT program?

Sub-Question 2c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade writing scores as measured by the Fall Writing Assessment District Scored (FWADS) assessment after completing the required CE+CWPT program?

Research Sub-Questions #2a, 2b, and 2c were analyzed using dependent t tests to examine the significance of the difference between students’ beginning 5th-grade reading fluency scores compared to ending 5th-grade reading fluency scores after completing the required CE+CWPT program,
students’ beginning 5th-grade reading comprehension scores compared to ending 5th-grade reading comprehension scores after completing the required CE+CWPT program, and students’ beginning 5th-grade writing scores compared to ending 5th-grade writing scores after completing the required CE+CWPT program. 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 were displayed on tables.

Overarching Posttest-Posttest Achievement Research Question #3: Did students determined to be non-proficient on one or two reading fluency or reading comprehension or writing outcome assessments compared to students determined to be non-proficient on three reading fluency or reading comprehension or writing outcome assessments have congruent or different ending 5th-grade scores following participation in a required school-year long CE+CWPT program.

Sub-Question 3a. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade reading fluency scores as measured by
the Dynamic Indicators of Basic Early Literacy (DIBEL) assessment after completing the required CE+CWPT program?

Sub-Question 3b. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade reading comprehension scores as measured by the Iowa Test of Basic Skills (ITBS) assessment after completing the required CE+CWPT program?

Sub-Question 3c. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade Fall Writing Assessment District Scored (FWADS) assessment after completing the required CE+CWPT program?

Research Sub-Questions #3a, 3b, and 3c were analyzed using independent t tests to examine the significance of the difference between students with one or two areas of non-proficiency ending 5th-grade compared to students with three areas of non-proficiency ending 5th-grade DIBELS, ITBS, and WASS 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 were displayed on tables. The following research question was used to analyze student participation in the CE+CWPT program measuring behavior outcomes.

Overarching Pretest-Posttest Behavior Research Question # 4: Did students determined to be non-proficient on one or two beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade tardy, absence, and office referral frequency totals using data from the School Information Management System (SIMS) following participation in a required school-year long CE+CWPT program.

Sub-Question 4a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 4b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 4c. Was there a significant difference between students’ beginning 5th-grade compared
Research Sub-Questions #4a, 4b, and 4c utilized a chi-square test of significance with Yates' correction applied to compare observed verses expected percentages to examine the significance of the difference between students' beginning 5th-grade tardy frequencies compared to ending 5th-grade tardy frequencies after completing the required CE+CWPT program, students' beginning 5th-grade absence frequencies compared to ending 5th-grade absence frequencies after completing the required CE+CWPT program, and students' beginning 5th-grade office referral frequencies compared to ending 5th-grade office referral frequencies after completing the required CE+CWPT program. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages are displayed in tables.

Overarching Pretest-Posttest Behavior Research Question # 5: Did students determined to be non-proficient on three beginning 5th-grade reading fluency or reading comprehension or writing outcome assessments lose, maintain, or improve their beginning 5th-grade compared to ending 5th-grade tardy, absence, and office referral
frequency totals using data from the School Information Management System (SIMS) following participation in a required school-year long CE+CWPT program.

Sub-Question 5a. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 5b. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 5c. Was there a significant difference between students’ beginning 5th-grade compared to ending 5th-grade office referral frequencies as measured by the SIMS after completing the required CE+CWPT program?

Research Sub-Questions #5a, 5b, and 5c utilized a chi-square test of significance with Yates' correction applied to compare observed verses expected percentages to examine the significance of the difference between students’ beginning 5th-grade tardy frequencies compared to ending 5th-grade tardy frequencies after completing the required CE+CWPT program, students’ beginning 5th-grade absence frequencies compared to ending 5th-grade absence frequencies after completing the required CE+CWPT program,
and students’ beginning 5th-grade office referral frequencies compared to ending 5th-grade office referral frequencies after completing the required CE+CWPT program. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for Type 1 errors. Frequencies and percentages are displayed in tables.

Overarching Posttest-Posttest Behavior Research

Question # 6: Did students determined to be non-proficient on one or two reading fluency or reading comprehension or writing outcome assessments compared to students determined to be non-proficient on three reading fluency or reading comprehension or writing outcome assessments have congruent or different ending 5th-grade behavior outcomes following participation in a required school-year long CE+CWPT program.

Sub-Question 6a. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade tardy frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 6b. Was there a significant difference between students with one or two areas of
measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade absence frequencies as measured by the SIMS after completing the required CE+CWPT program?

Sub-Question 6c. Was there a significant difference between students with one or two areas of measured non-proficiency compared to students with three areas of measured non-proficiency ending 5th-grade compared to ending 5th-grade office referral frequencies as measured by the SIMS after completing the required CE+CWPT program?

Research Sub-Questions #6a, 6b, and 6c utilized a chi-square test of significance with Yates' correction applied to compare observed verses expected percentages to examine the significance of the difference between students’ beginning 5th-grade tardy frequencies compared to ending 5th-grade tardy frequencies after completing the required CE+CWPT program, students’ beginning 5th-grade absence frequencies compared to ending 5th-grade absence frequencies after completing the required CE+CWPT program, and students’ beginning 5th-grade office referral frequencies compared to ending 5th-grade office referral frequencies after completing the required CE+CWPT program. Because multiple statistical tests were conducted, a one-tailed .01 alpha level was employed to help control for
Type 1 errors. Frequencies and percentages are displayed in tables.

Data collection procedures. All student achievement and behavioral data was retrospectively, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained. A naturally formed group of 22 students (14 in one arm and 8 in the second arm) was obtained to include achievement and behavior data. Non-coded numbers were used to display individual de-identified achievement and behavioral data. Aggregated group data, descriptive statistics, and parametric statistical analysis was utilized and reported as 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 anyway with the normal educational practices of the public school and will not involve coercion or discomfort of any kind. 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 kept in locked file cabinets. No individual identifiers were attached to the data.
Institutional Review Board (IRB) for the Protection of Human Subjects approval category. The exemption categories for the study were provided under 45CFR46.101(b) categories 1 and 4. The research was conducted using routinely collected archival data. A letter of support from the research school district is located in Appendix A. A letter of approval to conduct the research from the IRB is located in Appendix B.
CHAPTER FOUR
Results

Purpose of the Study

The purpose of the study was to determine the effect of a required school year long Character Education and Class-Wide Peer Tutoring program (CE+CWPT) for students who scored at or below proficiency in one, two, or three of their reading fluency, reading comprehension, or writing assessments at the beginning of their 5th-grade school year.

The study analyzed achievement and behavior data of 5th-grade students determined to be non-proficient in one or two areas of literacy development who participated in a year-long CE+CWPT program compared to students determined to be non-proficient in three areas of literacy development who participated in a year-long CE+CWPT program. All study achievement data related to each of the dependent variables was retrospective, archival, and routinely collected school information. Permission from the appropriate school research personnel was obtained before data were collected and analyzed.

Research Question #1

Table 1 displays gender, lunch program, and ethnicity information of individual 5th-grade students with one or
two areas of measured non-proficiency participating in the required CE+CWPT program. Table 2 displays gender, lunch program, and ethnicity information of individual 5th-grade students with three areas of measured non-proficiency participating in the required CE+CWPT program. Individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program DIBLES reading fluency scores are displayed in Table 3. Individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program ITBS reading comprehension scores are displayed in Table 4. Table 5 displays individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program FWADS writing rubric scores. Individual 5th-grade students with three areas of measured non-proficiency participating in the required CE+CWPT program DIBLES reading fluency scores are found in Table 6 their individual ITBS reading comprehension scores are found in Table 7 while their individual FWADS writing rubric scores are displayed in Table 8.

The first hypothesis comparing students’ with one or two areas of measured non-proficiency dependent t test pretest-posttest DIBLES reading fluency, ITBS reading
comprehension, and FWADS writing score results were displayed in Table 9. As seen in Table 9 the null hypothesis was rejected for one achievement DIBLES reading fluency and was not rejected for two achievement areas reading comprehension and writing. The pretest reading fluency score ($M = 90.79$, $SD = 27.59$) compared to the posttest reading fluency score ($M = 104.71$, $SD = 24.85$) was statistically significantly different, $t(13) = 5.28$, $p = 0.0001$ (one-tailed), $d = .53$. The pretest reading comprehension score ($M = 42.86$, $SD = 9.36$) compared to the posttest reading comprehension score ($M = 41.79$, $SD = 13.29$) was not statistically significantly different, $t(13) = -0.32$, $p < .38$ (one-tailed), $d = .09$. The pretest writing score ($M = 4.86$, $SD = 0.95$) compared to the posttest writing score ($M = 5.86$, $SD = 1.66$), was not statistically significantly different, $t(13) = 1.80$, $p < .05$ (one-tailed), $d = .77$ because the study alpha level was set for statistical significance at the $p < .01$ level of confidence.

Overall, pretest-posttest results indicated that 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program did significantly improve their reading fluency scores but did not significantly improve their reading comprehension
and writing scores. Students’ mean posttest reading fluency score is at the cut score for proficiency measured at 104. Comparing students’ NRT NCE score in reading comprehension with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading comprehension mean score of 41.79 is congruent with a Standard Score of 94, a Percentile Rank of 34, a Stanine Score of 4, and an achievement qualitative description of Average. The FWADS posttest mean score of 5.86 indicates proficient writing performance and a score that is measured above the midpoint on the 1 (lowest performance) to 8 (highest performance) rubric scoring scale.

Research Question #2

The second hypothesis comparing students’ with three areas of measured non-proficiency dependent t test pretest-posttest DIBLES reading fluency, ITBS reading comprehension, and FWADS writing score results were displayed in Table 10. As seen in Table 10 the null hypothesis was rejected for two achievement areas DIBLES reading fluency and writing and was not rejected for one achievement area, reading comprehension. The pretest reading fluency score ($M = 83.75, SD = 16.02$) compared to the posttest reading fluency score ($M = 102.63, SD = 22.17$) was statistically significantly different, $t(13) = 4.96$, $p$
= 0.001 (one-tailed), $d = .98$. The pretest reading comprehension score ($M = 35.75, SD = 10.17$) compared to the posttest reading comprehension score ($M = 36.38, SD = 15.78$) was not statistically significantly different, $t(13) = 0.09, p < .47$ (one-tailed), $d = .04$. The pretest writing score ($M = 3.63, SD = 0.52$) compared to the posttest writing score ($M = 5.50, SD = 1.41$), was statistically significantly different, $t(13) = 3.64, p < .004$ (one-tailed), $d = 1.94$.

Overall, pretest-posttest results indicated that 5th-grade students with three areas of measured non-proficiency participating in the required CE+CWPT program did significantly improve their reading fluency scores and did significantly improve their writing scores but did not significantly improve their reading comprehension scores. However, despite a significant pretest compared to posttest gain students’ mean posttest reading fluency score (102.63) falls below the cut score for proficiency measured at 104. Comparing students' NRT NCE score in reading comprehension with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading comprehension mean score of 36.38 is congruent with a Standard Score of 90, a Percentile Rank of 25, a Stanine Score of 4, and an achievement qualitative description of Average. The FWADS
posttest mean score of 5.50 indicates proficient writing performance and a score that is measured above the mid-point on the 1 (lowest performance) to 8 (highest performance) rubric scoring scale.

Research Question #3

The third hypothesis was tested using the independent t test. A comparison of 5th-grade students participating in the required CE+CWPT program posttest compared to posttest reading fluency, reading comprehension, and writing scores results were displayed in Table 11. As seen in Table 11 the null hypothesis was not rejected for reading fluency, reading comprehension, and writing posttest compared to posttest scores. The posttest reading fluency score ($M = 104.71, SD = 24.85$) for students with one or two areas of measured non-proficiency compared to the posttest reading fluency score ($M = 102.63, SD = 22.17$) for students with three areas of measured non-proficiency was not statistically significantly different, $t(20) = 0.20, p = 0.42$ (one-tailed), $d = .08$. The posttest reading comprehension score ($M = 41.79, SD = 13.29$) for students with one or two areas of measured non-proficiency compared to the posttest reading comprehension score ($M = 36.38, SD = 15.78$) for students with three areas of measured non-proficiency was not statistically significantly different,
The posttest writing score ($M = 5.86, SD = 1.66$) for students with one or two areas of measured non-proficiency compared to the posttest writing score ($M = 5.50, SD = 1.41$) for students with three areas of measured non-proficiency was not statistically significantly different, $t(20) = 0.51, p = 0.31$ (one-tailed), $d = .23$.

Overall, these findings indicate that while students with three areas of measured non-proficiency had lower mean scores on the achievement measures for reading fluency, reading comprehension, and writing compared to students with one or two areas of measured non-proficiency no posttest comparisons were found to be statistically significantly different. Students with one or two areas of measured non-proficiency had a mean reading fluency score at the cut score required for proficiency while students with three areas of measured non-proficiency had a mean reading fluency score just below the cut score required for proficiency. Students in both groups had mean posttest scores in reading comprehension and writing that fell within the average range.

Research Question #4

Table 12 displays individual 5th-grade students with one or two areas of measured non-proficiency participating
in the required CE+CWPT program tardy frequencies. Table 13 displays individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program absence frequencies. Individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program office referral frequencies are displayed in Table 14.

Table 15 displays individual 5th-grade students with three areas of measured non-proficiency participating in the required CE+CWPT program tardy frequencies. Table 16 displays individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program absence frequencies. Individual 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program office referral frequencies are displayed in Table 17.

Table 18 displays 5th-grade students with one or two areas of measured non-proficiency pretest-posttest tardy, absences, and office referral analysis. A comparison of overall student tardy frequencies and percentages is found in Table 18. The fourth hypothesis was tested using chi-square ($X^2$). The result of $X^2$ displayed in Table 18 was not statistically significantly different ($X^2(1, N = 28) = 3.36, p = < .10$) so we do not reject the null hypothesis of no
difference or congruence for student’s pretest compared to
posttest tardy frequencies and percentages. Inspecting our
frequency and percent findings in Table 18 we find that the
percentage of zero tardies improved from pretest (43) to
posttest (57) with a corresponding decrease (57% to 43%) in
one or more tardies. The observed levels of tardy
frequencies are consistent with reported elementary school
behavioral issues. Furthermore, tardies are at least
anecdotally usually related to family and home morning
logistical structure.

A comparison of overall student absence frequencies
and percentages is found in Table 18. The result of $X^2$
displayed in Table 18 was not statistically significantly
different ($X^2(1, N = 28) = 0.07, p = < .80$) so we do not
reject the null hypothesis of no difference or congruence
for student’s pretest compared to posttest absence
frequencies and percentages. Inspecting our frequency and
percent findings in Table 18 we find that the percentage of
zero absences remained the same from pretest (7) to
posttest (7) with corresponding equipoise (93% to 93%) in
one or more absences. The observed levels of absence
frequencies are consistent with reported elementary school
behavioral issues. Most absences at the elementary school
level are for student illness.
A comparison of overall student office referral frequencies and percentages is found in Table 18. The result of $X^2$ displayed in Table 18 was statistically significantly different ($X^2(1, N = 28) = 10.12, p = < .01$) so we do reject the null hypothesis of no difference or congruence for student’s pretest compared to posttest office referral frequencies and percentages. Inspecting our frequency and percent findings in Table 18 we find that the percentage of zero office referrals improved from pretest (57) to posttest (79) with a corresponding decrease (43% to 21%) for one or more office referrals. The observed levels of absence frequencies are consistent with reported elementary school behavioral issues. While not directly part of the study, the majority of the reported office referrals were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #5

Table 19 displays 5th-grade students with three areas of measured non-proficiency pretest-posttest tardy, absences, and office referral analysis. A comparison of overall student tardy frequencies and percentages is found in Table 19. The result of $X^2$ displayed in Table 19 was statistically significantly different ($X^2(1, N = 28) = 12.28, p = < .001$) so we do reject the null hypothesis of
no difference or congruence for student’s pretest compared to posttest tardy frequencies and percentages. Inspecting our frequency and percent findings in Table 19 we find that the percentage of zero tardies improved from pretest (25) to posttest (50) with a corresponding decrease (75% to 50%) for one or more tardies. The observed levels of tardy frequencies are consistent with reported elementary school behavioral issues. Furthermore, tardies are at least anecdotally related to parent, family, and home morning logistical structure.

A comparison of overall student absence frequencies and percentages is found in Table 19. The result of $X^2$ displayed in Table 19 was statistically significantly different ($X^2(1, N = 28) = 26.32, p = < .001$) so we do reject the null hypothesis of no difference or congruence for student’s pretest compared to posttest tardy frequencies and percentages. Inspecting our frequency and percent findings in Table 19 we find that the percentage of zero absences improved from pretest (0) to posttest (25) with a corresponding decrease (100% to 75%) for one or more absences. The observed levels of absence frequencies are consistent with reported elementary school behavioral issues. Most absences at the elementary school level are for student illness.
A comparison of overall student office referral frequencies and percentages is found in Table 19. The result of $X^2$ displayed in Table 19 was statistically significantly different ($X^2(1, N = 28) = 42.96, p = < .001$) so we reject the null hypothesis of no difference or congruence for student’s pretest compared to posttest office referral frequencies and percentages. Inspecting our frequency and percent findings in Table 19 we find that the percentage of zero office referrals improved from pretest (63) to posttest (100) with a corresponding decrease (37% to 0%) for one or more office referrals. The observed levels of office referral frequencies are consistent with reported elementary school behavioral issues. While not directly part of the study, the majority of the reported office referrals were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #6

A comparison of 5th-grade students with one or two areas of measured non-proficiency posttest tardy percentages compared to 5th-grade students with three areas of measured non-proficiency posttest tardy percentages after completing a year-long CE+CWPT program is found in Table 20. The sixth hypothesis was tested using chi-square ($X^2$). The result of $X^2$ displayed in Table 20 was not
statistically significantly different \(X^2(1, N = 22) = .70, p = < .30\) so we do not reject the null hypothesis of no difference or congruence for students' tardy frequency and percentage levels. Inspecting our frequency and percent findings in Table 20 we find that the number of students with one or two areas of non-proficiency reporting zero tardies (8, 57%) was greater than the totals reported by students with three areas of non-proficiency reporting zero tardies (4, 50%). Students with one or two areas of non-proficiency reporting one or more tardies (43%) was less than the totals reported by students with three areas of non-proficiency reporting one or more tardies (50%).

A comparison of 5th-grade students with one or two areas of measured non-proficiency posttest absence percentages compared to 5th-grade students with three areas of measured non-proficiency posttest absence percentages after completing a year long CE+CWPT program is found in Table 21. The sixth hypothesis was tested using chi-square \(X^2\). The result of \(X^2\) displayed in Table 21 was statistically significantly different \(X^2(1, N = 22) = 43.12, p = < .001\) so we reject the null hypothesis of no difference or congruence for students' absence frequency and percentage levels. Inspecting our frequency and percent findings in Table 21 we find that the number of students
with one or two areas of non-proficiency reporting zero absences (1, 7%) was less than the totals reported by students with three areas of non-proficiency reporting zero absences (2, 25%). Students with one or two areas of non-proficiency reporting one or more absences (93%) was less than the totals reported by students with three areas of non-proficiency reporting one or more absences (75%).

A comparison of 5th-grade students with one or two areas of measured non-proficiency posttest office referral percentages compared to 5th-grade students with three areas of measured non-proficiency posttest office referral percentages after completing a yearlong CE+CWPT program is found in Table 22. The sixth hypothesis was tested using chi-square ($X^2$). The result of $X^2$ displayed in Table 22 was statistically significantly different ($X^2(1, N = 22) = 17.10, p < .001$) so we reject the null hypothesis of no difference or congruence for students' office referral frequency and percentage levels. Inspecting our frequency and percent findings in Table 22 we find that the number of students with one or two areas of non-proficiency reporting zero office referrals (79%) was less than the totals reported by students with three areas of non-proficiency reporting zero office referrals (100%). Students with one or two areas of non-proficiency reporting one or more
office referrals (21%) was greater than the totals reported by students with three areas of non-proficiency reporting one or more office referrals (0%). Overall, the posttest-posttest behavioral comparisons support improvement primarily in the area of office referral frequencies and percents for both groups.
Table 1

Gender, Lunch Program, and Ethnicity Information of Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program

<table>
<thead>
<tr>
<th>Student Number</th>
<th>Gender</th>
<th>Lunch Program</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>2.</td>
<td>Male</td>
<td>Yes</td>
<td>Hispanic</td>
</tr>
<tr>
<td>3.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>4.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>5.</td>
<td>Female</td>
<td>Yes</td>
<td>Hispanic</td>
</tr>
<tr>
<td>6.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>7.</td>
<td>Female</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>8.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>9.</td>
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<td>Yes</td>
<td>Black</td>
</tr>
<tr>
<td>10.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>11.</td>
<td>Female</td>
<td>Yes</td>
<td>Hispanic</td>
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<tr>
<td>12.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>13.</td>
<td>Female</td>
<td>No</td>
<td>Hispanic</td>
</tr>
<tr>
<td>14.</td>
<td>Male</td>
<td>Yes</td>
<td>White</td>
</tr>
</tbody>
</table>
Table 2

Gender, Lunch Program, and Ethnicity Information of Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program

<table>
<thead>
<tr>
<th>Student Number</th>
<th>Gender</th>
<th>Lunch Program</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Female</td>
<td>Yes</td>
<td>Indian</td>
</tr>
<tr>
<td>2.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
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<td>3.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>4.</td>
<td>Female</td>
<td>Yes</td>
<td>White</td>
</tr>
<tr>
<td>5.</td>
<td>Male</td>
<td>No</td>
<td>White</td>
</tr>
<tr>
<td>6.</td>
<td>Female</td>
<td>Yes</td>
<td>Hispanic</td>
</tr>
<tr>
<td>7.</td>
<td>Female</td>
<td>Yes</td>
<td>Hispanic</td>
</tr>
<tr>
<td>8.</td>
<td>Female</td>
<td>Yes</td>
<td>Black</td>
</tr>
</tbody>
</table>
Table 3

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program DIBLES Reading Fluency Scores*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Words Read Per Minute</th>
<th>Posttest Words Read Per Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>94</td>
<td>119</td>
</tr>
<tr>
<td>2</td>
<td>135</td>
<td>132</td>
</tr>
<tr>
<td>3</td>
<td>91</td>
<td>108</td>
</tr>
<tr>
<td>4</td>
<td>56</td>
<td>64</td>
</tr>
<tr>
<td>5</td>
<td>107</td>
<td>122</td>
</tr>
<tr>
<td>6</td>
<td>79</td>
<td>112</td>
</tr>
<tr>
<td>7</td>
<td>103</td>
<td>108</td>
</tr>
<tr>
<td>8</td>
<td>71</td>
<td>86</td>
</tr>
<tr>
<td>9</td>
<td>73</td>
<td>80</td>
</tr>
<tr>
<td>10</td>
<td>87</td>
<td>99</td>
</tr>
<tr>
<td>11</td>
<td>94</td>
<td>119</td>
</tr>
<tr>
<td>12</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>13</td>
<td>145</td>
<td>146</td>
</tr>
<tr>
<td>14</td>
<td>95</td>
<td>112</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 4

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program ITBS Reading Comprehension Scores*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Normal Curve Equivalents</th>
<th>Posttest Normal Curve Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>54</td>
<td>43</td>
</tr>
<tr>
<td>2.</td>
<td>45</td>
<td>34</td>
</tr>
<tr>
<td>3.</td>
<td>40</td>
<td>63</td>
</tr>
<tr>
<td>4.</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>5.</td>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>6.</td>
<td>45</td>
<td>38</td>
</tr>
<tr>
<td>7.</td>
<td>61</td>
<td>40</td>
</tr>
<tr>
<td>8.</td>
<td>54</td>
<td>66</td>
</tr>
<tr>
<td>9.</td>
<td>38</td>
<td>34</td>
</tr>
<tr>
<td>10.</td>
<td>40</td>
<td>51</td>
</tr>
<tr>
<td>11.</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>12.</td>
<td>43</td>
<td>36</td>
</tr>
<tr>
<td>13.</td>
<td>40</td>
<td>55</td>
</tr>
<tr>
<td>14.</td>
<td>43</td>
<td>45</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 5

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program FWADS Writing Rubric Scores*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Writing Pretest Rubric Scores</th>
<th>Writing Posttest Rubric Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>4.</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>7.</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>14.</td>
<td>5</td>
<td>8</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 6

*Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program DIBLES Reading Fluency Scores*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Words Read Per Minute</th>
<th>Posttest Words Read Per Minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>67</td>
<td>76</td>
</tr>
<tr>
<td>2.</td>
<td>56</td>
<td>61</td>
</tr>
<tr>
<td>3.</td>
<td>96</td>
<td>111</td>
</tr>
<tr>
<td>4.</td>
<td>85</td>
<td>103</td>
</tr>
<tr>
<td>5.</td>
<td>93</td>
<td>114</td>
</tr>
<tr>
<td>6.</td>
<td>76</td>
<td>117</td>
</tr>
<tr>
<td>7.</td>
<td>96</td>
<td>116</td>
</tr>
<tr>
<td>8.</td>
<td>101</td>
<td>123</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 7

*Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program ITBS Reading Comprehension Scores*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Normal Curve Equivalents</th>
<th>Posttest Normal Curve Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>2.</td>
<td>31</td>
<td>58</td>
</tr>
<tr>
<td>3.</td>
<td>43</td>
<td>11</td>
</tr>
<tr>
<td>4.</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>5.</td>
<td>43</td>
<td>51</td>
</tr>
<tr>
<td>6.</td>
<td>26</td>
<td>43</td>
</tr>
<tr>
<td>7.</td>
<td>38</td>
<td>34</td>
</tr>
<tr>
<td>8.</td>
<td>49</td>
<td>27</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 8

Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program FWADS Writing Rubric Scores

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Writing Pretest Rubric</th>
<th>Writing Posttest Rubric</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>8.</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 9

Fifth-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Pretest Compared to Posttest Reading Fluency, Reading Comprehension, and Writing Scores

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest Scores</th>
<th>Posttest Scores</th>
<th>Effect Size</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>DIBLES</td>
<td>90.79 (27.59)</td>
<td>104.71 (24.85)</td>
<td>0.53</td>
<td>5.28</td>
<td>.0001**</td>
</tr>
<tr>
<td>ITBS</td>
<td>42.86 (9.36)</td>
<td>41.79 (13.29)</td>
<td>0.09</td>
<td>-0.32</td>
<td>.38 ns</td>
</tr>
<tr>
<td>FWADS</td>
<td>4.86 (0.95)</td>
<td>5.86 (1.66)</td>
<td>0.77</td>
<td>1.80</td>
<td>.05*</td>
</tr>
</tbody>
</table>

ns not significant; *p < .05; **p < .0001.
Table 10

*Fifth-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Pretest Compared to Posttest Reading Fluency, Reading Comprehension, and Writing Scores*

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest Scores</th>
<th>Posttest Scores</th>
<th>Effect Size</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pretest Mean</td>
<td>Posttest Mean</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIBLES</td>
<td>83.75 (16.02)</td>
<td>102.63 (22.17)</td>
<td>0.98</td>
<td>4.96</td>
<td>.001***</td>
</tr>
<tr>
<td>ITBS</td>
<td>35.75 (10.17)</td>
<td>36.38 (15.78)</td>
<td>0.04</td>
<td>0.09</td>
<td>.47 ns</td>
</tr>
<tr>
<td>FWADS</td>
<td>3.63 (0.52)</td>
<td>5.50 (1.41)</td>
<td>1.94</td>
<td>3.64</td>
<td>.004**</td>
</tr>
</tbody>
</table>

*ns not significant; **p < .004; ***p < .001.*
Table 11

Comparison of 5th-Grade Students Participating in the Required CE+CWPT Program Posttest Compared to Posttest Reading Fluency, Reading Comprehension, and Writing Scores

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Mean</th>
<th>SD</th>
<th>Mean</th>
<th>SD</th>
<th>Effect Size</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIBLES</td>
<td>104.71</td>
<td>(24.85)</td>
<td>102.63</td>
<td>(22.17)</td>
<td>0.08</td>
<td>0.20</td>
<td>.42 ns</td>
</tr>
<tr>
<td>ITBS</td>
<td>41.79</td>
<td>(13.29)</td>
<td>36.38</td>
<td>(15.78)</td>
<td>0.37</td>
<td>0.86</td>
<td>.20 ns</td>
</tr>
<tr>
<td>FWADS</td>
<td>5.86</td>
<td>(1.66)</td>
<td>5.50</td>
<td>(1.41)</td>
<td>0.23</td>
<td>0.51</td>
<td>.31 ns</td>
</tr>
</tbody>
</table>

.ns not significant.
Table 12

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Tardy Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Tardy Count</th>
<th>Tardy Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9.</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>10.</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>12.</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>14.</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 13

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Absence Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Absence Count</th>
<th>Posttest Absence Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4.5</td>
<td>9.0</td>
</tr>
<tr>
<td>2.</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>4.</td>
<td>1.0</td>
<td>2.0</td>
</tr>
<tr>
<td>5.</td>
<td>2.0</td>
<td>9.0</td>
</tr>
<tr>
<td>6.</td>
<td>3.0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>8.</td>
<td>2.5</td>
<td>1.5</td>
</tr>
<tr>
<td>9.</td>
<td>13.0</td>
<td>6.0</td>
</tr>
<tr>
<td>10.</td>
<td>2.5</td>
<td>5.5</td>
</tr>
<tr>
<td>11.</td>
<td>8.5</td>
<td>19.0</td>
</tr>
<tr>
<td>12.</td>
<td>1.0</td>
<td>4.0</td>
</tr>
<tr>
<td>13.</td>
<td>1.0</td>
<td>5.0</td>
</tr>
<tr>
<td>14.</td>
<td>12.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 14

*Individual 5th-Grade Students with One or Two Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Office Referral Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Referral Count</th>
<th>Posttest Referral Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>8.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>10.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12.</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>14.</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 1.
Table 15

*Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Tardy Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Tardy Count</th>
<th>Posttest Tardy Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>19</td>
<td>18</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 16

*Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Absence Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Absence Count</th>
<th>Posttest Absence Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>13.5</td>
<td>11.0</td>
</tr>
<tr>
<td>2.</td>
<td>2.0</td>
<td>0</td>
</tr>
<tr>
<td>3.</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>7.5</td>
<td>5.0</td>
</tr>
<tr>
<td>5.</td>
<td>9.5</td>
<td>10.0</td>
</tr>
<tr>
<td>6.</td>
<td>1.0</td>
<td>2.5</td>
</tr>
<tr>
<td>7.</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>8.</td>
<td>10.5</td>
<td>3.5</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 17

*Individual 5th-Grade Students with Three Areas of Measured Non-Proficiency Participating in the Required CE+CWPT Program Office Referral Frequencies*

<table>
<thead>
<tr>
<th>Students (a)</th>
<th>Pretest Referral Count</th>
<th>Posttest Referral Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>6.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8.</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

(a) Note: Numbers correspond with Table 2.
Table 18

Fifth-Grade Students with One or Two Areas of Measured Non-Proficiency Pretest-Posttest Tardy, Absences, and Office Referral Analysis

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest</th>
<th>Posttest</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>$%$</td>
<td>$N$</td>
</tr>
<tr>
<td>Zero Tardies</td>
<td>6 (43)</td>
<td>8 (57)</td>
<td></td>
</tr>
<tr>
<td>One or More Tardies</td>
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<td>6 (43)</td>
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</tr>
<tr>
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<td>14 (100)</td>
<td>14 (100)</td>
<td>3.36 ns</td>
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<table>
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<th>$X^2$</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$N$</td>
<td>$%$</td>
<td>$N$</td>
</tr>
<tr>
<td>Zero Absences</td>
<td>1 (7)</td>
<td>1 (7)</td>
<td></td>
</tr>
<tr>
<td>One or More Absences</td>
<td>13 (93)</td>
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<tr>
<td>Totals</td>
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<td>14 (100)</td>
<td>0.07 ns</td>
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<th>Posttest</th>
<th>$X^2$</th>
</tr>
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<tr>
<td></td>
<td>$N$</td>
<td>$%$</td>
<td>$N$</td>
</tr>
<tr>
<td>Zero Office Referrals</td>
<td>8 (57)</td>
<td>11 (79)</td>
<td></td>
</tr>
<tr>
<td>One or More Referrals</td>
<td>6 (43)</td>
<td>3 (21)</td>
<td></td>
</tr>
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<td>Totals</td>
<td>14 (100)</td>
<td>14 (100)</td>
<td>10.12**</td>
</tr>
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</table>

(a) Yates' correction applied; ns not significant; **$p < .01$. 
Table 19
Fifth-Grade Students with Three Areas of Measured Non-Proficiency Tardy, Absences, and Office Referral Analysis

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest</th>
<th>Posttest</th>
<th>X²</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Zero Tardies</td>
<td>2</td>
<td>(25)</td>
<td>4</td>
</tr>
<tr>
<td>One or More Tardies</td>
<td>6</td>
<td>(75)</td>
<td>4</td>
</tr>
<tr>
<td>Totals</td>
<td>8</td>
<td>(100)</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest</th>
<th>Posttest</th>
<th>X²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Zero Absences</td>
<td>0</td>
<td>(0)</td>
<td>2</td>
</tr>
<tr>
<td>One or More Absences</td>
<td>8</td>
<td>(100)</td>
<td>6</td>
</tr>
<tr>
<td>Totals</td>
<td>8</td>
<td>(100)</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Pretest</th>
<th>Posttest</th>
<th>X²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Zero Office Referrals</td>
<td>5</td>
<td>(63)</td>
<td>8</td>
</tr>
<tr>
<td>One or More Referrals</td>
<td>3</td>
<td>(37)</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>8</td>
<td>(100)</td>
<td>8</td>
</tr>
</tbody>
</table>

(a) Yates' correction applied; **p < .001.
Table 20

**Fifth-Grade Students with One or Two Areas of Measured Non-Proficiency Posttest Tardy Percentages Compared to 5th-Grade Students with Three Areas of Measured Non-Proficiency Posttest Tardy Percentages**

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>One or Two Areas of Non-Proficiency Posttest</th>
<th>Three Areas of Non-Proficiency Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Zero Tardies</td>
<td>8 (57)</td>
<td>4 (50)</td>
</tr>
<tr>
<td>One or More Tardies</td>
<td>6 (43)</td>
<td>4 (50)</td>
</tr>
<tr>
<td>Totals</td>
<td>14 (100)</td>
<td>8 (100)</td>
</tr>
</tbody>
</table>

(a) Yates' correction applied; *ns* not significant.
Table 21

Fifth-Grade Students with One or Two Areas of Measured Non-Proficiency Posttest Absence Percentages Compared to 5th-Grade Students with Three Areas of Measured Non-Proficiency Posttest Absence Percentages

<table>
<thead>
<tr>
<th>Absences (a)</th>
<th>One or Two Areas of Non-Proficiency Posttest</th>
<th>Three Areas of Non-Proficiency Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Data</td>
<td>(N)</td>
<td>(%)</td>
</tr>
<tr>
<td>Zero Absences</td>
<td>1</td>
<td>(7)</td>
</tr>
<tr>
<td>One or More Absences</td>
<td>13</td>
<td>(93)</td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>(100)</td>
</tr>
</tbody>
</table>

(a) Yates' correction applied; *\(p < .01\).
Table 22
Fifth-Grade Students with One or Two Areas of Measured Non-Proficiency Posttest Office Referrals Percentages Compared to 5th-Grade Students with Three Areas of Measured Non-Proficiency Posttest Office Referrals Percentages

<table>
<thead>
<tr>
<th>Source of Data</th>
<th>Office Referrals (a)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One or Two Areas of Non-Proficiency Posttest</td>
<td>Three Areas of Non-Proficiency Posttest</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Zero Office Referrals</td>
<td>11</td>
<td>(79)</td>
<td>8</td>
</tr>
<tr>
<td>One or More Referrals</td>
<td>3</td>
<td>(21)</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>(100)</td>
<td>8</td>
</tr>
</tbody>
</table>

(a) Yates' correction applied; **p < .001.
CHAPTER FIVE

Conclusions and Discussion

The purpose of the study was to determine the effect of a required school year long Character Education and Class-Wide Peer Tutoring program (CE+CWPT) for students who scored at or below proficiency in one, two, or three of their reading fluency, reading comprehension, or writing assessments at the beginning of their 5th-grade school year. The study analyzed student performance on criterion-referenced tests, performance on norm-referenced tests, behavioral referrals, and attendance to determine what relationship, if any, exists between levels of achievement amongst students participating in required CE+CWPT.

All study achievement data related to each of these dependent variables was 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.

Conclusions

The following conclusions may be drawn from the study and from each of the six research questions.
Research Question #1

Research Question #1 pretest-posttest results indicated that 5th-grade students with one or two areas of measured non-proficiency participating in the required CE+CWPT program did significantly improve their reading fluency scores but did not significantly improve their reading comprehension and writing scores. Students’ mean posttest reading fluency score was measured at the cut score for proficiency (104). Comparing students' NRT NCE score in reading comprehension with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading comprehension mean score of 41.79 is congruent with a Standard Score of 94, a Percentile Rank of 34, a Stanine Score of 4, and an achievement qualitative description of Average. The FWADS posttest mean score of 5.86 indicates proficient writing performance and a score that is measured above the mid-point (4) on the 1 (lowest performance) to 8 (highest performance) rubric scoring scale.

Research Question #2

Research Question #2 pretest-posttest results indicated that 5th-grade students with three areas of measured non-proficiency participating in the required CE+CWPT program did significantly improve their reading...
fluency scores and did significantly improve their writing scores but did not significantly improve their reading comprehension scores. However, despite a significant pretest compared to posttest gain students’ mean posttest reading fluency score (102.63) falls below the cut score for proficiency (104). Comparing students' NRT NCE score in reading comprehension with derived achievement scores puts their performance in perspective. An NRT NCE posttest reading comprehension mean score of 36.38 is congruent with a Standard Score of 90, a Percentile Rank of 25, a Stanine Score of 4, and an achievement qualitative description of Average. The FWADS posttest mean score of 5.50 indicates proficient writing performance and a score that is measured above the mid-point (4) on the 1 (lowest performance) to 8 (highest performance) rubric scoring scale.

Research Question #3

Research question #3 posttest-posttest results indicated that while students with three areas of measured non-proficiency had lower mean scores on the achievement measures for reading fluency, reading comprehension, and writing compared to students with one or two areas of measured non-proficiency no posttest comparisons were found to be statistically significantly different. Students with one or two areas of measured non-proficiency had a mean
reading fluency score at the cut score required for proficiency while students with three areas of measured non-proficiency had a mean reading fluency score just below the cut score required for proficiency. Students in both groups had mean posttest scores in reading comprehension and writing that fell within the average range.

Research Question #4

Research Question #4 pretest-posttest results indicated that 5th-grade students with one or two areas of measured non-proficiency pretest-posttest percentage of zero tardies improved from pretest (43) to posttest (57) with a corresponding decrease (57% to 43%) in one or more tardies. The observed levels of tardy frequencies are consistent with reported elementary school behavioral issues. Furthermore, tardies are at least anecdotally usually related to family and home morning logistical structure.

A comparison of overall student percentage of zero absences remained the same from pretest (7) to posttest (7) with corresponding equipoise (93% to 93%) in one or more absences. The observed levels of absence frequencies are consistent with reported elementary school behavioral issues. Most absences at the elementary school level are for student illness.
A comparison of overall student percentage of zero office referrals improved from pretest (57) to posttest (79) with a corresponding decrease (43% to 21%) for one or more office referrals. The observed levels of absence frequencies are consistent with reported elementary school behavioral issues. While not directly part of the study, the majority of the reported office referrals were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #5

Research Question #5 pretest-posttest results indicated that 5th-grade students with three areas of measured non-proficiency pretest-posttest percentage of zero tardies improved from pretest (25) to posttest (50) with a corresponding decrease (75% to 50%) in one or more tardies. The observed levels of tardy frequencies are consistent with reported elementary school behavioral issues. Furthermore, tardies are at least anecdotally usually related to family and home morning logistical structure.

A comparison of overall student percentage of zero absences increased from pretest (0) to posttest (25) with relative equipoise (100% to 75%) in one or more absences. The observed levels of absence frequencies are consistent
with reported elementary school behavioral issues. Most absences at the elementary school level are for student illness.

A comparison of overall student percentage of zero office referrals improved from pretest (63) to posttest (100) with a corresponding decrease (37% to 0%) for one or more office referrals. The observed levels of office referral frequencies are consistent with reported elementary school behavioral issues. While not directly part of the study, the majority of the reported office referrals were, anecdotally, for nuisance behaviors and not serious offenses.

Research Question #6

Research Question #6 posttest-posttest results indicated that the number of students with one or two areas of non-proficiency reporting zero tardies (57%) was greater than the totals reported by students with three areas of non-proficiency reporting zero tardies (50%). Students with one or two areas of non-proficiency reporting one or more tardies (43%) was less than the totals reported by students with three areas of non-proficiency reporting one or more tardies (50%). Overall no statistically significant difference was observed between the two groups for tardy percentages.
A comparison of 5th-grade students with one or two areas of measured non-proficiency posttest absence percentages compared to 5th-grade students with three areas of measured non-proficiency posttest absence percentages we find that the number of students with one or two areas of non-proficiency reporting zero absences (7%) was less than the totals reported by students with three areas of non-proficiency reporting zero tardies (25%). Students with one or two areas of non-proficiency reporting one or more absences (93%) was greater than the totals reported by students with three areas of non-proficiency reporting one or more absences (75%). Overall a statistically significant difference was observed between the two groups for absence percentages.

A comparison of 5th-grade students with one or two areas of measured non-proficiency posttest office referral percentages compared to 5th-grade students with three areas of measured non-proficiency posttest office referral percentages we find that the number of students with one or two areas of non-proficiency reporting zero office referrals (79%) was less than the totals reported by students with three areas of non-proficiency reporting zero office referrals (100%). Students with one or two areas of non-proficiency reporting one or more office referrals
(21%) was greater than the totals reported by students with three areas of non-proficiency reporting one or more office referrals (0%). Overall a statistically significant difference was observed between the two groups for office referral percentages. Overall, the posttest-posttest behavioral comparisons support improvement primarily in the area of office referral frequencies and percents for both groups.

Discussion

Required tutoring verses student choice. The NCLB legislation (2002) has added a new dimension to the discussion about what happens when students do not learn. Students who have yet to attain the academic and social competencies required to succeed in school are caught in an academic gap. They face the possibility of being under-educated, under-employed, and under-prepared (Hock, Schumaker, & Deshler, 2001). Whereas the premise that all kids can learn is a relatively new concept in the history of education, NCLB has now shifted the premise to all kids will learn--or else. It is imperative that schools promote high levels of learning for every child entrusted to them, not because of legislation or fear of sanctions, but because they have a moral and ethical responsibility to do so.
Despite troubling national reading and writing results, the outcome of this study serves as a ray of hope for students and educators alike. As demonstrated in the results of the study, research has generally confirmed that tutoring is an effective way to meet the needs of struggling readers and writers, particularly in grades four and above (Elbaum et al., 2000). The decision to move beyond the question, *Do we believe all kids can learn*, to address the question, *What are we prepared to do as a school when they do not learn*, has the potential to produce powerful benefits as shown in the results of this study.

Following a year of participation in the required CE+CWPT program, 5th-grade students with one or two areas of measured non-proficiency demonstrated a significant pretest-posttest improvement on their reading fluency scores while 5th-grade students with three areas of measured non-proficiency demonstrated a significant pretest-posttest improvement on both their reading fluency and writing scores. These gains clearly demonstrate that the literacy instruction comprising the required CE+CWPT program was effectively delivered. The measured academic and behavioral growth of learners who participated in the program further demonstrate that students can no longer be invited to get extra help from tutors, they must be
required to do so. Failure is not an option (Blankstein, 2004).

Overcoming resistance to participation. An overall school focus on the credo, failure is not an option, reinforces the message that expectations are high, subsequently buttressing the belief that all students are expected to be successful in school. Such a philosophy also ensures that schools will do anything possible to overcome resistance to student participation in required tutoring programs. Typically, struggling learners do not seek help on their own (Minskoff, 2005), therefore, the insistence that schools initiate, schedule, and require additional support through tutoring initiatives is paramount. The goal of a mandatory tutoring program is to provide students with the skills, strategies, and disposition needed for them to complete their work and begin to experience academic success (Manderson, 2007). Not only do students receive short-term support through tutoring initiatives, but they also learn powerful strategies that help them perform independently in their classes (Hock et al., 2001). School systems must continue to work feverishly to overcome any type of resistance by effectively communicating to students and parents that the required tutoring is not a punishment, but rather an opportunity for the learner to obtain the
help they need to become more successful (Hock et al., 2001).

In this study the mandatory tutoring program was scheduled purposely during normal school hours. Creative scheduling formats, such as this, can be utilized for the sake of eliminating before and after school conflicts that may prevent students from receiving the extra help that they may need. The research school’s approach to scheduling required tutoring for those who needed it reinforced the reality that the tutoring program was indeed “required” and reaffirmed that attendance was not a choice of the student with parent consent. As a result of this effort, parents and students subsequently learned to respect and support the tutoring program, accepting it as an important enough concept that the school would make it part of the normal school day schedule. The harsh reality is that when considering the growing responsibilities of students in the home, it has become necessary that schools find times within the school day to provide struggling learners with the extra help that they may need to become successful.

It is crucial in planning tutoring activities that it is understood that many students are unable to come to school early or remain in school after normal hours to receive the additional help that they may need. In many
cases, this is due to parent work schedules and babysitting responsibilities—both reasons beyond a child’s control. However, many students simply don’t want to participate in the tutoring programs as they would rather do other things. Schools must continue to overcome such obstacles by providing tutoring to students during regular school day hours to ensure that those who need help get it. Such an approach not only demonstrates to parents and students how much the school really cares, but it also reinforces the belief that no student will be allowed to fail. Most importantly, this required assistance provides students with opportunities that helps them believe that they are capable of experiencing success, subsequently changing their outlook on the future.

Implications for program scale-up. Because 5th-grade students demonstrated significant pretest-posttest improvement in academic and behavioral outcomes, expanding the required CE+CWPT program throughout other elementary buildings should be considered. This program scale-up, and enactment of intervention whose value has already been established, must be discussed when considering ways to promote the social and academic growth of students who are struggling in school (Schneider & McDonald, 2007). The goal of scaling up educational innovations is to produce robust,
effective, and replicable outcomes, thereby providing learners with research-proven interventions that have been shown to positively impact student performance in school (Schneider & McDonald, 2007). While all of the study results did not point directly to a relationship between the intervention and student achievement, overall, the results clearly demonstrated that participating students benefited from the required program--and are now poised to maintain further success in school.
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APPENDIX A: School District Letter Authorizing Research
APPENDIX B: University of Nebraska Medical Center/University of Nebraska at Omaha Combined Institutional Review Board for the Protection of Human Subjects Study Approval Letter