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Jane Virginia Hale

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AN EXAMINATION OF READING AND MATHEMATIC ACHIEVEMENT
AMONG SECOND GRADE STUDENTS WHO HAVE RECEIVED INSTRUCTION
FROM EITHER TEACHERS WHO HAVE BEEN TRAINED IN CHOICE
THEORY/REALITY THERAPY METHODS OR TEACHERS WHO HAVE NOT
BEEN TRAINED

A Dissertation

Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By

Jane V. Hale

August 2011

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Jane V. Hale

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DUQUESNE UNIVERSITY
SCHOOL OF EDUCATION
Department of Counseling, Psychology and Special Education

Dissertation

Submitted in Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy (Ph.D.)

Executive Counselor Education and Supervision Program

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June 16, 2011

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ABSTRACT

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Jane V. Hale

August 2011

Dissertation Supervised by Joseph Maola, PhD.

The purpose of this study was to see if second grade students who were taught by teachers trained in choice theory/reality therapy (CT/RT) methods had higher achievement scores in mathematics/reading compared to students who were taught by teachers who were not trained. The American School Counselor Association (ASCA) National Model suggests that school counselors need to active in the systemic processes of the school to provide comprehensive services to a large number of students (ASCA, 2005). According to Hatch & Bowers (2002), the primary mission of school counselors is to support and encourage academic achievement. The intent of this study was to gain information about the effectiveness of the CT/RT training program through measuring student achievement scores. Interaction effects of gender were also examined.

This study was descriptive in nature and used retrospective data. The participants (N=83) consisted of second grade students who took the TerraNova, Multiple Assessments test in April 2008. An analysis of variance (ANOVA) was conducted using IBM SPSS 19 to measure the main effect of achievement in mathematics/reading and CT/RT training status of teachers. A separate ANOVA was utilized to measure the interaction effect of gender on mathematics/reading achievement and training status of teachers. No significance was found in both analyses. Based on existing research, there is a lot of support for using CT/RT methods in education to improve the social climate (Glasser, 2010), which ultimately has a positive effect on achievement (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1977; Haynes, Emmons, & Ben-Avie, 1997). Concurrent with other research studies on teacher trainings, lack of intensity often has an effect on the implementation of new learning to the classroom (Jacob & Lefgran, 2004). The teacher training program in this study was only six hours and did not offer follow-up trainings, or a collective plan to put new knowledge into practice. The findings are discussed related to current research, limitations, and recommendations for future studies.

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CHAPTER I

INTRODUCTION

Statement of the Problem

It is difficult to dispute the fact that measures of achievement are an integral component of the education system. Measurement of learning helps students, parents, and teachers to identify if a student is progressing and gaining knowledge. There are many ways student learning is measured such as school grades, content of projects, conduct reports, portfolios, curriculum-relevant tests, and standardized achievement tests (Joyce & Showers, 2002). Recently, the achievement measure that has received the most attention is the standardized achievement test.

The passing of the revised Elementary and Secondary Education Act, otherwise known as the No Child Left Behind (NCLB) Act of 2001 requires all public schools to administer a state-wide achievement test. Schools must meet Adequate Yearly Progress (AYP), by obtaining specific scores, or showing continued improved on the achievement tests or the schools will be required to take corrective measures. Each state is responsible for providing the standardized assessments (NCLB, 2001).

In Pennsylvania, the state test is called the Pennsylvania System of School Assessment (PSSA) (Pennsylvania Department of Education, 2001). Since the introduction of NCLB, the emphasis on schools generating high achievement scores on standardized tests has increased. Standardized achievement tests are not the only measure of achievement in schools, but often the most critical.

School counseling programs exist to provide services and implement programming that has a positive impact on student achievement. In this study, the

influence of a school counselor-directed training program for educators that teaches the theory and methods of William Glasser's Choice Theory and Reality Therapy was examined. The beliefs behind the teacher training program are that school climate will improve, and as a result achievement scores will increase. William Glasser's model focuses on improving the responsibility level of students by helping them realize that they are in control of themselves. This often increases intrinsic motivation. One of the theories about why achievement will increase as a result of using choice theory and reality theory methods is because students will be more intrinsically motivated to learn.

Currently, school counselors are often required to provide school-wide programming that meets the needs of all students. ASCA recommends a ratio of 250 students to one counselor. The national ratio of school counselors to students in 2008-2009 was one per every 457 students (ASCA, 2011). In the respective school district where this study was conducted, the ratio of students to the school counselor was 527/1 (South Side Area School District, n.d.). The ASCA Model (2005) suggests that school counselors need to be active in the systemic processes of the school and provide comprehensive services to a large number of students. The role of the school counselor is to remove barriers to learning that ultimately affect school achievement (ASCA, 2005). A school counseling based intervention program of training teachers and staff is one way that a school counselor can use systemic methods to collaborate with school personnel to reach more students (ASCA, 2005). The intent of this study is to determine if implementing a school-wide choice theory and reality therapy training program for second grade teachers was an effective approach for school counselors to utilize.

Relevant Information

Teacher training.

Various programs have been implemented in public schools to aid in increasing achievement scores. One type of programming schools rely on is staff development. Professional development through in-service teacher training is a common practice in U.S. public schools. Approximately 72 percent of teachers in the U.S. report receiving in-service training to improve content knowledge and learn new pedagogical methods (Parsad, Basmat, Lewis, Farris, & Green , 2001 as cited in Jacob & Lefgren, 2004).

Most in-service training has focused on pedagogy and content, specifically, how to teach content that relates to the state standardized assessment (Jacob & Lefgren, 2004). It is difficult to tell whether or not teacher training has an impact on achievement scores. One study by Jacob and Lefgren (2004) reported a significant relationship failed to exist between achievement scores in mathematics and reading and teacher in-service training. The trainings were based on teaching pedagogy and content and were not offered for a lengthy period of time. The average teacher training consisted of eight hours per year (Jacob & Lefgran, 2004). A study done by Lewis (2001) concluded that training teachers in Glasser's behavioral management strategies resulted in teachers having more confidence in dealing with disruptive students and student attendance improved. More research is needed to see if other types of training, specifically ones that focus on improving classroom climate and increasing motivation have a positive effect on achievement scores in mathematics and reading.

Conflicting views exist about the impact that schools can have on achievement scores in lieu of a student's home environment. One study noted that "schools bring little

influence to bear upon a child's achievement that is independent of his background and general social context" (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York, 1966, p. 325 as cited in Darling-Hammond, 1999, p. 5). Research indicates that schools do make a difference in student achievement levels, including teacher quality as a significant factor in improving student achievement (Darling-Hammond, 1999). It is still thought that the home environment and social context of a student is the most significant factor in student achievement, but the school also has great influence (Joyce & Showers, 2002). In this study, the implementation of a teacher training program to improve the school/classroom climate and intrinsic motivation as part of a comprehensive school counseling program was studied.

School/Classroom climate.

In addition to pedagogical methods, the school/classroom climate plays a role in improving student achievement (Jennings & Greenberg, 2009; Mitchell, Bradshaw, & Leaf, 2010; Neibuhr & Neibuhr, 1999). In Mitchell, Bradshaw, and Leaf (2010), school climate is defined as "the shared beliefs, values, and attitudes that shape interactions between the students, teachers, and administrators (p. 3)". The belief that students need to experience a positive environment in the classroom, consisting of mattering (Dixon & Tucker, 2008), love and belonging (Glasser, 1988), and safety (Glasser, 1988; Heydenberk, Heydenberk & Bochnowicz, 2006) is essential for students to experience positive educational outcomes. Neibuhr and Neibuhr (1999) found that high school freshman who reported experiencing positive student-teacher relationships had higher grade point averages than their peers. This relates to Glasser's need of love and belonging being met and as a result, the students showed higher achievement.

Intrinsic and extrinsic motivation.

Motivation is often connected to academic success. In educational research literature, there are two commonly defined philosophies of motivation: 1) extrinsic motivation and 2) intrinsic motivation. Extrinsic motivation consists of giving a student an incentive or reward for completing a task. Rewards might be tangible, such as candy or a special privilege, or might consist of praise or receiving a high grade. The avoidance of an unpleasant activity or punishment is another method of employing extrinsic motivation methods (Dev & Poonam, 1997). Extrinsic motivation can be beneficial at first, but not long lasting (Glasser, 1988).

Intrinsic motivation is defined as “the performance of activities for their own sake in which pleasure is inherent in the activity itself (Berlyne, 1965; Deci, 1975 as cited in Gottfried, 1985, p. 631).” Academic intrinsic motivation is characterized by a mastery orientation, curiosity, persistence, a high degree of task involvement, and the learning of challenging, difficult, and novel tasks (Gottfried, 1990). Gottfried’s (1990) findings showed that students in grades 4-9 with higher levels of academic intrinsic motivation showed significantly lower academic anxiety, higher school achievement, and reported more positive perceptions of their academic abilities than their peers who had lower levels of academic intrinsic motivation. In younger elementary students, the findings remained concurrent and showed that academic intrinsic motivation was significantly related to achievement (Gottfried, 1990).

An approach that some elementary schools use to increase student achievement is through increasing intrinsic student motivation (Covington, 2000). It has been recognized that intrinsic motivation level and achievement level are positively correlated (Gottfried,

1990). The integration of reality therapy methods in the classroom is one technique used to increase intrinsic motivation of students (Glasser, 1992/1998b). If a student has his or her basic needs met through experiencing a positive school climate, then motivation to learn will increase and students will work harder, thus improving achievement (Glasser, 1993; Neibuhr & Neibuhr, 1999).

Choice Theory/Reality Therapy

Reality therapy is a psychology developed by William Glasser in the early 1960's (Glasser, 1965). William Glasser is a psychiatrist who formulated ideas about how people relate to one another to get needs met. He started to develop reality therapy while working at a prison school for girls. He saw how the creation of a quality community, through focusing on the development of relationships, had an impact on the success and well-being of the girls. William Glasser has extended reality therapy into the school system and operates schools that are certified as "quality schools." Quality schools embody the concepts of reality therapy in its entirety and are formally connected to the Glasser Institute of Reality Therapy (Glasser, 1992/1998b). However, a school does not have to be a quality school to use the concepts of reality therapy. For instance, the school which data was collected from in this study trained teachers in reality therapy methods, but is not a quality school.

After Glasser developed reality therapy, he coined the term "choice theory" to describe the theoretical principles behind reality therapy (Glasser, 1998a). Choice theory explains that individuals have five basic needs, and people behave the best way they can to get these needs met. The five basic needs are love and belonging, power, freedom, fun, and survival (Glasser, 1998a). Glasser proposes that if the five basic needs are met

in a healthy way and students have awareness about how they are getting their needs met, students will feel better about themselves. As a result, the students will be more apt to engage in the learning process. Choice theory is based on internal motivation and taking control of a person's life based on his or her behavior and thoughts (Glasser, 1998a).

Reality therapy is comprised of techniques to help students meet their basic needs and improve intrinsic motivation. The main method of reality therapy is the WDEP system. This is a questioning system that begins with W (finding out what a student wants), D (finding out what a student is doing to get what he or she wants), E (evaluating if the student's behavior is helping him or her get what he or she wants) and P (making a plan to help him or her get what he or she wants). This system can be implemented by a teacher, counselor, or by students themselves (Glasser, 1998a, Wubbolding, 2000).

Another reality therapy method includes "My Job, Your Job." This method allows the teacher, counselor, or other helping professional and the student to delineate expectations and roles. This is intended to help students identify their responsibilities and help them realize that they are in control of making choices.

Reality therapy and choice theory are often terms that are used interchangeably to describe the work of William Glasser. It is more accurate to describe the terms separately because choice theory is the thought process that drives reality therapy methods. However, they cannot exist alone; rather, the concepts are dependent upon one another. Therefore, the theory of William Glasser will be identified as Choice Theory/Reality Therapy (CT/RT) unless specific distinctions are made to indicate only choice theory or reality therapy.

In this study, the CT/RT teacher training was designed to educate the teachers about how they can encourage students to have their needs fulfilled in a positive manner, which results in *increased internal motivation of students*, and *improvement of the social climate of the classroom*. Many times students think they need to achieve for their parents, or their teachers, but not for themselves. When students are able to see that they have control over their own outcomes, and can create meaning through their efforts, students will experience increased motivation and achievement (Gottfried, 1990). According to CT/RT, the social climate of the classroom is intended to be a community classroom where students have a role in the decision making process and develop an understanding about how their behavior contributes to their performance (Glasser, 1986).

Gender and Choice Theory/Reality Therapy.

William Glasser's research that led him to develop CT/RT was initially performed at the Ventura School, which was a facility for delinquent girls (Glasser, 1965). He generalized his theory about behavior to boys as well. Glasser (1998a) states that the five basic needs are experienced on an individualized basis; therefore, implicating that males and females are operating on an individual level. According to feminist theorists, the ways that males and females are socialized can have an impact on how individuals get their needs met (Bem, 1983; Gilligan, 1993). For instance, do males seek out more autonomy, whereas females might be more predisposed to seek out group interaction to meet needs such as love and belonging or power?

In Peterson, Chang, and Collins (1998), group counseling with reality therapy was used to enhance self-concept. The results showed significance, although gender was studied as an interaction effect and was not significant. Because the five basic needs of

CT/RT do not operate in a hierarchical manner, it is possible that the intensity of needs might be differentiated according to gender. According to Sandra Bem (1983) and Carol Gilligan (1993), girls and boys experience healthy development in different ways. However, Glasser believes the five basic needs are genetically programmed (Glasser, 1998a), which would discount theories of gender socialization. In this study, gender interaction effects were studied to see if varying achievement occurred between males and females when learning from a CT/RT trained teacher or a teacher who was not trained.

Purpose of the Study

The purpose of this study was to see if students who were taught by teachers who were trained in CT/RT methods had higher achievement scores in mathematics and reading as compared to students who were taught by teachers who were not trained in CT/RT methods. The intent of this study was to gain information about the effectiveness of a school counselor led CT/RT teacher training program on student achievement in mathematics and reading. School counselors, administrators, teachers, and other school personnel are always looking for ways to improve achievement scores. Teacher trainings are an economical and comprehensive method for school counselors to have an impact on a large population of students.

Educational facilities currently implementing CT/RT training, or thinking about implementing CT/RT training, will be interested in the outcome of this evaluation study. The results will help to examine the effectiveness of the structure of the CT/RT training program at the respective school where the study is being conducted and will offer

direction about whether to continue training as it is currently conducted, or to make modifications.

Rationale

The social climate is noted as one of three components of how schools affect students. Schools have an impact on achievement depending on what they teach, how they teach, and the environment where teaching occurs, or social climate (Joyce & Showers, 2002). By training teachers in CT/RT, it is more likely that teachers will implement methods that improve the social climate of the classroom. By structuring the classroom in a way that helps students meet their five basic needs, it is anticipated that teachers will see an increase in intrinsic motivation, a decrease in behavior problems, and an increase in self-concept levels of students. The improved social climate should have a positive impact on achievement levels of students (Downey, 1969; Joyce & Showers, 2002; Mitchell, Bradshaw, & Leaf, 2010).

School climate has been believed to be linked to student achievement. A definition of school climate by Haynes, Emmons, and Ben-Avie (1997) refers to the “quality and consistency of interpersonal interactions within the school community that influence children’s cognitive, social, and psychological development” (p. 322). If CT/RT principles are intended to have an impact on helping students get their five basic needs met, then it is plausible that the school climate will be positively affected.

The ASCA National Model (ASCA, 2005) suggests that the school counselor’s primary mission is to have a positive impact on increasing achievement of students. Accountability of school counseling programs is an important aspect of the ASCA Model. An example of a systemic counseling intervention is the school-wide training of

teachers to improve the classroom environment to help students deal with social, emotional, and behavioral issues that might have an effect on learning in the classroom. If CT/RT methods are incorporated into the classroom, then the likelihood of students struggling with emotional, social, and behavioral issues should be reduced. According to Glasser, if students are getting their five basic needs met in healthy ways in the classroom, then students will not have to behave in negative ways to get their needs met (Glasser, 1992/1998b).

Based on the premise that climate has a positive impact on learning and achievement, the following study was designed to see if training teachers in CT/RT as part of a comprehensive school counseling program had an effect on achievement scores of elementary students.

Research Questions and Hypotheses

Research questions.

1. Do students who were taught by teachers trained in CT/RT methods have higher achievement scores in mathematics and reading than students who were taught by teachers not trained in CT/RT methods?
2. Do males and females respond to CT/RT methods in the classroom differently as indicated by differences in achievement scores?

The second grade reading and mathematics achievement scores of 83 students were analyzed. The achievement scores of the students when they were in second grade were compared among students who had teachers who were CT/RT trained and students who had teachers who were not CT/RT trained. Student scores were delineated according to gender and tested for interaction effects.

Hypotheses.

1. There are no significant differences in reading achievement scores between students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.
2. There are no significant differences in mathematics achievement scores between students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.
3. There are no significant interactions of gender and reading achievement among students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.
4. There are no significant interactions of gender and mathematics achievement among students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.

Significance of the Study

The results will be of interest to teachers, administrators, counselors, and other individuals who are committed to improving student achievement scores in mathematics and reading. This study will help school counselors determine strategies to positively affect student achievement scores through implementing CT/RT teacher training programs as a means to make learning meaningful and improve motivation of students.

According to the *ASCA National Model: A Framework for Comprehensive Guidance Programs* (2005), it is recommended that counselors focus on three domains: academic, career, and personal/social development. The academic and the personal/social domain include standards that reflect having a positive and healthy self-

concept. The ASCA Model identifies four themes, which are leadership, advocacy, collaboration and teaming, and systemic change. Therefore, if the implementation of a CT/RT training program for teachers directly affects the motivation levels of students, which in turn improves reading and mathematics achievement scores, then this study will provide important information for program development that is consistent with the ASCA standards. The school-wide training program to educate teachers about CT/RT methods exemplifies promoting systemic change to meet the standardized domains of the ASCA Model.

The William Glasser Institute will have a vested interest in the results, because the results can potentially add more credence to the usability of CT/RT methods. CT/RT lends itself to the development of improving motivation by learning how to take control of one's life through meeting basic needs and having awareness of what behaviors a person is engaging in to get those needs met. Although many studies claim that CT/RT methods used in the classroom produce positive effects, empirical research on the effectiveness of training teachers to use CT/RT methods in the classroom is minimal (Lewis, 2001).

Definition of Terms

Achievement.

The measures of achievement used in this study are achievement scores derived from standardized achievement tests. Standardized achievement tests have pre-determined levels, or standards that are used to test how well a student has mastered specific information (Thorndike, 1997). Achievement tests are criterion-referenced and

relate to a specific domain of content. Achievement tests are intended to measure what a student has learned, or mastered (Thorndike, 1997).

The TerraNova Third Edition, Multiple Assessment, Level 12, Form G, copyrighted by CTB McGraw Hill (TerraNova Third Edition, 2008), was the achievement test used in this study. The TerraNova Third Edition Multiple Assessment test is a nationally norm-referenced and curriculum-referenced exam that measures basic and applied skills using a selected-response and a constructed-response format (TerraNova Third Edition, 2008). The raw achievement scores in mathematics and reading of all second grade students who took the TerraNova in April 2008 were used.

Choice Theory/Reality Therapy methods.

In this study, CT/RT methods were defined as any classroom activity that aids students in meeting their five basic needs, specifically activities that help students improve their awareness of how their own behavior is shaping their ability to get their needs met.

An example of a CT/RT method is having a classroom meeting where all students get to discuss an issue or share an experience. The classroom meeting helps students meet their needs for power, freedom, and love and belonging (Glasser, 1992/1998b). Rule construction through classroom meetings is also a CT/RT method that helps students recognize their role in shaping the classroom environment. Another example is structuring rules by delineating between what is the student's job and what is the teacher's job. This is a technique in reality therapy called My Job/Your Job, and it is intended to facilitate development of a feeling of mutual responsibility between the teacher and students (Glasser, 1992/1998b; Wubbolding, 2000).

The WDEP questioning process is another example of a reality therapy method (Glasser, 1998a; Wubbolding, 2000). The W represents the word “Want” because the first question a teacher will ask a student is “What do you WANT?” Then the teacher would proceed by asking “What are you DOING to get it?” Then the “E” stage, which stands for evaluation, leads to the teacher asking “Is what you are doing helping you get what you want?” If the student says “no,” then the teacher aids the student in making a plan to enable the student to get what he or she wants. The plan needs to be student-directed with prompting by the teacher if necessary (Glasser, 1998a; Wubbolding, 2000).

Summary

In summary, the objective of the study was to see if training teachers in how to use CT/RT methods in the classroom had an impact on reading and mathematics achievement scores. Because CT/RT methods are intended to improve intrinsic motivation, students will feel more in control of their own learning and work harder to achieve. When students recognize that their achievement is a direct result of their own work ethic, choices, and behavior, learning often becomes more meaningful (Glasser, 1986, Glasser, 1988, Glasser, 1998a)

CHAPTER TWO

LITERATURE REVIEW

The Role of the School Counselor

Throughout the years, the role of the school counselor has changed dramatically (Baggerly & Osborn, 2006; Clark & Amatea, 2004; Dollarhide & Lemberger, 2006; Lambie & Williamson, 2004). Current school counseling programs are encouraged to focus on providing school-wide interventions and comprehensive programming to meet the needs of all students, which ultimately has an increased impact on academic achievement (ASCA, 2005; Baggerly & Osborn, 2006; Clark & Amatea, 2004; Dollarhide & Lemberger, 2006; Lambie & Williamson, 2004; Martin, 2002). The mission for schools in the 21st century includes a standards-based educational reform, including more accountability for school counseling programs (ASCA, 2005; Dollarhide & Lemberger, 2006).

The Transforming School Counseling Initiative (TSCI) was created in 1997 by the Education Trust and The DeWitt Wallace-Readers Digest Fund. In 1990, efforts began between the two organizations to develop a national agenda to improve and transform school counseling. A 14 month study was conducted that assessed the congruency between school counseling training programs and the actual duties that school counselors performed. The outcome of the study showed that school counselors received very little training which was relevant to the educational setting. The research showed that there was an absence on training in advocacy, leadership, and collaboration skills (The Education Trust, 2009a).

As a result of the study, the TSCI was created to better align the role of the school counselor to school counselor training programs in higher education. Grants were given to six universities for three years to reformat their programs. The outcome of the three year reformation showed that school counselors were better prepared to work as leaders and advocate for systemic changes to improve student achievement (The Education Trust, 2009a).

The inception of the ASCA Model in 2003 has helped to shape the current role of the school counselor (ASCA, 2005). Essentially, the ASCA Model has been in the making since the 1960's when ASCA began writing role statements that clarified job duties in the elementary, middle/junior high, and secondary schools. Various position statements about the role of the school counselor, such as "The School Counselor and the Guidance and Counseling Program" and "The School Counselor and Developmental Guidance" were released from 1974 – 1984 (Gysbers & Henderson, 2000). ASCA published "Standards for School Guidance and Counseling Programs" in 1979 to provide structure to the school counseling career field (ASCA, 2005).

Information from various theories, programs, and concepts, including the Educational Trust and the Standards for School Guidance and Counseling Programs, have been integrated to structure a comprehensive design that aligns the role of the school counselor to student achievement by providing a school-wide approach to help meet the needs of all students. According to Hatch and Bowers (2002), the primary mission of school counselors is to support and encourage academic achievement. Many school counselors often try to work in isolation to meet the needs of students, even though the ratio of students to counselors is usually very high. This approach might indicate

success, but only for a small number of students, usually the very high or very low achieving students (ASCA, 2005). ASCA (2005) has provided a clear and concise definition of what constitutes a school counseling program in the modern age.

A school counseling program is comprehensive in scope, preventative in design and developmental in nature. *The ASCA National Model: A Framework for School Counseling Programs* is written to reflect a comprehensive approach to program foundation, delivery management and accountability. School counseling programs are designed to ensure that every student receives the program benefits. (p. 13)

The ASCA Model (2005) suggests that school counselors need to be more active in the systemic processes of the school and collaborate with teachers, parents, administration, and outside services to provide comprehensive services to a larger number of students. A school counseling based intervention program of training teachers and staff is one way that a school counselor can use systemic methods to collaborate with school personnel to reach more students (ASCA, 2005).

Historically, the inception of school counseling in the early 1900's was focused on providing vocational counseling and career development, which is now only a component of the school counselor's role. During this time period, the term used to define school counseling employees was "vocational guidance counselors" (Lambie & Williamson, 2004). Currently, as defined by ASCA, the politically correct term is a professional school counselor (ASCA, 2005). The vocational guidance movement marks the roots of the school counseling profession from vocational guidance counselor to professional school counselor. Frank Parsons is credited with founding the school counseling movement. The emphasis of his work was on transitioning high school male

students into the workforce by matching aptitudes and abilities with the requirements of an occupation (Lambie & Williamson, 2004).

In the 1920's, John Dewey introduced the cognitive developmental movement which emphasized the school's role in promoting social, cognitive, personal, and moral development of students (Dewey, 1963). Schools started to pay more attention to the developmental stages of students and began incorporating more guidance strategies to stimulate students' holistic growth (Lambie & Williamson, 2004).

The following decades continued to provide structure and direction to shape the present role of the school counselor. In the 1930's, the publication *How to Counsel Students* (Williamson, 1939) explained directive approaches for school counselors to use to create desired effects in student behavior and achievement (as cited in Lambie & Williamson, 2004). Lambie and Williamson (2004) commented that the direct approach that Williamson introduced lacks student input and relies heavily on expecting school counselors to create desired changes, even without student motivation or contextual influence. Williamson is also credited with developing the first guidance theory: the Trait and Factor Theory (Lambie & Williamson, 2004).

In the 1940's when Carl Rogers published his book *Counseling and Psychotherapy: New Concepts in Practice* (1942 as cited in Lambie and Williamson, 2004), school counseling experienced a shift towards a more interpersonal approach. After the inception of Rogers' work, the terminology of "guidance counselor" changed to "school counselor" with guidance still as a component (Cobia & Henderson, 2003, Lambie & Williamson, 2004). Rogers has been recognized as a highly influential theorist who has had a prominent effect on the development of the school counseling profession

(Schmidt, 2003). The shift from looking at “people rather than problems” (Super, 1955, p.4 as cited in Lambie & Williamson, 2004), and the emphasis on providing a safe environment where students can be introspective and grow has helped to shape how school counselors approach students and their problems (Lambie & Williamson, 2004). During this era, school counselors began to reject the belief that people were comprised of drives and discrete behaviors which psychoanalytic theory and trait and factor theory suggested. School counselors started looking at the person in a different light and recognized that empathic responses to students and developing meaningful relationships created more significant change (Lambie & Williamson, 2004).

ASCA (2005) has addressed the demands of the modern-day school counselor and has attempted to streamline the role of the school counselor through the publication of the *ASCA National Model: A Framework for School Counseling Programs*. The ASCA Model is intended to help school counselors implement comprehensive school counseling programs that are aligned globally as opposed to service delivery models where the counselor often acts in isolation (ASCA, 2005).

The overarching themes of the ASCA Model, which represent skills and attitudes of the school counselor, are advocacy, leadership, collaboration, and systemic change. The operational system of the ASCA Model is comprised of the interacting processes of foundation, delivery system, management system, and accountability. The school counseling program is expected to enhance growth in three domain areas: academic, career, and personal/social development (ASCA, 2005).

A definition of school counseling by The Education Trust (2009b) provides a clear and comprehensive account of the role of the school counselor in the modern age.

School counseling is...

A profession that focuses on the relations and interactions between students and their school environment to reduce the effects of environmental and institutional barriers that impede student academic success. School counselors foster educational equity, access, and academic success in a rigorous curriculum to ensure that all students graduate from high school ready to succeed in college and careers.

The trained school counselor must be an assertive advocate creating opportunities for all students to pursue dreams of high aspirations. The counselor assists students in their academic, career, social, and personal development and helps them follow the path to success. The school counselor serves as a leader as well as an effective team member working with teachers, administrators, and other school personnel to help each student succeed. The school counselor as consultant empowers families to act on behalf of their children by helping parents and guardians identify student needs and interests, and access available resources (The Education Trust, 2009b, no page number).”

School counselors use many activities and strategies in an attempt to meet the definition of the school counselor proposed by the The Education Trust (2009b) and the standards that the ASCA Model (2005) suggests. The implementation of school-wide strategies to influence the academic, personal/social, and/or career domains is considered an efficient use of the school counselor’s time. Staff development is one type of intervention that school counselors can provide to indirectly improve classroom dynamics that have an effect on student learning.

For example, training teachers how to utilize the theory and strategies of William Glasser’s (1998a) CT/RT is an example of a collaborative and systemic intervention program that is aligned with ASCA (2005) and the Education Trusts’ definition of the role of the school counselor (The Education Trust, 2009b). The premise of the program operates on the belief that if the classroom climate is a positive learning environment, then motivation will increase, behavioral problems will decrease, and school attendance

will improve, which ultimately leads to enhanced academic success (Glasser, 1992/1998b, 2000/2010).

Choice Theory and Reality Therapy

History and basic tenets.

William Glasser is a renowned psychiatrist who is credited with developing reality therapy and choice theory. In 1962 he coined the term “reality therapy” to describe his ideas about reality psychiatry. In 1978 Glasser began writing and speaking about control theory, which is now called choice theory. Reality therapy is described as the process of implementing the ideas of choice theory. Choice theory is a set of ideas that describes how people function in society (Glasser, 1988, 1998a, 1992/1998b).

The main precept of choice theory is based on the idea that people choose behaviors to attempt to meet their basic needs met. Glasser describes the five basic needs that all humans possess as love and belonging, fun, freedom, power, and survival. The needs do not exist on a hierarchy; rather, everyone has different levels of need strength (Glasser, 1998a). Glasser (1998a) believes that relationships are paramount to living a healthy life and that all ills can be traced back to a relationship deficit or problem.

Theoretically, if a person’s basic needs are not met, then he or she will act in a way to get his or her needs met. For instance, a student who does not feel powerful may be disruptive in class to feel more in control. If a teacher recognizes that the student does not feel powerful in his or her life, then a teacher might respond with giving the student an opportunity to gain power in a healthy way. As a result, the power is met in a positive way and the need to disrupt to meet his or her power need will dissipate. Many times teachers might have to share their power to allow students to have some influence on the

classroom climate and rules. This can be very difficult for teachers to do; however, the results are usually worthwhile. A high school teacher in Detroit, Michigan who uses reality therapy in her classroom reports “I had to give up power, to gain power” (Agency for Instructional Technology DVD, 1994). She has seen an increase in student participation, motivation, and achievement, and a decrease in discipline infractions (Agency for Instructional Technology DVD, 1994).

The way a person evaluates his or her needs and wants is through the process of comparing his or her quality world and real world. The quality world is described as a snapshot view of how a person would like his or her life to be. The real world is described as what a person is experiencing in the present. A perceptual filter exists which often distorts a person’s view of how he or she is experiencing reality. Balancing a person’s quality world and real world is a fundamental goal in choice theory. When a person’s “scales are unbalanced”, meaning the quality world and the real world are not congruent, then frustration is experienced. The frustration causes a person to “choose” a behavior to get his or her scales in balance. A person will choose to act the best way that he or she knows how to get his or her needs met. The behavioral process that a person goes through in an attempt to get their needs met is called Total Behavior (Glasser, 1988, 1998a, 1992/1998b).

Choice Theory/Reality Therapy and education.

The concept of quality schools involves managing a school in a way to make school meaningful, hence making school a part of the students’ quality worlds. Glasser believes that the traditional school system, which he identifies as being very coercive and punitive in its approach, often accepts low quality work from students. His theory

supports that students who are motivated from an internal locus of control without threats of punishment and coercion will produce quality work.

Glasser believes that CT/RT is a perfect match for improving achievement in schools. He wrote the books *Schools without Failure* in 1969, *Control Theory in the Classroom* in 1986, *The Quality School* in 1990, and *Every Student Can Succeed* in 2000. Some schools across the country have incorporated Glasser's ideas according to his program for implementation and are categorized as "quality schools". Currently there are 22 schools that are labeled as quality schools across the United States of America (Wubbolding, Roby, & Brickell, 2011).

Quality schools operate fully on CT/RT methodology. Some of the characteristics of quality schools include the absence of grades (external motivators) and a focus on community classrooms and group decision making. Essentially, emphasis on students getting their five basic needs met while at school is a priority. Glasser believes that if school is part of a student's quality world, then quality work will follow (1992/1998b, 2000/2010).

CT/RT has been connected with education, specifically in the domains of creating a positive school or classroom climate. Existing literature shows that a positive learning climate is linked to achievement (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1977; Brookover, Schweitzer, Schneider, Beady, Flood, & Wisenbaker, 1978; Brookover & Lezotte, 1979; Comer, 1981; Edmonds, 1979; Gottfredson & Gottfredson, 1989; Haynes, Emmons, & Ben-Avie, 1997; Hoy & Hannum, 1997; Madaus, Airasian, & Kellaghan, 1980; Niehbur & Niehbur, 1999; Rutter, 1983; Rutter & Maughan, 2002; Shipman, 1981; Teddlie, Falkowski, Stringfield, Desselle, & Garvue, 1984; West, 1985;

Weishen & Peng, 1993). In some studies, differences in socioeconomic status (SES) and race accounted for discrepancies of achievement among schools. Schools with a higher population of students with lower SES and more minority students showed more academic increases as a result of experiencing a positive school climate (Brookover et.al., 1977; Coleman, Hoffer, & Kilgore, 1982; Haynes, Emmons, & Ben-Avie, 1997). Therefore, if teachers at a school district in a low SES community incorporate reality therapy methods in their classrooms and the classroom climate is positively affected; (Glasser, 1992/1998b) then academic achievement should most likely improve (Brookover et. al., 1977; Coleman, Hoffer, & Kilgor, 1982; Haynes, Emmons, & Ben-Avie, 1997).

Enhanced self-concept is often an outcome of a positive school climate (Wigfield & Eccles, 1994). Existing research literature shows support for classroom based interventions which are designed to enhance personal/social skills and improve relationships which result in increased academic achievement (Brigman & Campbell, 2003; Carns & Carns, 1991; Hadley, 1988; Lee, 1993 as cited in Poynton, Carlson, Hopper, & Carey, 2006; Brophy, 1998, Davis, 2001; Shapiro, 1993). Although, in Poynton et. al. (2006), classroom-based interventions did not have an effect on academic achievement scores. However, an increase in students' confidence in problem-solving and logical reasoning abilities emerged as a result of the implementation of the classroom-based intervention program. The researchers attribute the short length of the intervention implementation to be a factor and believe that if the intervention period was longer, positive achievement results would have been noted (Poynton et. al., 2006).

On the contrary, Slowik, Omizo, and Hammett (1984), only provided eight hours of training to educators in the experimental group and the students who were taught by teachers trained in CT/RT had higher measures on the self-concept scale as opposed to the control group. Intense follow-up interventions were implemented including two mandatory 40 minute classroom meetings for 11 weeks (Slowik, Omizo, & Hammett, 1984).

Studies have been done on various aspects of educational behaviors and outcomes related to implementing CT/RT into the school setting. A study (Lewis, 2001) concluded that training teachers in Glasser's behavioral management strategies resulted in teachers having more confidence in dealing with disruptive students and student attendance improved. In a study targeting students in grades 6 – 8 with emotional disturbances and behavior difficulties, there was a reduction in out-of-school suspensions, an increase in positive behavior, and an increase in the participation of identified students in the general education curriculum when CT/RT methods were implemented in the classroom for one year (Passaro, Moon, Wiest, & Wong, 2004). In a classroom for learning disabled children (ages 12-14), students' self-concept was reported to increase by adding CT/RT based classroom meetings for 11 weeks (Omnizo & Cubberly, 1983).

At an alternative educational program for at-risk secondary students, CT/RT was incorporated through Glasser's Quality School Consortium (Glasser, 1990a). Teachers and staff were given over 300 hours of staff development, including four and a half days of intensive training with Dr. Bob Hoglund, a certified reality therapy trainer. After two years the findings showed that attendance and academic performance improved while drug usage and the number of students on probation decreased (Green & Uroff, 1991).

Due to a surge of research studies in the 1970's and 1980's, the bulk of research that has been done about using CT/RT in the classroom is from this time period. In Emmer and Aussiker (1990), various studies completed in the 1970's and 1980's were compiled to show the effectiveness of teaching educators how to use CT/RT as a discipline program.

The results were mixed in the studies that used pre-test/post-test design with an experimental and control group. Some of the research showed that training teachers in CT/RT methods did not have a significant impact on student behaviors, such as achievement and attitude (Masters & Laverty, 1977; Matthews, 1972), math achievement (Lynch, 1975), on-task behavior, discipline referrals, and absence rates (Welch & Dolly, 1980). Shearn and Randolph's (1978) findings did not support using CT/RT methods in the classroom to increase self-concept and on-task behavior.

On the contrary, in Browning (1978), GPA increased over a six-week period in classrooms where teachers utilized CT/RT methods, although discipline referrals in the experimental group showed a slight increase over referrals in the control group. In Matthews (1972), although no significant differences in achievement scores between the experimental and control group existed, the behavioral problems in the experimental group were reported as being fewer than the control group. Houston-Slowik (1982) showed that achievement scores in the classes that incorporated CT/RT for an 11 week period were substantially higher than the classes that did not incorporate CT/RT. An increase in academic interest and a moderate decrease in anxiety by the experimental group was also reported (Houston-Slowik, 1982).

In the studies mentioned, various limitations were discussed, such as small sample size, (Houston-Slowik, 1982), knowledge of being in the experimental group (Matthews, 1972), difficulty recognizing if results measuring achievement were due to changes in teachers' grading policies rather than implementation of reality therapy methods (Browning, 1978), short trainings, and weak implementation of reality therapy in the classroom (Lynch, 1975). Another limitation is that none of these studies used random assignment to groups (Emmer & Aussiker, 1990).

Other studies (Emmer & Aussiker, 1990) focused on measuring students' and teachers' behaviors through baseline and treatment implementation for a single group. Results were very favorable supporting the use of CT/RT to reduce discipline referrals (Moede & Triscari, 1985), decrease arguing in the classroom (Marandola & Imber, 1979), and replace problem behaviors with desirable behaviors in highly disruptive students (Gang, 1974).

Glasser purported that part of the reason CT/RT is effective in the classroom is because students begin to operate from an internal locus of control rather than an external locus of control. The act of learning becomes a part of a student's quality world, and intrinsic motivation becomes more meaningful than extrinsic rewards (Glasser, 1992/1998b). Deci, Ryan, and Koestner (1999) completed a meta-analysis of 128 research studies measuring the impact of intrinsic rewards compared to extrinsic rewards to change behavior. The results showed that intrinsic rewards were significantly better than extrinsic rewards for creating positive change. Extrinsic rewards might work at first, but after the extrinsic reward was removed, the unwanted behaviors resumed (Deci, Ryan, & Koestner, 1999).

Parish (1992) discussed the importance of teachers being able to model efficient behaviors that help students learn about CT/RT. If teachers are continually operating from an external focus, then it will be next to impossible for students to be able to operate from an internal locus of control and get their basic needs met (Parish, 1992). Therefore, teachers need to realize how they feel when they are valued, given tasks they perceive as meaningful, and not coerced to behave in certain ways as an educator, spouse, parent, etc. (Glasser, 1990b; Parrish, 1992). Chances are that teachers will feel more motivated to perform well in their role, just as students will be more motivated to achieve.

Teacher Training

A component of school counseling programs.

Training teachers in programs and approaches that positively influence students is one way that school counselors can collaborate with staff to improve achievement. In elementary school, students usually do not change classes for different subjects. Rather, students often have the same teacher for all subjects with the exception of special classes like Music, Art, Physical Education, Computers, and Library. Therefore, the bulk of students' time at school is in the same classroom with the homeroom teacher.

Elementary teachers are in the position to cultivate a learning climate that students will experience for the majority of their day.

Developmentally, younger students, as opposed to older students, will have less strategies to choose from to get their needs met. If students learn CT/RT at a young age, they will have a strong foundation to build upon, and increase the likelihood of integrating CT/RT into their lives. Therefore, the benefit of teaching elementary teachers how to use CT/RT to help students learn and recognize healthy behaviors to get their

needs met is that students might continue these behaviors throughout middle and high school. If students believe school is a place that is fulfilling and satisfies their basic needs, then students will be intrinsically motivated to not only attend school, but also learn (Glasser, 1992/1998b).

In elementary school, Glasser believes students usually are more motivated to learn compared to their middle school and high school peers. He asserts that more elementary students' basic needs are met, specifically love and belonging from both their parents and their classroom teacher. In junior high and high school, students usually have less interaction with their parents and do not stay in one classroom for the majority of the day. At this age students usually go towards their peers to get their love and belonging needs met (Glasser, 1988). Glasser's idea supports that teacher quality and the presence of a positive classroom environment in the elementary school have a direct impact on students' getting their needs met, and ultimately improves achievement (Glasser, 1988).

The emphasis on improving school counselor leadership and advocacy is a common thread in current literature (Darling-Hammond, 1993; House & Sears, 2002; Stone & Clark, 2001), and staff development trainings are an avenue of putting the counselor in a leadership role (Stone & Clark, 2001). Building principals often determine the primary function of a school counselor (Zalaquett, 2005). A suggestion to principals by Stone and Clark (2001) is to place the school counselor in a leadership and advocacy role by being more active in staff development trainings, whether the trainings are either with the principal, or supported by the principal.

The concept of comprehensive school counseling programs began emerging as early as the 1970s's (Gysbers & Lapan, 2001). However, with the TSCI movement (The

Education Trust, 2009a), the inception of the ASCA Model (2005), and other research advocating for the implementation of comprehensive school counseling programs (Breen, 1989; Gysbers & Lapan, 2001; Gysbers, 1997), more school districts are altering the school counselor's role. The change from a service-delivery model of school counseling to a comprehensive model transforms school counseling from a marginal and ancillary program to an integral and transformative program (Gysbers & Lapan, 2001). Training an entire staff of teachers and school employees with the intention to create a positive school climate is an approach that is consistent with comprehensive school counseling program ideology (ASCA, 2005; The Education Trust, 2009b).

The ratio of students to school counselors is usually very high. It is suggested by ASCA that the ideal ratio be one school counselor for every 250 students (ASCA, 2011). It is more common to have one school counselor for at least 500 students or more. The national average ratio in 2008-2009 was one school counselor for every 457 students. In Pennsylvania, statistics from the 2008-2009 school year show that the average ratio of school counselors to students was 1/386 (ASCA, 2011). Therefore, school counselor efficiency and effectiveness has been a topic of concern (Worzbyt, O'Rourke & Dandeneau, 2003). If ASCA is promoting the delivery of school counseling services to all students, and there is only one school counselor to serve many students, then creative strategies to address all students need to be implemented. Using the ternary model of school counseling, which proposes that to increase the effectiveness of school counseling programs more global services need to be implemented, teacher training would be considered a highly advantageous service (Worzbyt, O'Rourke & Dandeneau, 2003).

Teacher quality.

Teacher quality as a factor of student achievement has been debated in the literature (Darling-Hammond, 1999). Some studies concluded that factors outside of the school have a greater effect on student achievement. This finding supports that teacher quality is not influential enough to override the weight of outside factors (Coleman et. al., 1966 as cited in Darling-Hammond, 1999). However, the majority of studies supported the concept that teacher quality is an important factor relating to student achievement. Most studies purported that the quality of a teacher always matters and has a consistent impact on student achievement (Darling-Hammond, 1999; Sanders & Rivers, 1996 as cited in Darling-Hammond, 1999; Rowe, 2003; Wright, Horn, & Sanders, 1997).

In Coleman (1990, as cited by Goldhaber and Anthony, 2004), teacher quality had a larger impact on economically disadvantaged students as opposed to higher income students. This finding is consistent with previous research conducted by Coleman in the 1960's (Goldhaber & Anthony, 2004) and also research done by Heyneman and Loxley (1986). In the elementary school, students are consistently in one room with the same teacher. Therefore, if teacher quality makes a difference in student achievement, than training elementary school teachers' in how to use CT/RT methods would be a worthwhile intervention to increase learning.

The problem exists in defining what it means to be a quality teacher (Goldhaber & Anthony, 2004). In previous research studies, teacher quality was most commonly measured by the educational degrees teachers obtained rather than quality of instruction, classroom climate, and teacher-student relationships (Rockoff, 2003). Hanushek (1986) as cited in Rockoff, (2003) reviewed 147 studies and the results did not support that

teacher quality had an effect on student achievement. However, these studies used teacher credentials as a measure of teacher quality. In other studies, principals opinions of teacher effectiveness were positively correlated with high student test scores (Armor Conroy-Oseguera, Cox, King, McDonnell, Pascal, Pauly, Zellman,, & Thompson, 1976; Murnane, 1975 as cited in Rockoff, 2003). Therefore, other factors rather than credentials are important in recognizing what makes a quality teacher.

Haberman (1995), distinguished between what “star” teachers do that contributes to their success with economically disadvantaged children. His research supports that teachers need to veer away from the traditional perspective of education that often disregards children with problems as not being able to succeed in a typical public school. Secondly, teachers need to focus very little of their time on discipline. Instead, teachers need to interact on an individual basis with each child as much as possible. It is developing the relationship with each student that prevents most discipline problems from occurring. Haberman (1995) indicated that it is important for teachers to be realistic about the range of achievement and behavioral levels in the classroom. Students should not be assigned meaningless tasks, or work that is impossible to complete which generates hostility. As teachers progress in the year with their students, they should assign less and less work and include students in determining their own assignments (Haberman, 1995).

Much of Haberman’s (1995) research about qualities that “star” teachers’ possess is similar to Glasser’s (1992/1998b) beliefs about how successful teachers or managers perform. Glasser (1992/1998b) bases a lot of his ideas about how to provide effective leadership on W. Edwards Deming’s work that he accomplished after World War II in

Japan (Deming, 1982 as cited in Glasser, 1992/1998b). He was able to teach the Japanese to produce high quality work at low cost, and is remembered for his innovative, humane, and fair approach to management which was based on building relationships (Glasser, 1992/1998b). Deming's lead management approach provides the foundation of Glasser's Quality School (Glasser, 1992/1998b). Therefore, after reviewing the research about quality teaching, it is worthwhile to assume that training teachers to improve social climate through learning CT/RT is an appropriate method to improve students' achievement, especially with students who are economically disadvantaged.

School-Wide in-service programs.

Almost all school districts in the country incorporate some type of teacher training. In-service days are required by state and federal governments and are often built into the school calendar. Additional trainings are incorporated depending on initiatives of the school district and community. Some examples of trainings include improving pedagogical methods, content, and school climate. All trainings have one factor in common, which is to improve academic success of students through educating teachers and staff (Joyce & Showers, 2002). Whether it is new ideas, or enhancing strategies that are already implemented, the concept of teacher trainings has been around since the early 19th century (Richey, 1957).

Most studies show that teacher trainings do not have an impact on student achievement (Jacob & Lefgren, 2004). However, the argument has been posited that most professional development tends to follow traditional approaches to educating teachers and neglects to incorporate components such as relevancy of material being taught (Darling-Hammond & McLaughlin, 1995), follow-up with trainees to incorporate

new material (King & Newmann, 2001), collaboration with professional peers (Darling-Hammond & McLaughlin, 1995; King & Newmann, 2001), receiving input from teachers to design workshops (King & Newmann, 2001), and utilizing in-house staff, such as teachers, psychologists and counselors to provide learning opportunities for teachers (Darling-Hammond & McLaughlin, 1995).

If teacher trainings are incorporated using the aforementioned components, then professional development for educators can be an effective approach to improving academic achievement (Joyce & Showers, 2002). Other strategies to increase academic achievement, which are usually more cumbersome and costly, include increasing teacher accountability, redeveloping curriculum, restructuring the organization, or implementing school choice (King & Newmann, 2001). The argument exists that teachers have the most direct and ongoing contact with students, and the most control over the classroom climate, so enhancing teacher qualities will have a prominent effect on school improvement (King & Newmann, 2001).

Jacob and Lefgren (2004) conducted a study in the Chicago Public School system, and the results showed that a causal relationship between in-service teacher training and improved student achievement scores did not exist. The intensity of training was seen as a weakness, and the researchers reported that moderate improvements in intensity might have a positive effect on student achievement scores. The authors believed that many times the in-service trainings had good intentions, but schools did not have the resources to implement the programs at a level of intensity to adequately influence the desired outcome. The findings suggested that school districts pay attention to the money and

resources being spent on teacher trainings, and restructure trainings or distribute funds elsewhere if desired achievement effects are not attained (Jacob & Lefgren, 2004).

Academic Achievement

Academic achievement is at the crux of measuring the learning of students. In 1999, Pennsylvania adopted a standards system to measure learning of students in reading, writing, speaking and listening, and mathematics to better ensure that students are academically performing at their grade level. This standardized system is a product of NCLB, or the Elementary and Secondary Education Act which is designed to increase accountability of teachers and school districts and make sure that achievement is met by all students, therefore closing all achievement gaps (NCLB, 2001).

Many researchers believe that academic achievement should not be measured according to standardized achievement tests (Darling-Hammond, 1990; Linn, 1993; Romberg, 1995; Smith, 1991; Stiggins, 1997, Wilson, 1992 as cited in Woodward, Monroe, & Baxter, 2001). However, the main methods to determine if students are learning are achievement scores from standardized tests. For instance, the PSSA, a standards-based, criterion-referenced test, is given annually to students in third-eighth, and eleventh grades in mathematics and reading. Students in fifth, eighth, and eleventh grades are also assessed in writing. In fourth, eighth, and eleventh grades, students are given a test to assess science knowledge (PDE, 2011).

Standardized academic achievement tests are the most highly regarded forms of assessment in public schools. If a school reports having high achievement test scores, then the staff is most likely deemed effective and students are believed to be achieving. Contrarily, the same is true if achievement scores are low (Koretz,2002; Popham, 1999).

Even though there have been debates about whether high test scores on standardized achievement tests actually are fair representations of student learning (Darling-Hammond, 1990; Linn, 1993; Romberg, 1995; Smith, 1991; Stiggins, 1997, Wilson, 1992 as cited in Woodward, Monroe, & Baxter, 2001), standardized achievement test scores are still the most valued.

Achievement tests are what citizens and school board members rely on when evaluating performance of a classroom, school, or entire district. Some of the most commonly used standardized achievement tests are the California Achievement Test, Iowa Tests of Basic Skills, Metropolitan Achievement Tests, and Stanford Achievement Tests (Popham, 1999). On the national level, the National Assessment of Educational Progress test has been in use for over 30 years to measure achievement of American students (Jones, 1996). This test is given periodically at various school districts to gather analytical data. Internationally, the Third International Science Study has been given to students to measure global achievement in mathematics and science (Bishop, 1997). This test is given to participating schools that choose to receive grant money to be a part of the initiative. Through NCLB (2001), all states are required by the federal government to provide a state-wide achievement test. These tests vary from state to state. For instance, Pennsylvania schools are required to administer the PSSA test and Ohio administers the Ohio Achievement Assessment (Ohio Department of Education, n.d.). Other achievement tests, such as the Iowa Tests of Basic Skills or the TerraNova are purchased by the school district for private use.

Comprehensive school counseling programs are directly connected to school improvement with an emphasis on academic progress. The age of accountability for

school counseling programs is prominent with the inception of the ASCA National Model (Dahir, Burnham, & Stone, 2009; Gysbers, 2004; Issacs, 2003; Myrick, 2003). School districts are held accountable based on whether or not they meet the standard of AYP. AYP is a national measure that was implemented to measure gains in achievement for all school districts receiving any federal funding. AYP is measured according to scores on state standardized achievement tests. This measure is based on the improvement of students' scores from year to year and the overall achievement of the school district based on the test scores. If a school district does not meet AYP, then they are penalized and put on probation until achievement gains are made that meet the federal standards (NCLB, 2001).

Gender Influences

In education research, debates continue to exist about how boys and girls perform in school, specifically in reference to mathematics and reading achievement (Hay, Ashman, & Van Kraayenoord, 1998). Historically girls are thought to have an advantage in tests of verbal ability (Halpern, 1996; Hyde & Linn, 1988; Maccoby & Jacklin, 1974; Stumpf, 1995 as cited in Nowell & Hedges, 1998) and boys an advantage in tests of mathematical ability (Halpern, 1996; Hyde, Fennema, & Lamon, 1990; Maccoby & Jacklin, 1974; Stumpf, 1995 as cited in Nowell & Hedges, 1998). The differentiation of mathematics achievement between girls and boys was minimal in elementary school. Only after elementary school did boys more frequently outperform girls in mathematics (Hyde, Fennema, and Lamon, 1990). According to Halpern (1986) as cited in Hyde, Fennema and Lamon (1990), differences in mathematics achievement by gender usually started during ages 13-16.

In a meta-analysis study (Hyde, Fennema, & Lamon 1990), elementary school girls outperformed boys in mathematics computation skills, and in high school, boys outperformed girls in problem solving skills. This difference could be accounted for by boys being more interested and encouraged to take higher level mathematics courses. Another possible explanation was that the mathematics tests, specifically the Scholastic Aptitude Test, might be gender biased in favor of males in analytical measures. The competitive nature of traditional classrooms is also a possible factor of why boys outperformed girls in mathematics achievement in high school (Fennema & Peterson, 1987 as cited in Hay, Ashman, & Van Kraayenoord, 1998). Overall, Hyde, Fennema and Lamon (1990) reported the difference in problem solving skills between males and females in high school to be moderate.

In Eccles, Wigfield, Harold, and Blumenfeld (1993), differences in self and task perceptions of elementary students were measured according to age and gender. Boys showed higher self competence in sports and mathematics. Girls showed that they valued reading and music more than boys. Males showed more consistent results within domains, whereas females showed more differentiation among domains. This result indicates that males are more apt to follow gender role socialization patterns than females. This finding is consistent with previous studies about gender role socialization (Huston, 1983 as cited in Eccles et. al., 1993).

Not all studies showed males outperforming females in mathematics. In Marsh, Smith, and Barnes (1985) as cited in Hay, Ashman, and Van Kraayenoord (1998), females outperformed males in fifth grade. Hay et. al., (1998) conducted a similar study that

found pre-adolescent girls to have higher abilities in reading, spelling, and mathematical ability.

Currently, there has been a lot of discussion about the achievement gender gap changing, and that boys are falling behind girls (Tyre, 2008). In the 1980's a movement supported by the American Association of University Women (AAUW) and researchers such as Carol Gilligan, a professor at Harvard University who is well-known for her research on female development, was started and claimed that girls were suffering from a crisis of low self-esteem (Bailey, Burbidge, Campbell, Jackson, Marx, & McIntosh, 1992; Gilligan, 1998) In 1992, the AAUW published "How Schools Shortchange Girls." This report was very influential and prompted the construction of many pro-female programs to decrease the gender achievement gap in education (Tyre, 2008). In the AAUW report, the gender gap was smaller in elementary school, and increased as girls matured (Bailey et al., 1992 as cited in Tyre, 2008).

Currently, research studies report quite the opposite. Girls have not only closed the achievement gap, but are surpassing boys. In Tyre (2008), boys were starting to fall behind as early as kindergarten. Kleinfeld (1998) offered a rebuttal to the AAUW report, and reported that girls have closed the achievement gap that existed in the 1960's. Many reports show that girls perform better in reading and writing and boys do slightly better in mathematics and science. Overall, girls are getting higher grade point average's, graduating at the top of their classes, and receiving high honors more often than boys (Halpern, 1997 as cited in Kleinfeld, 1998). Kleinfeld's (1998) findings show that schools have a responsibility to aid both boys and girls in achieving success through

recognizing gender differences and not stigmatizing boys and girls based on typical gender development.

In regards to social climate in schools, boys are reported to be at a disadvantage. Boys often report experiencing the classroom as a hostile environment and that teachers do not expect as much out of them as their female counterparts. Boys are more frequently placed in special needs classes and diagnosed more frequently with behavioral, learning, and emotional disorders (Kleinfeld, 1998).

The socialization of boys and girls differs in many ways. For instance, girls tend to value relationships and group activities and will often participate in games that are conducive to everyone winning (Gilligan, 1993). Boys are often more autonomous and competitive, and tend to compete in games where there is a winner and a loser (Gilligan, 1993). A meta-analysis (Feingold, 1994), reported that males were found to be more aggressive and assertive than females and females were more extroverted, anxious, trusting, and nurturing (Feingold, 1994). These gender differences might have an effect on how a boy or girl is viewed and treated by the teacher. Also, a boy or girl might be socialized into the expected gender roles by teachers; therefore, it is important for each child to be viewed as an individual (Kleinfeld, 1998).

Summary

In summary, the current role of the school counselor focuses on providing school-wide interventions to meet the needs of all students. With the inception of the ASCA Model (2005), there has been an increased focus on accountability and a need for counselors to emerge as school leaders that have an impact on academic achievement. In the current state of education, standardized achievement tests are widely used to measure

the success of a school district (NCLB, 2001). In this study, the reading and mathematics achievement scores were used as the focus of the study rather than measuring if self-concept, classroom climate, or internal motivation of students increased as a result of teachers being trained in CT/RT. The reason the standardized achievement measure was used as opposed to the other measures was because of the emphasis that government and school communities place on standardized achievement tests.

CT/RT research shows that using Glasser's (1992/1998b, 2000/2010) behavioral approach in the school setting is an effective approach to increase academic achievement. Various positive effects of using CT/RT in the classroom have been noted, such as a decrease in discipline referrals and absenteeism rates and an increase in self-concept levels, on-task behavior, achievement scores, and motivation (Browning, 1978; Gang, 1974; Glasser, 1990a, 1990b, 2000/2010; Green & Uroff, 1991; Houston-Slowik, 1982; Lewis, 2001; Marandola & Imber, 1979; Matthews, 1972; Moede & Triscari, 1985; Omnizo & Cubberly, 1983; Passaro, et. al., 2004; Slowik, Omizo, & Hammett, 1984). One reason why CT/RT is thought to be effective is because of the impact on the social climate of the classroom. Research that links social climate to increased academic success is prevalent in the literature (Brookover, et. al., 1977; Brookover, et.al., 1978; Brookover & Lezotte, 1979; Comer, 1981; Edmonds, 1979; Gottfredson & Gottfredson, 1989; Haynes, Emmons, & Ben-Avie, 1997; Hoy & Hannum, 1997; Madaus, Airasian, & Kellaghan, 1980; Niehbur & Niehbur, 1999; Rutter, 1983; Rutter & Maughan, 2002; Shipman, 1981; Teddlie, et.al. 1984; West, 1985; Weishen & Peng, 1993).

Studies that have assessed the effectiveness of teacher trainings, the importance of teacher quality, and the school-wide in-service model were reviewed. Research about the

relationship between gender and academic achievement was also presented. The intent of the information in this chapter was to give a research-directed rationale to the study and to aid in making future conclusions about the results. This study was conducted to see if the existing CT/RT teacher training program that is being conducted as part of a comprehensive school counseling program is an effective means to increase achievement scores of male and female students in the primary grades.

CHAPTER THREE

METHODOLOGY

The following chapter includes a description of the methodology of the study. The demographics of the participants, process of gathering and scoring data, and analysis procedures are described in this chapter. This quantitative study was descriptive in nature and used retrospective data. The purpose of this study was to see if teachers who were trained in CT/RT methods had students with higher achievement scores in mathematics and reading than students who were taught by teachers who were not trained in CT/RT methods. An interaction effect of gender was studied to see if males and females showed differences in their achievement scores based on receiving instruction from a teacher who was or was not CT/RT trained.

Population

The retrospective data in this study was from students who took the TerraNova Third Edition, Multiple Assessments achievement test in second grade. The second grade student scores were chosen due to the convenience of obtaining TerraNova scores from April 2008. This was the last year that the school district gave a standardized achievement test at the end of a school year for second grade students. The students were with the same teacher all year long and took the test at the end of the year. The other grade levels (3-5) that take the PSSA test did not have adequate division among trained and not-trained teachers to measure differences. Students in first grade also took the TerraNova test, but all first grade teachers were trained in CT/RT. Kindergarten did not administer a standardized achievement test. Second grade teachers were divided most

equally with three teachers who were not trained in CT/RT and two teachers who were trained in CT/RT.

The students were from a small rural school district in southwestern Pennsylvania. The district has an elementary school comprised of students in kindergarten through fifth grade. The middle school and high school are in one building, and the elementary school is in a separate building. The student population for grades K-12 is 1,376 with 98 percent Caucasian, 2 percent minority, and 0 percent limited English proficiency. A total of 26 percent of the students are at poverty level as determined by federal regulations for free/reduced lunch and 13 percent of the students have an individual education plan and are identified as having special learning needs.

The average household income for the district is \$39,000, which is below the national average of 49,777 and the state average of 48,172 based on 2009 data (DeNavas-Walt, Proctor, & Smith, 2010). Nine percent of adults living in the community have a bachelor's degree, which is well below the national average of 24.4 percent according to the U.S. Census data report (DeNavas-Walt, Proctor, & Smith, 2010). The average class size is 22 students per class and the staff consists of 110 teachers and seven administrators. The stability of staff and student turnover is steady with an annual turnover rate for teachers at 1.8 percent and for students 5 percent. The rate of graduation is 98 percent with approximately 110 graduates per year and 70 percent of students enroll in a two or four year college program (South Side Area School District, n.d.).

In this study the second grade achievement scores of 83 students comprised the sample. Of the students, 39 were female and 44 were male. The population of teachers included three second grade teachers who were not CT/RT trained and two second grade

teachers who were CT/RT trained. There were no male teachers. In this study, to be considered a trained teacher, teachers must have received at least six hours of CT/RT training before August 1, 2007. Of the trained teachers, one teacher was a veteran teacher and the other teacher was a novice teacher who had just received training in the past two years. The veteran teacher indicated receiving training, but not in the past five years. In the past, the trainings were conducted by the previous elementary school counselor and were six hours long. The most notable difference was that the trainings were mandatory.

The implementation of CT/RT was not measured in this study. The differentiating factor among teachers was if only if they received CT/RT training or did not receive training. The distinction between trained teachers and untrained teachers was straightforward, whereas measuring if teachers were implementing CT/RT would have been more cumbersome. The obvious division among trained and not-trained teachers provided more clarity for factorial division in this study.

Choice Theory/Reality Therapy Training Program

The CT/RT training program was voluntary and was available to all teachers and paraprofessionals (teacher's aides) for Act 48 credit. Act 48 credit is required by the state of Pennsylvania to maintain professional certification for teachers and to meet similar requirements for paraprofessionals. The training occurred approximately twice a year and was held for two consecutive days from 3:30pm – 6:30pm, for a total of six hours. The trainers were employees of the school district. The primary trainer was an elementary school counselor and periodically a middle school social studies teacher

teamed with the counselor. Both instructors were trained through the Glasser Institute for Reality Therapy.

The goal of the training was to educate teachers about how to use CT/RT methods in the classroom to help students meet their basic needs. Emphasis on students being intrinsically motivated rather than extrinsically motivated was an integral part of the training. The hopeful outcome of the training was for teachers to structure a classroom environment that helps students take responsibility for their own behaviors and recognize that they are in control of getting their own needs met. Therefore, when students achieve academically, they will recognize that it was their effort that contributed to their success. Conversely, when students do not achieve academically, they will be able to understand that it was their lack of effort that negatively affected their success. If learning is meaningful, students will be able to incorporate school into their “quality world”, which Glasser defines as the place in our brain where we hold all that is meaningful to us and drives our behaviors (Glasser, 1998a).

The first day of training consisted of teaching the participants the basics of CT/RT. The origins of CT/RT were explained and the application of the work was expounded upon. The main components of choice theory were taught, including the five basic needs, quality world, and total behavior. The concepts of choice theory were explained and activities were conducted to help participants improve understanding through relating the theory to their personal lives.

The second day of training focused on giving instruction to the participants about reality therapy concepts, which are the activities derived from choice theory. The reality therapy concepts taught at the training included the WDEP system, My Job/Your Job,

and conducting classroom meetings to aid in getting the five basic needs met. After teaching the concepts, the trainer(s) had the participants break into groups of three and engage in role plays. One person was the observer, one was the teacher/professional, and one was the student. The participants were able to choose which situations they would like to practice. The role plays required the participants to change their thinking to view the student's behavior through the lens of choice theory and apply reality therapy techniques to the situation.

The training was held in either the middle school/high school library or the elementary school library depending upon availability. Refreshments were provided. Various modalities of learning were incorporated including power point presentations, handouts, lecture, discussion, audio visual presentations, demonstrations, and small group role-plays.

Data Collection

Permission.

Permission was received from the elementary principal at the onset of the study. (see Appendix A). The study was approved by the Institutional Review Board at Duquesne University (see Appendix B). Additional permission from the school board was not necessary. Because the data was de-identified, consent forms from parents and assent forms from students were not required. The researcher had access to forms that all teachers and classroom paraprofessionals completed in September 2010 which indicated if they were or were not trained in CT/RT. The researcher also had access to sign-in sheets from 2005 to present. Based on this information, the researcher was able to determine which second grade teachers received CT/RT training before August 1, 2007.

Testing Instrument.

The TerraNova Third Edition, Multiple Assessment, Level 12, Form G, copyrighted by CTB McGraw Hill (TerraNova Third Edition, 2008), was the achievement test used in this study. The main reason this test was chosen was because of convenience. The test was administered in April 2008 to all second grade students. The students were with the same teacher from August 2007 – June 2008. The students had eight months of instruction from either a trained or not-trained teacher prior to taking the TerraNova in April 2008.

The TerraNova Third Edition Multiple Assessment test is a nationally norm-referenced and curriculum-referenced exam that measures basic and applied skills using a selected-response and a constructed-response format. Answers are machine scored for the selected-response questions and hand scored by readers according to specific guidelines for the constructed-response questions. The diversity of types of questions increases the validity of test results compared to tests that are only selected-response or constructed-response questions (TerraNova Third Edition, 2008).

The reliability of the TerraNova, Third Edition, Multiple Assessments achievement test is acceptable in both reading ($p = .76$; $\alpha = .82$) and mathematics ($p = .76$; $\alpha = .82$). Reliability is a measure that shows how consistent the test results will be if a student takes the test multiple times. In reading, the test has a total of 87 test items, and in mathematics the test has 59 items (TerraNova, Third Edition, 2008). Based on the reliability measures, the achievement test shows significance for high reliability.

Hypotheses and Data Analysis

The hypotheses that were tested are as follows:

- H1 = There are no significant differences in reading achievement between second grade students who were taught by teachers trained in CT/RT methods and teachers who were not trained.
- H2 = There are no significant differences in mathematics achievement between second grade students who were taught by teachers who were trained in CT/RT methods and teachers who were not trained.
- H3= There are no significant interactions among gender and reading achievement in second grade students who were taught by teachers who have been trained in CT/RT methods and teachers who were not trained.
- H4= There are no significant interactions among gender and mathematics achievement in second grade students who were taught by teachers who have been trained in CT/RT methods and teachers who were not trained.

The data was de-identified by the school administrators and entered into a chart that noted whether a student received training from a CT/RT trained or not-trained teacher, gender, and raw-score achievement data in mathematics and reading. The researcher created and coded the following variables in SPSS: gender (1 = male, 2 = female), t_or_nt (1 = trained, 2 = not-trained), and inter_efx (3 = male, trained; 4 = female, trained; 5 = male, not-trained; 6 = female, not-trained). After data was successfully entered into IBM SPSS 19, an ANOVA was used to test H1 and H2. A post-hoc analysis was not performed because the results were not significant.

H3 and H4 were evaluated using an ANOVA to test for interaction effects of gender on reading and mathematics achievement scores. The means were compared to test for significance among the four groups in the variable inter_efx: 1 (male, trained), 2

(female, trained), 3 (male, not trained, and 4 (female, not trained). Because significance was not found, a post-hoc analysis test was not conducted on this measure.

Summary

The methodology of the study was relatively straightforward. The data was pre-existing, so the data collection process consisted of locating the data and using the de-identified table to organize the data. To conduct the first ANOVA, the researcher entered the reading and mathematics raw scores into IBM SPSS 19 as the dependent variables and measured whether or not the independent variable (CT/RT training status of teachers) showed any differences of mean scores between the two groups. For the second ANOVA, the dependent variables (reading and mathematics scores) were measured according to the independent variable (gender and CT/RT training status of teachers) to see if interaction effects existed between males and females who received instruction from trained or untrained teachers.

CHAPTER FOUR

RESULTS

The purpose of this study was to see if students who were taught by teachers who were trained in CT/RT methods have higher achievement scores in mathematics and reading as compared to students who were taught by teachers who were not trained in CT/RT methods. Additionally, this study measured if interaction effects were present depending on the gender of the student. The following research questions directed this study:

1. Do students who were taught by teachers trained in CT/RT methods have higher achievement scores in mathematics and reading than students who were taught by teachers who were not trained in CT/RT methods?
2. Do males and females respond to CT/RT methods in the classroom differently as indicated by differences in achievement scores?

The pre-existing data was obtained from the TerraNova Third Edition, Multiple Assessments, Level 12, Form G achievement test. The test was previously administered to 83 second grade students in April 2008. All of the achievement data was de-identified; therefore, permission did not need to be granted by the parents and teachers. Assent forms from the students did not need to be obtained. Five second grade teachers were included in the sample, and all of the teachers were female.

Raw scores for both mathematics and reading were used in the analysis. Achievement data in mathematics and reading was entered into IBM SPSS 19. The independent variables were identified, coded, and entered into SPSS as follows: gender

(1 = male, 2 = female); t_or_nt (1 = trained, 2 = not-trained); inter_efx (1 = male, trained, 2 = female, not-trained, 3 = male, not-trained, and 4 = female, not trained).

The researcher utilized two analyses of variance's (ANOVA). Both analyses tested the hypotheses at a .05 alpha level. The first ANOVA measured differences in achievement scores in mathematics and reading based on if a student was taught by a teacher who was or was not trained in CT/RT methods. The second ANOVA tested for interaction effects on mathematics and reading achievement scores based on gender.

A total of 83 students took the TerraNova, Third Edition, Multiple Assessments test in April 2008. A mathematics score for 83 students was available, and a reading score for 82 students was available. One male student who received instruction from a trained teacher did not complete the reading section of the test. The gender distribution included 44 males and 39 females. Of the trained and not-trained teachers, two teachers received training in CT/RT methods and three teachers did not receive training.

Therefore, a total of 30 students received instruction from teachers who were CT/RT trained and 53 students received instruction from teachers who were not trained. The raw scores in mathematics ranged from 24 to 59, and the scores in reading ranged from 45 to 87. In mathematics, a 59 was the highest raw score that could be attained, and in reading an 87 was the highest possible raw score.

In this chapter, the results of the analysis for each hypothesis will be presented separately.

Hypothesis One

H1 There are no significant differences in reading achievement scores between students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.

For this hypothesis, a one-way ANOVA using IBM SPSS 19 was conducted. A total of 29 students received instruction from a trained teacher. Of the 29 students, the mean reading achievement score and standard deviation were as follows: $M = 75.31$, $SD = 6.49$. A total of 53 students received instruction from an untrained teacher. Of the 53 students, the mean and standard deviation were as follows: $M = 75.58$, $SD = 8.0$. The F-ratio was .025 with a significance level of .875. The hypothesis was accepted, and there were no significant differences among reading achievement scores between students who received instruction from a teacher who was or was not trained in CT/RT methods. See table 1.

Table 1

Mean Reading Achievement Scores by CT/RT Training Status of Teachers

| CT/RT Training Status | n | M | SD |
|-----------------------|----|-------|------|
| Trained | 29 | 75.31 | 6.49 |
| Not trained | 53 | 75.58 | 8.00 |
| Total | 82 | 75.49 | 7.45 |

Note. n = number of students in each group; M = mean score; SD = standard deviation

It is clear that the mean scores in reading achievement were very similar, and only differed by .27 points. Also, it is notable to add that the mean scores were in the above average range. When looking at other descriptive measures, the median for reading/trained and reading/not-trained was identical at 77.0. Skewness for each group was similar at -1.129 (std. error = .434) for the students who were in the trained group and -1.629 (std. error = .327) for students in the not-trained group. Overall, the range of

scores in the trained group for reading was from 55 to 86. In the not-trained group for reading the range was from 45 to 87. The lowest achievement score in reading was obtained by a student in the not-trained group.

Hypothesis Two

H2 There are no significant differences in mathematics achievement scores between students who were taught by teachers who have been trained in CT/RT methods and students who were taught by teachers who were not trained.

A one-way ANOVA using IBM SPSS 19 was conducted. A total of 30 students received instruction from a trained teacher. Of the 30 students, the mean mathematics achievement score and standard deviation were as follows: $M = 46.90$, $SD = 8.04$. A total of 53 students received instruction from an untrained teacher. Of the 53 students, the mean and standard deviation were as follows: $M = 45.62$, $SD = 7.44$. The F-ratio was .532 with a significance level of .468. The hypothesis was accepted, and there were no significant differences among mathematics achievement scores between students who received instruction from a teacher who was or was not trained in CT/RT methods. See table 2.

Table 2

Mean Mathematics Achievement Scores by CT/RT Training Status of Teachers

| CT/RT Training Status | n | M | SD |
|-----------------------|----|-------|------|
| Trained | 30 | 46.90 | 8.04 |
| Not trained | 53 | 45.62 | 7.44 |
| Total | 83 | 46.08 | 7.64 |

Note. n = number of students in each group; M = mean score; SD = standard deviation

Although significance did not exist, the mean achievement score was 1.28 points higher for students who were taught by teachers who received CT/RT training. For mathematics, the median was 49 for students who received instruction from a trained teacher and 47 for students who received instruction from an untrained teacher. The distribution was negatively skewed for both groups and showed a $-.250$ skewness (std. error = $.434$) for student scores in the trained group and a $-.813$ skewness (std. error = $.327$) in the not-trained group.

Hypothesis Three

H3 There are no significant interactions of gender and reading achievement among students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.

A one-way ANOVA using IBM SPSS 19 was conducted. A total of 82 reading scores from males and females were used in this analysis. The subject totals were as follows: males who received reading instruction from a CT/RT trained teacher ($n = 14$, $M = 76.36$, $SD = 5.81$); males who received instruction from a teacher not trained in CT/RT methods ($n = 29$, $M = 76.00$, $SD = 7.76$); females who received reading Instruction from a CT/RT trained teacher ($n = 15$, $M = 74.33$, $SD = 7.13$); and females who did not receive instruction from a CT/RT trained teacher ($n = 24$, $M = 75.08$, $SD = 8.41$). The F-ratio was $.245$ with a significance level of $.864$, therefore a significant interaction did not exist between gender, reading achievement scores, and whether a student received instruction from a teacher who was or was not trained in CT/RT methods. The hypothesis was accepted, and no significant interaction effects existed. See table 3.

Table 3

Mean Reading Achievement Scores by Gender and Training Status of Teachers

| Gender | CT/RT Training Status | n | M | SD |
|--------|-----------------------|----|--------|------|
| Male | Trained | 14 | 76.37 | 1.55 |
| Female | Trained | 15 | 74.33 | 1.84 |
| Male | Not Trained | 29 | 76.00 | 1.44 |
| Female | Not Trained | 24 | 75.083 | 1.72 |
| Total | | 82 | 75.49 | 7.46 |

Note. n = number of students in each group; M = mean score; SD = standard deviation.

Overall, not many differences existed, so significance was not determined, however males slightly outscored females in reading achievement scores. The males who received instruction from trained and not-trained teachers scored higher than the females in both respective categories. The highest mean was from the males in the trained group, and the second highest mean was from the males in the not-trained group. The lowest mean score was from females who received instruction from a trained teacher. The lowest raw scores were in the female/not-trained group with a score of 45 and in the male/not-trained group with a score of 51.

Hypothesis Four

H4 There are no significant interactions of gender and mathematics achievement among students who were taught by teachers who were trained in CT/RT methods and students who were taught by teachers who were not trained.

A one-way ANOVA using IBM SPSS 19 was conducted. A total of 83 mathematics scores from males and females were used in this analysis. The subject totals

were as follows: males who received mathematics instruction from a CT/RT trained teacher ($n = 15$, $M = 47.67$, $SD = 8.23$); males who received instruction from a teacher not trained in CT/RT methods ($n = 29$, $M = 45.10$, $SD = 8.91$); females who received mathematics instruction from a CT/RT trained teacher ($n = 15$, $M = 46.13$, $SD = 8.05$); and females who did not receive instruction from a CT/RT trained teacher ($n = 24$, $M = 46.25$, $SD = 5.27$). A significant interaction did not exist between gender, mathematics achievement scores, and whether a student received instruction from a teacher who was or was not trained in CT/RT methods ($F = .369$, $Sig. = .776$). The hypothesis was accepted, and no significant interaction effects existed. See table 4.

Table 4

Mean Mathematics Achievement Scores by Gender and Training Status of Teachers

| Gender | CT/RT Training Status | n | M | SD |
|--------|-----------------------|----|-------|------|
| Male | Trained | 15 | 47.67 | 8.23 |
| Female | Trained | 15 | 46.13 | 8.05 |
| Male | Not Trained | 29 | 45.10 | 8.91 |
| Female | Not Trained | 24 | 46.25 | 5.27 |
| Total | | 83 | 46.08 | 7.64 |

Note. n = number of students in each group; M = mean score; SD = standard deviation.

The highest mean score in mathematics was from males who received instruction from a trained teacher. In this measure, males who received instruction from trained teachers outperformed females who received instruction from trained teachers. Females

who received instruction from teachers who were not CT/RT trained outperformed males who received instruction from teachers who were not CT/RT trained. The lowest score in mathematics was a 24, and was received by a male who was taught by a teacher who was not CT/RT trained. Only slight differences existed in this measure and significance was not found.

Summary

In summary, there were no differences among the mathematics and reading achievement scores of the students who received instruction from a teacher who was or was not trained in CT/RT methods. The interaction effect of gender was not significant. Overall, in H1 and H2, although significance was not found, it is notable to mention that the lowest achievement scores in both mathematics and reading were from students who were given instruction from a teacher who was not trained in CT/RT.

When testing for interaction effects of gender in H3, males who received instruction from a trained teacher had higher reading achievement scores than males who received instruction from a not-trained teacher. However, females who received instruction from a not-trained teacher had higher achievement scores in reading than females who received instruction from a trained teacher. In H4, males who received instruction from a trained teacher had higher mathematics achievement scores than males who received instruction from a not-trained teacher. Females in the not-trained group outscored their peers who received instruction from trained teachers. Although slight differences in measures were reported, no statistical significance was found.

CHAPTER FIVE

DISCUSSION

In this chapter, the results of the study will be explained and interpreted. Conclusions based on the analysis will be included as well as limitations of the study. Ideas for future research will be identified.

Summary of the Study

The purpose of this study was to examine the differences between student achievement scores in second grade mathematics and reading standardized tests based on if the students received instruction from a teacher who was or was not trained in CT/RT methods. Gender was measured as an interacting factor.

Teacher trainings led by the school counselor through a comprehensive school counseling program is an example of a global counseling intervention that makes effective use of the school counselor's time (ASCA, 2005). Therefore, the intention of this study was to see if the systemic intervention of providing teacher trainings in CT/RT had an impact on the achievement levels of students through measuring TerraNova, Third Edition, Multiple Assessments raw achievement scores in both mathematics and reading. The research questions were as follows:

3. Do students who were taught by teachers who were trained in CT/RT methods have higher achievement scores in mathematics and reading than students who were taught by teachers who were not trained in CT/RT methods?
4. Do males and females respond to CT/RT methods in the classroom differently as indicated by differences in achievement scores?

In order to accurately answer these questions, a thorough review of research regarding the role of the school counselor, CT/RT, teacher trainings, academic achievement, and gender influences as related to achievement was conducted. A historical account of the transitions and transformations of the role of the school counselor from the early 1900's to present was included in the literature review. Currently school counseling has a very different approach than historical counseling programs (ASCA, 2005). There is more emphasis on collaboration and systemic interventions initiated by the school counselor to improve academic achievement (ASCA, 2005). The emphasis of school success as defined by standardized achievement scores was also highlighted. Schools are always looking at ways to improve academic achievement. In the current state of education, schools are rated based on if they meet AYP as defined through the Elementary and Secondary Education Act, otherwise called NCLB (NCLB, 2001).

The role of the school counselor has become more encompassing. However, the caseload of the school counselor has not become any smaller. While ASCA recommends a ratio of one counselor per 250 students, the national average school counselor ratio is approximately 457 students per counselor (ASCA, 2011). In the school where this study was conducted, the school counselor to student ratio was 1/527. Therefore, school counseling interventions that are collaborative and systemic are valuable resources. The ultimate role of a school counselor is to increase achievement by eliminating barriers to learning and providing interventions and programming to meet the needs of all students. School counselors are not providing direct academic instruction, but are expected to have an impact on student achievement levels. The results of this study are important because

the findings will help drive future school-wide counseling programming. According to ASCA (2005), the profession of school counseling is in continual need of research to show accountability of school counseling programming related to achievement.

Because this study used retrospective data, the data collection process was relatively straightforward. The raw scores of the TerraNova achievement test that was given in April 2008 were de-identified by the school administrators to eliminate researcher access to participant identification information. The researcher had access to a chart that indicated if the student's score was attached to a teacher who was or was not CT/RT trained and the gender of the student. Only students in second grade who took the TerraNova Third Edition, Multiple Assessment, Level 12, Form G, were included in the study. The reason why second grade scores were chosen was because this grade level had the most differentiation among teachers. Two were trained in CT/RT methods and three were not trained. Only one year of data was available because there was not consistency from year-to-year with the tests given. In the previous year, the Stanford Achievement Test, Ninth Edition was given, and the year before that the Stanford Achievement Test, Tenth Edition was given. For the past two years, the North Western Evaluation Assessments has been given. The North Western Evaluation Assessment test is used as a benchmark assessment and is given three times per school year.

Findings

A total of 83 students' scores were used in the study. Eighty three students' scores were available in mathematics and 82 scores were available in reading. One male student who received instruction from a trained teacher only had a mathematics score. Of the sample, 30 students received instruction from a trained teacher and 53 students

received instruction from an untrained teacher. The number of males and females was relatively equal with 44 males and 39 females represented in the study. The results showed that there were no differences among student achievement scores in mathematics and reading based on whether students received instruction from a CT/RT trained or not-trained teacher. There were no significant interaction effects based on gender.

Implications of the findings.

The findings of the study showed that CT/RT teacher training did not have an effect on the mathematics and reading achievement scores of students. A possible explanation for this finding is that the training was not long enough. In previous research, Jacob and Lefgren (2004) conducted a study to see if in-service training of teachers had a positive effect on student achievement scores. The outcome showed achievement scores were not affected by the training because of the lack of intensity of the trainings. In this study, CT/RT training was only six hours long and did not include follow-up training or assistance with implementation.

Other studies have shown that teacher training had a positive impact only when traditional training approaches were abandoned (Joyce & Showers, 2002). The traditional approach includes training by an outside expert who disseminates information in a lecture format as determined by the administration without any teacher input or follow-up. In this model, participants are expected to learn from a one-day workshop and transfer new ideas into the classroom on their own accord. It is suggested that to increase the impact of trainings, teachers need to be given a voice in determining relevancy of training topics, utilized in collaboration with other in-house staff to provide

the training, and supported with follow-up and implementation assistance (Darling-Hammond & McLaughlin, 2001; Joyce & Showers, 2001; King & Newmann, 2001).

The CT/RT training in this study did not offer follow-up support or include teachers in determining the sequence of the training. However, in-house staff was utilized for the training, and occasionally included a middle school teacher as a co-trainer with the elementary school counselor. The methodology of training involved multiple methods of instruction, including a lot of interactive role-plays and discussions. Trainings were offered after-school for two consecutive evenings from 3:30pm to 6:30pm. This is usually a time that is inconvenient for teachers to meet, and they are often tired after working all day with students.

The training is not mandatory. The benefit of the training is to receive ACT 48 credit, and learn new behavioral techniques to use in the classroom. Some teachers participate in the training because it is a free way to garner ACT 48 credits, while other teachers are motivated to participate to improve the social climate of their classroom and learn about CT/RT and how it can benefit them as educators. Teachers have voiced their opinions about the importance of the information that is taught, and have requested the training to be held during an in-service day to make attendance more convenient. The administration has not been able to offer this training during the school day due to other trainings that are mandatory and/or deemed more important for various reasons. In this study, only one trained teacher attended the non-mandatory training and the other teacher attended training when it was mandatory by the school district. This could make a difference in the results and needs to be more clearly defined.

In the research literature that studied the effects of CT/RT implementation in the classroom, the studies that showed that CT/RT had a positive effect on student achievement included longer trainings, follow-up trainings, and the examination of longitudinal effects. In Green and Huroff (1991), teachers received 300-hours of staff development in CT/RT. After 2 years the findings showed that academic performance improved. In Houston-Slowik (1982), an increase in achievement scores existed after implementation of a CT/RT classroom program for 11 weeks (Houston-Slowik, 1982). In Slowik, Omizo, and Hammett (1984), eight hours of training were given to teachers in the experimental group. Although the training was not given for a long period of time, it provided guided implementation and accountability measures. In the morning session, the instructor explained and demonstrated the key principles about CT/RT. In the afternoon, trainers provided class meetings in each teacher's classroom. Teachers were also given specific training about how to conduct their own classroom meetings. After the training, a specific plan of implementation was explained which included having two classroom meetings per week for an 11 week period. In this study, results indicated that the experimental group had higher scores on certain self-concept measures but no differences existed on the measure for locus of control. The follow-up assignments for teachers consisting of regularly scheduled CT/RT interventions in the classroom seemed to have a positive effect on self-concept of students and increased teacher accountability (Slowik, Omizo, & Hammet, 1984).

Studies that showed that CT/RT did not have an effect on achievement usually described limitations such as small sample size (Houston-Slowik, 1982), difficulty controlling for confounding variables (Browning, 1978), short trainings (Lynch, 1975),

and weak implementation of CT/RT in the classroom (Lynch, 1975). The achievement benefits of Glasser's Quality School are frequently noted (Glasser, 1998b). However, the intensity of training and implementation is intense and on-going (Glasser, 1998b).

The small sample size might have had an impact on the lack of significance of the study. If a larger number of achievement scores were analyzed and more teachers who were trained or not trained were included in the study, the outcome might be different. The gender distribution was relatively even, with 44 males and 39 females in the study. The total number of students who received instruction from a trained teacher was only 30 while 53 students received instruction from an untrained teacher. In the sample, two teachers were trained and three teachers were not trained.

Extraneous variables that could confound the results were not controlled in this study. For example, race, socioeconomic status, home life, experience of a traumatic event, anxiety, learning disabilities, and any other variables that might affect learning and performance on the achievement test were not factored out as possible confounding variables. Many variables could have an effect on achievement, even the state of mind of a child when taking the achievement test (Ma & Klinger, 2000; Rivkin, Hanushek, & Kain, 2005).

The homogeneity of the student population was rather consistent based on race, so it can be inferred that race was probably not a confounding variable. In regard to SES, there is not a lot of discrepancy among income, however slight differences do exist, especially with students who are at the very low end of the poverty scale. It would be worthwhile to control for this variable because the research shows that the interventions that aim to positively have an effect on school/classroom climate, such as CT/RT, have

the strongest impact on students with a low SES (Bookover et.al., 1977; Coleman, Hoffer, & Kilgore, 1982; Haynes, Emmons, & Ben-Avie, 1997). It would be interesting to dissect the population and see whether students in the lowest socioeconomic group showed more improvement when learning from a CT/RT trained teacher. Students with higher SES are usually exposed to more educational experiences as part of their daily family life, and education is usually more valued (Bradley & Corwyn, 2002). Therefore, these students are usually already motivated to learn, even if the classroom climate is not as positive and encouraging.

Although the influence of a quality teacher is noted as having more influence than any other factor on student achievement (Darling-Hammond, 1999; Sanders & Rivers, 1996, as cited in Darling-Hammond, 1999; Rowe, 2003; Wright, Horn, & Sanders, 1997), the home life of a student could easily interfere with learning (Bradley & Corwyn, 2001; Coleman et. al. 1966; White, 1982). If a student was preoccupied thinking about trauma that he or she experienced in his or her home and lived in constant fear, it would most likely be difficult to focus on academics. This is a factor that needs to be recognized in order to better understand the achievement of students. Students spend a lot of time at school, but family is also very influential (Coleman et. al., 1966; White, 1982), especially for elementary students because younger children are more dependent on the family unit (Bradley & Corwyn, 2001; White, 1982). This is another reason why classroom climate is so important to recognize. School counseling programs that help to improve the classroom climate are essential to assist students in getting their basic needs met. Part of developing a positive classroom climate is the creation of trusting relationships with teachers and peers that can potentially help at-risk students eliminate barriers to learning.

Additionally, it would be helpful to assess if teachers believe that CT/RT is a useful method to apply to their own lives. Based on Parish (1992), students need teachers who are going to model behavior based on CT/RT principles. Consistent with the constructivist learning theory, if teachers value and connect CT/RT to their own lives, they will be more likely to effectively use it in their classrooms (Fosnot, 1996). The CT/RT training in this study incorporated activities in the training to address how teachers can use CT/RT in their own lives. It would be interesting to measure how much teachers have internalized the concepts of CT/RT into their personal mode of operation, then measure to what extent teachers actually used CT/RT methods in the classroom. More research about teacher internalization of CT/RT methods in relation to the amount of involvement that teachers experience as trainers, or designers of the training program would be valuable.

Based on this study, it is difficult to recognize if teachers actually implemented the CT/RT methods from the training. In this study, the independent variable only indicated if a teacher received or did not receive training. Without assessing the implementation of CT/RT methods, it is difficult to know if a teacher was actually using CT/RT. It could be possible that some teachers who were not trained actually used more teaching methods consistent with CT/RT philosophy. Teachers could have received training in another venue, including reading about CT/RT or learning about the methodology in another educational training program. Many times teachers work as teams and share ideas with one another. A teacher who was trained in CT/RT might share strategies with his or her teammates. It would be helpful to collect data about how teachers use CT/RT in the classroom to better understand if CT/RT made a difference in

student achievement scores. This is a weakness of the study, and in the future it would be helpful to design a study that measures the implementation, not just whether teachers were trained or not trained.

The relevance and importance that teachers attribute to CT/RT theory was not tested in this study. Therefore, the motivation of a teacher to take the training might have been to receive ACT 48 credits and she had no interest in learning about CT/RT. Other participants might have been motivated to take the training for the benefit of learning. The motivation levels of teachers were not assessed in this study. The training was not mandatory where the study was conducted, so different levels of motivation might have existed and could have an impact on the likelihood of teachers implementing the methods in the classroom. It would be interesting to see if teachers who participated for the sole purpose of gaining Act 48 credit actually implemented the methods as compared to the teachers who participated for the benefit of learning.

The measure of achievement itself is often difficult to judge. Standardized achievement scores are only one type of assessment, and all students might not perform to their potential on this type of assessment. A student might be having a terrible day when taking the exam and extrinsic variables might affect his or her performance, such as lack of sleep, family trauma, bullying issues, etc., or a student might have test-taking anxiety and traditionally underperforms on standardized achievement tests. Outside variables might be situational, or ongoing, so it is difficult to know if a student was performing at his or her highest level on the achievement test. A longitudinal study and multiple forms of achievement assessment might help to control for this type of interference.

Differences in teaching styles also might attribute to variations on achievement tests. Some teachers might teach to the test, while others might teach a comprehensive curriculum that does not teach directly to the test. As cited in *The Quality School* (Glasser, 1998b), McNeil (1986) contended that many times teachers who provided quality instruction did not see evidence of students' achievement based on state-mandated achievement tests. This is because the tests are intended to measure low-quality learning. She suggests that other types of measures need to be incorporated to truly assess achievement rather than scores on a standard, machine-scored multiple-choice achievement test (McNeil, 1986).

In this study, of the trained teachers, one was a veteran teacher and one was a newly hired teacher. It would be beneficial to study the differences in training that the veteran teacher and new teacher received, the length of time that has lapsed between training and the test date, and the differences in perceptions about using CT/RT in the classroom. Therefore, date of hire would be helpful to discern in the study.

Students might have a good relationship with their teacher while other teachers might be more distant and unreachable. This is considered part of the social climate in the classroom. While CT/RT attempts to create a positive classroom climate where students get their basic needs met, other types of programs exist that can positively affect the social climate. Even the attitude and personality of the teacher can have a tremendous effect on the social climate of the classroom. Students might have an environment that is structured or unstructured. Boundaries might be enmeshed or diffuse in the classroom, which can affect the climate. Many variables exist to make-up the classroom climate of the room. The research conducted was based on the presence of a positive social climate

and the academic achievement of students. An assessment of the existing social climate would be helpful to see if the social climate was improved when students learned from a teacher who was trained and implemented CT/RT in the classroom. Teachers who were untrained and had a highly rated social climate would still be expected to have high achievement scores based on the rationale of the study. It is naive to assume that only teachers who are trained in CT/RT have classrooms with a positive social climate. It is more likely, but not explicit.

Based on the achievement results in both mathematics and reading, only two students did not get over half of the questions correct. It is possible that most of the students experienced a positive classroom climate that was conducive to high achievement, regardless of whether their teachers were trained or not trained in CT/RT. It would be interesting to see if the students who performed at the higher end of the achievement scale experienced more of a positive social climate as compared to the students who scored at the lower end of the scale.

School counseling is not a service-delivery model as it once was and now it is viewed as a comprehensive, collaborative, and systemic model designed to reach all students (ASCA, 2005). Based on this research, the school counseling led CT/RT teacher training program did not have an influence on the academic achievement of students. The confounding variables are important to control for because it is important to discern if the training is a worthwhile use of the school counselor and teachers' time. The training might be worthwhile if it is implemented differently and more follow-up, or coaching is provided. Further studies are necessary to determine if resources should be used to maintain the CT/RT training program, revamp it, or discontinue it.

Limitations.

In summary, the main limitations to this study were small sample size, not enough differentiation among trained and not-trained teachers, lack of identifying the actual implementation of CT/RT in the classroom, length of the assessment period, limited measures to decipher achievement, and lack of controlling for confounding variables. It is difficult to generalize the study to other populations because of the small sample size and the homogeneous population. In some ways, it was more controlled because of the homogeneity of the sample, due to all students being Caucasian and of similar socioeconomic backgrounds living in a small, rural community. However, this limits the findings because the effects of training teachers CT/RT were only assessed on this population.

It would be beneficial to expand the sample to be more representative of other school districts that are made up of similar demographics to test the hypotheses based on comparable dynamics. Also, a more inclusive study that has more differentiation that includes minority groups, various socioeconomic levels, and regions that are urban and suburban in addition to rural would be advantageous.

Recommendations for Future Studies

Based on the research findings more questions have been generated. In the future, it would be beneficial to see if longer training with proper follow-up and coaching would show differences in achievement scores between students who received instruction from a CT/RT trained teacher rather in comparison to a teacher who was not CT/RT trained. Also, it would be interesting to see if teachers' motivation for taking the training has an impact on actual use of CT/RT in the classroom.

Answers to what influences a teacher to use CT/RT in the classroom would provide great insight into structuring future CT/RT training programs. It would be useful to complete a study around this question and interview participants that went through the training program to see if they are implementing CT/RT methods and if so, which methods they are using. Some methods might be more useful and easier to implement than others. For instance, are they using open-classroom meetings, the WDEP questioning process, My Job/Your Job, or just viewing the students' or their behavior differently based on the theory? Additionally, learning what their motivation was to take the training and their beliefs about CT/RT before and after the training would be helpful.

The teachers' beliefs about CT/RT would be useful to research. For instance, do teachers value Glasser's theory? Do they use CT/RT in their personal and professional lives? If so, do teachers who believe CT/RT has value implement the methods more in their classroom than teachers who do not believe CT/RT has value? How do we know if the students are using CT/RT? Research about how students know they are getting their basic needs met would be an additional measure that could influence the effectiveness of using CT/RT in the classroom.

A longitudinal study that measures achievement across time with multiple measures would be helpful to see if students show more growth when having a teacher who is CT/RT trained as compared to other students who do not have a CT/RT trained teacher. The effects of student growth on an individual student who has various teachers, both trained and not-trained, throughout the years would be beneficial. Confounding variables would be easier to control if the individual is not compared to other students;

rather, just his or her own levels of growth throughout time based on having trained or not-trained teachers.

Conclusion

Ultimately, any questions that can be answered through research to help administrators, teachers, parents, students, and school counselors understand how CT/RT can be implemented in the school system to increase learning are important. Based on the research, many studies show that CT/RT has a positive influence on education (Browning, 1978; Gang, 1974; Glasser, 1998b; Green & Uroff, 1991; Houston-Slowick, 1982; Lewis, 2001; Lynch, 1975; Marandola & Imber, 1979; Matthews, 1972; Moede & Triscari, 1985; Parish, 1992 Passaro, et.al., 2004), especially *The Quality School* by Glasser (1992/1998b). Therefore, the implementation of using Glasser's CT/RT in the school seems to be a beneficial strategy to improve achievement. In this study, significance was not found to show that training teachers in CT/RT had an effect on students' achievement scores in mathematics and reading. However, many limitations were found which could have affected the results of the study. More research is needed to determine if training teachers in CT/RT has an effect on achievement. School counselors can use this study as a guide to help determine more effective ways to structure teacher trainings. In the school system, more research is needed to show how school counselors can incorporate CT/RT methods in a comprehensive way to use the theory and methods to improve academic achievement that is consistent with the ASCA model.

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APPENDIX A

October 22, 2010

Jane Hale has my permission to use data from the South Side Elementary School as part of her doctoral dissertation at Duquesne University. We are excited that Jane is choosing to review achievement data to see if training teachers in Choice Theory/Reality Therapy methods makes a difference in our students' achievement. If you have any further questions, please feel free to contact me at 724-573-9581, extension 1400, or by email at mkl@sssd.k12.pa.us .

Sincerely,

Michael K. Lewis
Principal, South Side Elementary School
4949 State Route 151
Hookstown, PA 15050
724-573-9581, ext. 1400

APPENDIX B

DUQUESNE UNIVERSITY

INSTITUTIONAL REVIEW BOARD

424 RANGOS BUILDING PITTSBURGH PA 15282-0202

Dr. Paul Richer
Chair, Institutional Review Board
Human Protections Administrator
Phone (412) 396-6326 Fax (412) 396-5176
e-mail: richer@duq.edu

December 14, 2010

Dr. Joseph Maola
School of Education
Duquesne University
Pittsburgh PA 15282

Re: An examination of reading and mathematic achievement among second grade students who have received instruction from either teachers who have been trained in choice theory/reality therapy methods or teachers who have not been trained (Protocol # 10-151)

Dear Dr. Maola:

Thank you for submitting the research protocol from your student, Ms. Jane Hale, to the IRB. Based on the review of Dr. Gibbs Kanyongo, IRB Representative, and my own review, your study is approved as **Exempt** based on 45-Code of Federal Regulations-46.101.b.4, regarding data without identifiers extracted from existing records.

This exempt approval pertains strictly to the research described in the protocol. If you and Ms. Hale intend to make a change in the research, you must submit a formal amendment for review before proceeding. In addition, you should inform the IRB if any adverse events or procedural problems occur impacting subjects. In correspondence about the research, please refer to the protocol number shown after the title above.

Once the study is complete, provide our office with a short summary (one page) of your results for our records.

Thank you for contributing to Duquesne's research endeavors.

Sincerely yours,

Paul Richer, Ph.D.
C: Ms. Jane Hale
Dr. Gibbs Kanyongo
IRB Records