TEACHER-STUDENT RELATIONSHIPS AND STUDENT ACHIEVEMENT IN GRADES SIX AND SEVEN MATHEMATICS

by

Julia E. Britt

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

Liberty University

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ABSTRACT

This study analyzed the effect of teacher-student relationships on the Virginia Standards of Learning (SOL) math scores for grades six and seven. Data were studied to determine if an increase in student achievement was related to the often-overlooked interpersonal human relationships between teachers and students. The researcher expected to find a correlation between positive teacher-student relationships and an increase in standardized test scores. The researcher analyzed the data of student scores in rural middle school mathematics' class and teacher characteristics to determine if a relation existed between student achievement and positive teacher-student relationships. The American version of the Questionnaire on Teacher Interaction (QTI) was used to collect information on teacher-student relationships from the student point of view and was correlated to end-of-year math SOL test scores. The participants were sixth and seventh grade students who answered questions about the mathematics teacher. The results of the survey were then compared to the year-end Standards of Learning Mathematics Test. The survey answers were compiled using a pre-set number organization that grouped the answers into the eight different teacher characteristic categories. In review of the overall percentages, it appeared that the students found the teachers in this mathematics-teaching group to have strong skills in leadership, helpfulness, dissatisfaction, and uncertainty. In the teacher categories, leadership, helpfulness, dissatisfaction, and uncertainty, there was a significant correlation between the Virginia Standards of Learning passing test scores and

teacher categories.

Keywords: Mathematics, Teacher-Student Relationships

Dedication

I dedicate this study to students across the globe who suffer in academics. Those are the students who have needed someone to reach out and build a relationship with them, much like the relationship we all aspire to have in all of our encounters with others on earth. I dedicate this to the student who wakes up every morning hungry, lacking in care and love, and sent to school to achieve great heights without help, but still achieves.

Acknowledgements

I would like to thank and express gratitude to several people who have supported me in this journey of my dissertation process:

To my husband who has encouraged me and spent time away from me so that I could work and write, with the end goal in mind, reminding me that I was surpassing the dreams of my father; and to my friends and family who cheered me on from the sidelines, and reminded me often to stay on track.

To my daughter, Amber, who will one day reach great goals of her own, and who, at twenty-three years old, is well on her way. She also reaches for heights that others around us do not dream and she spends many hours at night writing her own papers and reaching her own dreams. She spent much of her time praying for those around her.

To my mother, who listened intently with my ramblings about the research and those things not fully understood, but managed to tell me she was always proud of me.

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To Dr. Mark Angle, who would only accept the best work from me and was frank in his delivery of message to expand.

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supported me emotionally in times of strife.

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To all of the professors at Liberty University who touched my heart and my soul with the challenges to remain in Christian values in a world losing integrity and honesty. The lesson I learned about the path I traveled remains in my heart forever.

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List of Abbreviations and Definitions

- *TSR -Teacher-Student Relationship* – For the purpose of this study, the teacher-student relationship was the interpersonal perspective between teachers and students as indicated by the QTI (Wubbels, T. 2006).
- *QTI* - The Questionnaire on Teacher Interaction (American version), measured the interpersonal relationships between teachers and students. In the Model for Interpersonal Teacher Behavior (Wubbles 2006), there were two dimensions of Influence (Dominance-Submission) and Proximity (Opposition-Co-operation), which were measured in the survey.
- *SOLs* – Course- or year-end Virginia Standard of Learning tests were used to measure content mastery in the state of Virginia (Education V. D., School Report Card, 2011).
- *CM - Cortez Mathematics* – This was an online mathematics instructional tool. This program was designed and led by a group of educators who developed a new way to teach mathematics to all ability levels in one classroom or school. Computer instruction drove the class work, teachers provided small group instruction in pullout groups, and video based tutorials assisted with remediation (Corporation, 2009).
- *SM - Saxon Mathematics* – This was a specialized mathematics program that utilized technology in the mathematics instruction. Saxon math was developed by John Saxon in 1979 and was designed to transition middle level students from a

manipulative approach to mathematics to the textbook approach to mathematics instruction. This approach incorporated algebraic reasoning and geometric concepts (Harcourt, 2011).

- *Admonishing teacher characteristic as defined by The Questionnaire on Teacher Interaction* – The teacher gets angry, takes pupils to task, expresses irritation, is angry with students, forbids students to act, corrects students, and punishes students.
- *Dissatisfied teacher characteristic as defined by The Questionnaire on Teacher Interaction* - The teacher waits for silence, considers the pros and cons, keeps quiet, shows dissatisfaction, looks glum, questions, and criticizes.
- *Freedom teacher characteristic as defined by The Questionnaire on Teacher Interaction* – The teacher gives opportunity for independent work, waits for class to blow off steam, and gives freedom and responsibility to students.
- *Helpful teacher characteristic as defined by The Questionnaire on Teacher Interaction* – The teacher assists, shows interest, joins students, behaves friendly or in a considerate manner, is able to make a joke, and inspires confidence and trust.
- *Leadership teacher characteristic as defined by The Questionnaire on Teacher Interaction* – The teacher notices what is happening, leads, organizes, gives orders, sets tasks, determines procedures, structures classroom situation, explains, and hold intention.

- *Uncertain teacher characteristic as defined by The Questionnaire on Teacher Interaction* - The teacher keeps a low profile, apologizes often, waits and see how thing go, and admits one is in the wrong.
- *Understanding teacher characteristic as defined by The Questionnaire on Teacher Interaction* – The teacher listens with interest, empathizes, shows confidence and understanding, accepts apologies, looks for ways to settle differences, is patient, and is open to students.

CHAPTER ONE: INTRODUCTION

Educational research utilizing attachment theory has centered on the teacher-student interpersonal relationship. The relationship mirrored that of the parent-child relationship in development in similar influences. Teachers who understood the developmental needs of children grasped this concept and tended to be more sensitive to the formation of positive teacher-student relationships (Beyazkurk & Kesner, 2005). For centuries, when adult discussion occurred regarding early school experiences, the focus of conversation revolved around the teachers and the relationships that students had with them. The discussion may have sounded like, 'she was a great teacher . . . she liked me;' 'He would not give up on me;' 'She made me bring my books;' and so forth (Terry, 2008). According to Terry (2008), a fundamental question for most students is 'Does my teacher like me?' Terry says, "Given a rigorous, aligned curriculum, the answer to that simple question is our best predictor of student achievement" (p. 12). This thought was reiterated by Blankstein, Cole, and Houston (2007) who stated, "Relationships are the key to any success you might have in your school or organization" (p.57). While great teachers demonstrated the ability to deliver content and curriculum, there are effective teachers who had the potential to reach every student.

Background of the Study

This study intended to analyze the teacher-student relationship and its correlation to student achievement in grades six and seven math SOL tests. The research was analyzed for the relationship between the presence of positive student-teacher relationships and student achievement on Virginia Standards of Learning test scores. Consistently, statewide math scores were lower than any other content area in middle

school (As shown in Tables 1, 2, 3).

According to the information provided on the school report card, as reported by the Virginia Department of Education, (Education V. D., 2011) there was three-year trend data that indicated the number of students who passed and the number of students who actually tested in all subgroups in the area of mathematics performance. In the category, "all", (all students groups), federally mandated subgroups, the students of this school passed at a rate of 84 out of 100 students tested in the school year 2007-2008. In 2008-2009, the students of this school passed at a rate of 86 out of 100 students tested. In 2009-2010, the students of this school passed at a rate of 88 out of 100 students. This three-year trend data of category, all, students showed a steady slight increase over the school years from 2007 to 2010 (Education V. D., School Report Card, 2011).

The subgroup "black" showed a similar slightly steady increase in the three-year trend data. In the school year 2007-2008, the subgroup "black" showed an instance of 73 out of 99 students tested passed the mathematics test. For the school year 2008-2009, the subgroup "black" showed a slight increase of 77 out of 99 students tested passed the test. For the school year 2009-2010, the subgroup "black" also showed a slight increase in passing with 79 out of 100 students passing the mathematics test (Education V. D., School Report Card, 2011).

The "Hispanic" subgroup category showed slight increases in pass rates over the three-year trend, as did the prior two subgroups. The "Hispanic" subgroup for the school year 2007-2008 indicated 75 out of 99 students tested passed the end of year Standards of Learning Mathematics test. For the school year 2008-2009, the "Hispanic" subgroup showed a slight gain with 79 out of 99 students tested passed the mathematics test.

During the 2009-2010 school year, another gain was seen with 82 out of 99 students tested passing the SOL test (Education V. D., School Report Card, 2011).

Of the subgroup category "white", the three-year trend data showed a steady increase, although there was a higher percentage pass rate of this subgroup over the three-year period. The school year 2007-2008 demonstrated that the subgroup "white" had 88 out of 100 students tested pass the mathematics year-end test. The pass rate of the school year 2008-2009 showed a passing number of 90 out of 100 students. Ninety-one students passed the SOL mathematics test out of 100 students tested for the school year 2009-2010 (Education V. D., School Report Card, 2011).

The subgroup "SWD", Students with Disabilities, had a less noteworthy pass rate than the prior subgroup categories. For the school year 2007-2008, 63 of the "SWD" students out of the 99 tested passed the end of course test. The results of the school year 2008-2009 testing showed that 71 of the "SWD" students out of the 99 tested passed the test. Again, slightly increasing, the school year 2009-2010 demonstrated 73 of the "SWD" students out of the 99 tested passed the SOL mathematics test (Education V. D., School Report Card, 2011).

Another subgroup for testing data for the school board report was "ED", Economically Disadvantaged students. For this subgroup category, "ED," during the school year 2007-2008, 73 out of the 99 students tested passed the mathematics SOL test. The school year 2008-2009 data indicated that 77 "ED" students out of the 99 tested passed the mathematics test. This subgroup also showed slight increases in the three-year trend data, with 80 "ED" students passing the test out of the 99 students tested (Education V. D., School Report Card, 2011).

As indicated in the three-year trend data of all of the prior subgroup categories, the "LEP", Limited English Proficiency students also demonstrated a steady slight increase in the three-year trend data. The school year 2007-2008 provided 75 "LEP" subgroup students passed the test out of the 100 students tested. The 2008-2009 school year showed 79 "LEP" sub group students out of the 100 tested passed the mathematics SOL test. Eighty-two out of the 100 tested in the school year 2009-2010 passed the SOL mathematics test (Education V. D., School Report Card, 2011).

The following tables break down grades six and seven from the school division selected, in order to further understand the Mathematics Standards of Learning test, to further analyze the position of the grade level data, to understand where the three-year trend data was in 2007 to the school year 2010 at year's end. The following tables show the grade level data in table form to further ease the translation of the information.

Table 1

Virginia State Mathematics Testing Results Grade 6 Middle School X

VA State Grade 6 Student Subgroup Mathematics Performance	2007/2008 Passed/Tested	2008/2009 Passed/Tested	2009/2010 Passed/Tested
All Students	68/100	73/100	77/100
Black	53/100	60/100	65/100
Hispanic	56/100	65/100	70/100
White	75/100	79/100	83/100
SWD	49/100	59/100	61/100
ED	53/100	61/100	65/100
LEP	56/100	65/100	69/100

Note. SWD=Students with disabilities. ED=Economically Disadvantage Students. LEP=Limited English proficiency students. Adapted from the Virginia Department of Education 2011School. School Division, School Report Card 2011.Retrieved April 26, 2011.

Table 2

Virginia State Mathematics Testing Results Grade 7 Students (Grade 8 Mathematics Test – Pre-Algebra)

VA State Grade 7 (Grade 8 Test Pre-A) Student Subgroup Mathematics Performance	2007/2008 Passed/Tested	2008/2009 Passed/Tested	2009/2010 Passed/Tested
All Students	83/100	85/100	87/100
Black	72/100	77/100	79/100
Hispanic	74/100	78/100	79/100
White	89/100	90/100	91/100
SWD	58/100	69/100	71/100
ED	72/100	77/100	79/100
LEP	72/100	76/100	81/100

Note. SWD=Students with disabilities. ED=Economically Disadvantage Students. LEP=Limited English proficiency students. Adapted from the Virginia Department of Education 2011School. School Division, School Report Card 2011, Retrieved April 26, 2011.

With an increase in data-driven instruction and teacher accountability, teachers could have been at risk of being focused more on the data and less on the relationship with the student. Teachers and students that had the same resources, supplies, and support were performing differently. Teachers were finding a wide range of success on Virginia state tests, despite being privy to similar data and resources, and serving comparable student groups. Blankstein et al. (2007) emphasized the importance of teacher-student relationships, as well as how these relationships acted as a thread to weave school success. With the globalization of education and the use of computers to enhance instruction or instruction to enhance the use of mathematics computer programs, the researcher posed that the human interaction of instruction would suffer, along with the teacher-student relationship.

Caring and supportive student-teacher relationships contributed to positive

> outcomes for students at risk for academic failure, social isolation, and school dropout. In fact, young adolescents wanted rewarding relationships at school that were characterized by compassion, respect, personalization, fellowship, and friendship (Doda & Knowles, 2008, p.120).

This study focused on the academic achievement of middle school students and the teachers with the goal of reducing undesired behaviors and increasing the positive interactions between the students and increasing student achievement, which tended to be the vision of most middle schools across the globe (Doda & Knowels, 2008).

Statement of the Problem

Did the teacher-student relationship have a significant connection to the success of students? The purpose of this study was to examine the correlation between the teacher-student relationship and student success on year-end Virginia Standards of Learning (SOL) mathematics tests in grades six and seven. The teacher-student relationship was measured with the QTI questionnaire developed by Theodore Wubbels in 2006. The scores of grades six and seven mathematics Virginia Standards of Learning tests administered in May 2010 were compared with the results of the data from the questionnaire. The study analyzed achievement within the sample population that had a high percentage of free-and-reduced-price student subgroup of a rural and diverse Virginia school system. This school was not accredited and failed to make AYP in 2007; the school was not accredited, but made AYP by safe harbor in 2008; and the school did not meet AYP in the preliminary data for 2009. This subgroup continued to underachieve, and the number of discipline referrals for minor infractions had increased during these three years.

Research Questions

Two research questions guided this study:

1. Did students who had positive relationships with teachers have higher scores on the Virginia Standards of Learning mathematics tests, as measured by the Questionnaire for Teacher Interaction survey?

2. Did students who were scoring higher as defined by the score of greater than three hundred and ninety nine (passing score) on individual tests on mathematics tests, have positive relationships with teachers and have higher scores on the mathematics Virginia Standards of Learning tests than students who do not exhibit a positive relationship, as defined by the Questionnaire on Teacher Interaction in teacher categories; strict, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain ?

Hypotheses

Null Hypothesis One: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic admonishing.

Null Hypothesis Two: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic dissatisfied.

Null Hypothesis Three: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic freedom.

Null Hypothesis Four: There will be no statistically significant difference the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic helpful.

Null Hypothesis Five: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic leadership.

Null Hypothesis Six: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic strict.

Null Hypothesis Seven: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher

characteristic uncertain.

Null Hypothesis Eight: There will be no statistically significant difference between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic understanding.

Significance of the Study

The study was significant to the field of education wherein the research project could help to identify a correlation between teacher-student relationships and student achievement on state-level tests. The researcher hypothesized that teachers who foster positive teacher-student relationships tended to have higher student achievement (i.e., higher test results). The intent was to ascertain if the best teachers fostered good classroom relationships and if this relationship increased student achievement.

This research was also significant to the school division involved in the study because there was a historical trend in this middle school for online mathematics instruction. With greater demands on teachers to ensure student success, the findings proved useful to classroom teachers and the administrative staff. A school administrator for another division, the researcher had witnessed a disjoint in teacher-student relationships in some classrooms, particularly those including the online instruction and those classrooms where programs drove instruction in contradiction to the lecture instruction of the past. Noting a widening achievement gap, the researcher observed teachers whose students consistently scored higher, and wondered what those teachers were doing differently than teachers with the same supports, resources, and materials that

did not experience such success.

CHAPTER TWO: REVIEW OF THE LITERATURE

Introduction

The goal of this investigation was to find teacher characteristics that enhance and create a positive teacher and student relationship that also increased student achievement in mathematics. Many theories surrounded this study including Balwin and Ainsworth's Attachment Theory, (Bretherton, 1992), the Social Cognitive Theory and of Self-efficacy (Pajares, 2002), Maslow's Humanistic Theory, (Maslow, 1943), the work of Bruner (1977), Vygotshy (1978), Rogers (1980), Bandura (1986), and Maslow (1987) and the Constructivist Theory.

Attachment Theory

As the joint work of two leading theorists, attachment theory evolved around the covenants that basic needs are met, with the theory surrounding the bond of mother and child and the infant's ability to explore the world (Bretherton, 1992). John Baldwin, one of the originators of this theory, was a student in developmental psychology and was set upon his journey of study by two children that he experienced in his career who had severed bonds with their mother or had unstable bonds with their mother (Bretherton, 1992). Baldwin decided to study the clear separation of mother and child and the effects of the separation on the child. Mary Ainsworth followed up with her work in her dissertation, which brought self-assessment scales into the attachment theory (Bretherton, 1992). Ainsworth joined Baldwin's research work on the effects on personality of separation from mother. Baldwin concluded that in order to be mentally healthy, the infant must receive a warm, caring, and intimate relationship with the mother

(Bretherton, 1992).

Social Cognitive Theory

The social cognitive theory was based on the three facets of environment, people, and behavior (Arievitch & Haenen, 2005). The founding principles of this theory were that learning was socially manifested and that students learned through the teacher as the essential model and facilitator within the social learning environment (Arievitch & Haenen, 2005). The reseacher suggested that this interpersonal interdependence was built on the preface that students learn in social interaction (Arievitch & Haenen, 2005).

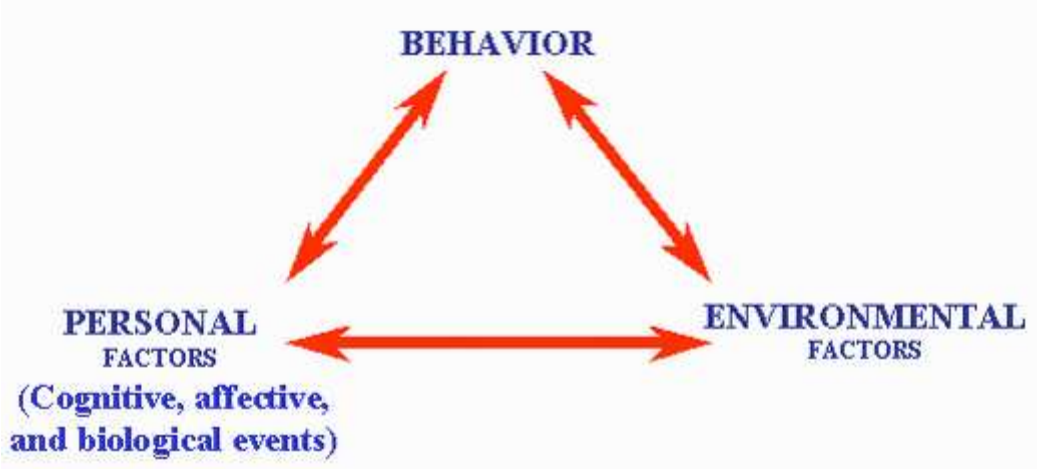


Figure 1. Overview of Social Cognitive Theory and of Self-efficacy
Source: (Pajares, 2002)
From http://www.emory.edu/EDUCATION/mfp/eff.html.

Motivational Theory

Maslow's humanistic theory indicated that human interactions and behaviors were working toward goal attainment and that one could have obtained several needs at one time by one single action (Maslow, 1943). Maslow's Hierarchy of Needs was leveled into five groups:

- Self-actualization – morality, creativity, problem solving (Maslow, 1943)
- Esteem – included confidence, self-esteem, achievement, and respect (Maslow, 1943).
- Belongingness – included love, friendship, intimacy, family, and social interactions (Maslow, 1943).
- Safety – included security of environment, employment, resources, health, and property (Maslow, 1943).
- Physiological – included air, food, water, sex, sleep, and other factors towards

homeostasis.

Figure 2. Maslow's Hierarchy of Needs Pyramid (Knowledgebase, 2011)

This transcribed to learning and the classroom indicated that if basic needs are not met, learning is impeded. The third rung of belongingness was important in this research because the relationships in the classroom were formed from the basic needs of safety and of the physical needs being met (Maslow, 1943).

Constructivist Theory

According to the work of this theory, the learner was viewed as the constructor of his own learning, building upon prior learning experiences in a social learning environment. The work of Bruner (1977), Vygotshy (1978), Rogers (1980), Bandura (1986), and Maslow (1987), all contributed to the constructivists' theory of learning within the social interactions with peers or with adult guidance as a learning experience that built upon prior knowledge.

Teacher-Student Relationships

The researcher delved deeper into the research and uncovered a varying array of sub concepts which all related to the main research topic of teacher-student relationships. The researcher discovered case studies that exposed the characteristics of schools that have effective system environments in which teacher-student relationships flourished. The underlying theme of trust in the classroom was a weaving thread throughout the entire literature review. The researcher uncovered outside barriers that can undermine the effort to create environments in which teacher-student relationships could flourish and dedicated a section to the concept of these outside negative influences. The work focused on a study in which mathematics is taught with the assistance of online programs. This research provided insight on the online classroom and the teacher-student relationships. This portion of the research uncovered the phenomena of classroom dominance and control in the classroom, which the research indicated directly affected teacher-student relationships. Every member of the school staff impacted the teacher-student relationships and the research was poignant in discussion and data concerning school leaders and the impact leaders have on teacher-student relationships. As with any relationship, gender, socioeconomic status, and cultural differences were all uncovered as

to the impact all categories had on the teacher-student relationship.

In the 1992 study, "Overcoming the Odds: High Risk Children Birth to Adulthood", Werner and Smith (1992) stated, "A caring relationship with a caring adult enables at-risk youth to make life-altering changes" (p.34). It is important to give a certain degree of freedom to students in fostering this relationship (Werner and Smith,1992). Responsibility for learning and opportunities to work independently are equally important (Fisher & Fraser, 1998). These theories were utilized to direct this research proposal towards investigating effective strategies that teachers may have used to ensure student achievement. As our society became more global, students came to teachers with ever-more unique needs, talents, and abilities. Pianta (1999) suggested that each individual student formed a unique relationship with teachers. The relationships formed in the classroom were complex, and this research pointed to a myriad of factors that resulted in positive student-teacher relationships (Pianta, 1999). Studies showed the complexity of these relationships and the policies and administrative support needed to foster them (Pianta, 1999). According to Csikszentmihalyi (2000), adolescent students spend 26% of the day alone, 34% with friends, and 19% with classmates. This indicated that little time was spent with adults. According to the study, the typical American adolescent spends less than five minutes a day with the father figure (Csikszentmihalyi 2000). This indicated that students do not spend enough time with adult role models. (Csikszentmihalyi, 2000) Teachers often spend more time in the presence of students, than do the parents. The researcher proposed that this was a reason to become a proponent of the development and the study of positive teacher-student relationships in the classroom (Csikszentmihalyi, 2000). According to Armstrong (2006), the typical

middle school and junior high school shuttled students from one teacher to the next teacher every forty five to sixty minutes, which was only making the problem worse. Armstrong (2006) also pointed out that middle schools that used looping or middle schools that utilized the same homeroom teachers for the entire time (years) of the life of a student's stay in middle school, created environments in which students developed strong teacher-student relationships that sustained over time (Armstrong, 2006).

The researcher, a school administrator, observed that many middle schools had continuous interruptions during valuable classroom time that removed or shifted students to other adults or locations throughout the building. An example of this was been a student who received remediation and was taken out of other classes to have the mathematics remediation take place (Cunningham and Allington, 1999). Children were shuffled from teacher to teacher, program to program, or service to service all day long, with interaction among many adults, but interaction with one adult was limited (Cunningham and Allington, 1999). Educational leaders should not have designed this master schedule of student movement, if high achievement was in mind. Cunningham and Allington (1999). School reform measures looked for the best methods and strategies to reform teaching and learning and to observe and model instruction that was finding success in the classroom (Cunningham and Allington, 1999). This also indicated a need to look at schedules and to make schedules that keep students with one adult for a period of time (Cunningham and Allington, 1999). With the business of everyday activities and required special services, some students were absent most of the time from the core classroom, therefore lacking the time to be in the classrooms to build positive teacher-student relationships (Cunningham and Allington , 1999).

Toste (2010), a postdoctoral research fellow at Vanderbilt University, submerged into the research of the teacher-student relationship and the student with disabilities (Toste, J. R. Heath, N. L. and Dallaire, L., 2010). Toste (2010) suggested that the relationship made a significant contribution to student academic success. This was particularly true of students with special needs (Toste, J. R. Heath, N. L. and Dallaire, L., 2010). The mutual trust, bonding, like, and respect was part of the Classroom Working Alliance research of Toste (Toste, J. R. Heath, N. L. and Dallaire, L., 2010). Toste (2010) indicated that if students with special needs felt they had a strong collaborative relationship with their teacher, it was negated by the overall negative experiences the students had in the school (Toste, J. R. Heath, N. L. and Dallaire, L., 2010). Students who had positive and collaborative teacher-student relationship experiences, had different outcomes in school (Cooke, 2011). Teacher-student relationships were sometimes not discussed due to the tainting of the relationshisp from negative news media of unformtuante instances between teachers and students in some situations (Pickens, 2010). The overall impact of a wholesome postive reationship between teacher and student allowed a humanistic insight into issues that may have arisen in student life (Pickens, 2010). This type of relationship fostered an environment of cooperation and learning. This relationship also encouraged closer monitoring of student behavior and provided a common ground for the teacher to guide and direct students (Pickens, 2010). The research linked the overall wholesome positive relationship to the thread of trust between the teacher and student in the classroom relationship (Pickens, 2010).

Trust

A trusting relationship between teacher and student was critical to the growing

trend of creating sustainable learning communities. In the Empowered School District Project (Short & Greer, 2002), the trusting relationship between the teacher and students was the most intriguing topic in the study. The study stated that students that were empowered liked to feel part of the decision-making process in the classroom (Short & Greer, 2002). Although all teachers in this study were volunteers, they showed a severe pattern of resistance to sharing the empowerment of classroom decision-making with students (Short & Greer, 2002). The sense of teacher ownership seemed to impede the ability of expert teachers to allow students to gain empowerment by sharing in instructional decision-making (Short & Greer, 2002). The authors of The Empowerment School District Project indicated that the problem might have been generational; adults did not feel comfortable rescinding authority to a younger generation (Short & Greer, 2002). Empowering students in the teacher-student relationship did not coincide with the traditional classroom relationships teachers had experienced in the past (Short & Greer, 2002). The authors of the study pointed out that the teachers were not comfortable in allowing students to make decisions about what they would learn and/or the methods of learning (Short & Greer, 2002). Often, it was difficult for teachers to let go of control of the classroom enough to entertain the idea of student empowerment and to view teaching as a coaching role rather than the teacher as the sole owner and dictator of the classroom, the curriculum, the methodology, and the learning that was taking place in the learning environment (Short & Greer, 2002). Trust had to be built between the teacher and the students to alleviate some of those feelings of lack of control so that the transition to shared leadership between the teacher and the students in the classroom could take place. Lambert (2003) talked about the relationships of shared learning. He stated that it is what

people learn and did together that made true learning experiences. Lambert (2003) referred to school leaders as participating in shared learning experiences with teachers and which the research suggested to use particular models of shared leadership, empowerment, and trust in the classroom (Lambert,2003). The researcher experienced this in the classroom as a former teacher for ten years. The rich discussion and the conversation that surrounded situations in which questions were posed that both the teacher and students needed to research and find answers to was a valuable and rich learning experience that created a bond between the teacher and students in search for the answers that were sought (Edelson, 2001). In this type of situation, ideas were shared and trust was built in the teacher-student relationship (Edelson, 2001).

The Virginia Department of Education (Education V. D., School Report Card, 2011) viewed the trust building process as valuable, in which schools and educators build trusting relationships with whole familes in the instance of increasing student success and offered the strategies to incorporate the relationship of trust (Services & Office of Special Education, 2002, p. 26). The Virginia Department of Education suggested that the greeting of all family members on entrance to the school or meetings, as a formal introduction, helped in the creating and keeping of a welcoming school environment (Services & Office of Special Education, 2002, p. 26). It also suggested to maintain the cleanliness of the physical building to attract and welcome visitors to the institution. Another suggestion was to display visitor signs that welcomed the reader/visitor and to make those signs appealing to the eye and welcoming (Services & Office of Special Education, 2002, p. 26). As parents and visitors arrive, the department suggested the giving of a welcoming packet to new enrollees and the parents or guardians to create a

phyiscal momento to take home or to referrence later if questions arose (Services & Office of Special Education, 2002, p. 26). Those packets should be printed materials that are offered in the native languages of the students and families who attend the school or who show interest in attending the school (Services & Office of Special Education, 2002, p. 26). A public relations person or committee should monitor the tone of the messages that are deleivered to families and make sure that messages are consistent, uniform, and clear to the reader (Services & Office of Special Education, 2002, p. 26). If concerns arise, the Virginia Department of Education suggests that it is imperative for the administration and teachers to provide prompt replies to parent or community members (Services & Office of Special Education, 2002, p. 26). This included the creation of a contact on the first incident of any concern with follow up to monitor the concern or bring closure to the concern (Services & Office of Special Education, 2002, p. 26). The department suggested that schools and school leaders create opportunites for group/family activities at school so that all parties feel comfortable entering the institution and concerns or visits will be professional and relaxed (Services & Office of Special Education, 2002, p. 26). The suggestion was also focused on meeting with parents outside the school setting to create a sense of trust and belonging (Services & Office of Special Education, 2002, p. 26). This could be accomplished by the administration providing opportunites for teachers and families to meet outside of school and for the administration to increase opportunities for parents to be co-learners in the student learning opportunites (Services & Office of Special Education, 2002, p. 26). School leaders are encouraged to increase and monitor the communication about student needs and achievment to parents and to all stakeholders (Services & Office of Special

Education, 2002, p. 26).

Teacher trust in students and parents was found to be a significant positive indicator of differences in urban elementary school achievement of students (Goddard, 2003). The study focused on the trusting relationships within the school, and was conducted by distributing a survey to teachers. The dependent variables were reading and math achievment for the student groups (Goddard, 2003). The conclusion of the study indicated a need to form trusting relationships within the school community to build greater student achievment (Goddard, 2003). The study also concluded that without trust between students and teachers, the students lacked a facet of the social support needed for increasing student achievement (Goddard, Tshannen-Moran, & Hoy, 2001). In order to discover the actual data related to the creation and maintaining of positive teacher-student relationships, it was imperative to research and analyze case studies that had been performed in actual schools, the affects of the studies, and the overall common denominators in postive teacher-student relationships (Goddard, Tshannen-Moran, & Hoy, 2001).

Case Studies

In the case study, "The Ripple Effect of Conflict," (Henze, Katz, Norte, Sather, & Walker, 2002) the Rainbow School was suffering from friction among racial groups and a lack of inter-personal relationships. The principal analyzed this area of concern and, as part of the central focus to get the school back on track, focused on shifting the dynamics of relationships within the building (Henze, Katz, Norte, Sather, & Walker, 2002). In order to do this, the principal strategically developed opportunities for teachers and students to get to know each other (Henze, Katz, Norte, Sather, & Walker, 2002). The

principal also focused on facilitating “families” of students and teacher groups, which united and met throughout the year (Henze, Katz, Norte, Sather, & Walker, 2002).

This strategy increased and developed the occurrence of adults in the building getting to know students that they would normally have no contact with in the school (Henze, Katz, Norte, Sather, & Walker, 2002). Schedules were designed so that students and the teacher mentor were matched in a manner in which students may have been purposely matched with an adult who did not serve in the teacher role for the student, which created an unbiased advocate for the student (Henze, Katz, Norte, Sather, & Walker, 2002). A particular time was built into the school schedule for the school families to meet and start building the relationships (Henze, Katz, Norte, Sather, & Walker, 2002). The outcome of these initiatives at Rainbow School was improvement in behavior throughout the school and an increase in overall student achievement (Henze, Katz, Norte, Sather, & Walker, 2002). The adult mentors held students accountable for good behavior and good grades (Henze, Katz, Norte, Sather, & Walker, 2002). Themes were built into the initiative so that the meetings were purposeful and meaningful for both the student and the teacher (Henze, Katz, Norte, Sather, & Walker, 2002). This theme was evident in the new trends of school reform as an indicator of student success (Henze, Katz, Norte, Sather, & Walker, 2002). Yoon (2002) pointed out that there was not a great deal of literature that revealed specific teacher behaviors that fostered positive teacher-student relationships, but common sense indicated that teachers with warm and caring attitudes toward students fostered good relationships (Yoon, 2002). It was suggested that some teachers went into the profession of teaching because of the genuine interest and love of working with students, which drove the teaching profession (Yoon, 2002).

Teachers were in the presence of the children of the parents whose students were being served at the school (Yoon, 2002). Parent perceptions of the teacher-student relationship in the classroom could have affected the overall perception of the school and the perception of the classroom activities (Goodlad, 1984). According to Goodlad (1984), "both high and low levels of satisfaction may have been quite powerful indicators of the quality of the relationships between teachers and students in the classrooms" (p. 93) (Goodlad, 1984). If parents felt that the relationship of the teacher and students was a positive one, the parents would have felt more vested in the whole classroom experience (Goodlad,1984). Parents who held the students close to the heart and wanted the best situation possible for the students, felt more vested in the system (Goodlad,1984).

At Maplewood Richmond Heights High School, St. Louis, the administration was reaching out to build teacher-student relationships by strongly suggesting home visits and looping with students to build strong and lasting relationships (Henke, 2011). The commitment was school wide and involved all staff, which was to build strong relationships by personalized service to students and parents (Henke, 2011). Although the commitment was not mandated, many teachers and staff participated (Henke, 2011). Teachers were trained and paid for home visits and the level of student achievement and the decrease of instances of discipline referrals was evidence of the effect of the building of these relationships among staff and students (Henke, 2011). A northern California community school, Whitman High School, served a highly diverse and equally economically dispersed student body with a varying level of student achievement (Mitra, 2003). The researcher designed the focus group questions to see what type of supports students needed to be successful in the classroom (Mitra, 2003). The four main themes of

the data were as follows: the effort of improving the reputation of the school, the support for incoming ninth graders by efforts of the guidance department, the effort in improving the communication between teachers and students, and the effort in raising the quality of teaching overall (Mitra, 2003). This focus group later became the formation of the student forum and increased the teacher-student relationships school wide (Mitra, 2003). Teachers learned that students liked student focused activities rather than teacher focused lessons, and students learned more about the perspective of teachers as well as how the school operated by using student voice in school reform (Mitra, 2003).

The teacher- student relationship was studied to examine the teacher and student behaviors that led to good teacher student relationships in large urban schools (Wilkins, 2006). Eight large urban high schools participated in the study to gain information on the teacher-student relationship (Wilkins, 2006). The study concluded that there were seven teacher behaviors that contributed to good teacher-student relationships (Wiltkins, 2006). The first behavior was that the teacher was demonstrating care and concern. The examples of these behaviors were making an effort to get to know the students, talking to students outside of the classrooms, being available to listen to the students' problems, and encouraging students to pursue outside activites (Wilkins, 2006). Secondly, the teacher was offering help. This was shown by helping students with problems, helping students to understand when they were in trouble, offering extra help in class, and being available before and after class (Wilkins, 2006). Not only did teacher behaviors in the classroom support the students socially, but the support was felt academically if the teacher was providing academic support (Wilkins, 2006). Teacher behavior in this categroy included explaining concepts not grapsed by students, showing students how to do activites,

helping students study for exams, encouraging students to do their best, giving positive feedback on papers, and allowing students to do extra credit (Wilkins, 2006). This helpful behavior was supportive in that the teacher was interacting in a positive manner. Teachers who exibit this skill included those teachers who exhibited patience with students, listening to students, praising students to do good work, using a sense of humor, being able to take a joke, and being friendly to students (Wilkins, 2006). Along with patience and humor, respect was shown as a behavior when the teacher was being respectful and fair – teachers did this by allowing students to make classroom decisions, respecting student opinions, elliciting student opinions, allowing students to take on classroom responsibilites, speaking respectfuly to students, encouraging students to be mature and telling them so, and interjecting teacher personal experiences into the lessons (Wilkins, 2006).

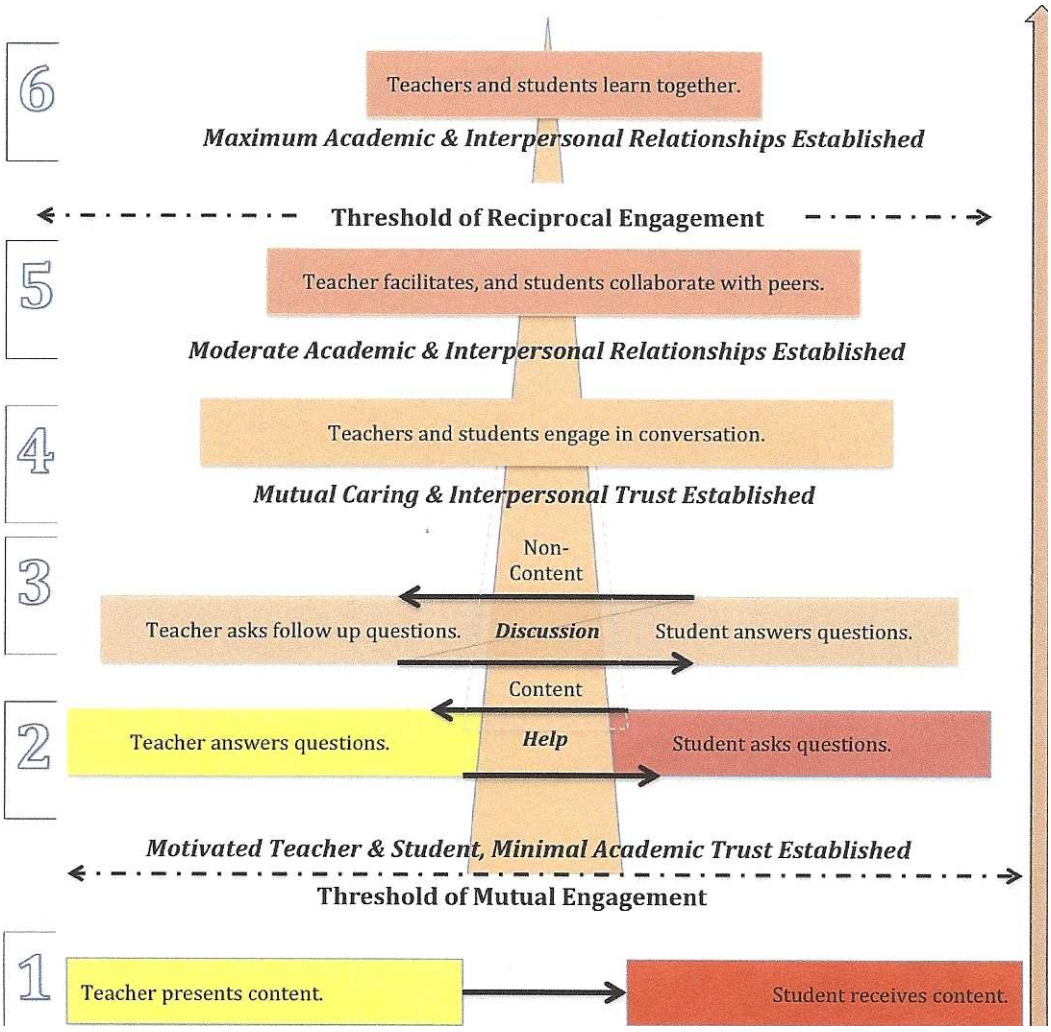
A private elementary school in a suburban South-Central region of the United States was used to study the micropolitical relationship of the teacher-student (Spaulding, 1995). The study indicated that teachers and students developed micropolitical behaviors in the classroom to achieve personal goals (Spaulding, 1995). This study demonstrated that students and teachers had their own persoanl goals in a classroom and that the goals were achieved in the relationship by certain behaviors (Spaulding, 1995). The behaviors of the teacher and students affected the outcome of the relationship (Spaulding, 1995).

An elementary classroom and one teacher was used in a qualitative study that used grounded theory and case study methodology to identify and describe the methods that an upper elementary school teacher used to develop a relationship driven classroom (Divoll, 2010). All students in this study indicated a positive relationship with the teacher

(Divoll, 2010). The teacher in this study exhibited the following traits: the teacher listened to the students about problems and concerns; the students felt connected to the teacher; the teacher demonstrated a concern to the wellbeing of the students; the teacher demonstrated a positive physical interaction with students by giving hugs, a pat on the back, or put an arm around the students (Divoll, 2010). This created characteristics in which students felt when the relationship was positive and the teacher displayed the prior listed qualities, that the classroom relationship was beneficial (Divoll, 2010). The students felt known by the teacher, the teacher knew the dislikes and likes of the students, the teacher took a personal interest in the students, the teacher supported the students with their problems, the teacher respected and appreciated the students, the teacher valued the differences of the students, and the teacher considered the feelings of the students (Divoll, 2010). The students had and felt a sense of belonging in the classroom (Divoll, 2010).

Tracy Davis Sands (2011) found an embedded threory in her work that included the tranfomation from a very limited interaction of the teacher giving information and the students receiving the information to the highest realm of teacher-student relationship of teacher and students learning together (Sands, 2011). This was a six stage representation that moved from the first exchange of information to the final stage: a mutual satisfying and academicly strong relationship (see Figure 1) (Sands, 2011). The first stage was the stage in which the teacher gave information to the student and the student received the information (Sands, 2011). The second stage was the beginning of the two way communication exchange in which the student asked questions and the teacher answered the questions (Sands, 2011). This was labeled as helpful as a characteristic of the teacher

(Sands, 2011). Discussion began in the third stage with the mutual exchange of ideas in which the teacher asked follow up questions and the student answered the follow up questions (Sands, 2011). As the formation of mutal caring and respect evolved, the formation of mutual conversation began (Sands, 2011). In stage five, the moderate academic and interpersonal relationships were established in the process of the teacher facilitating the classroom lesson and the students beginning to collaborate together as peers (Sands, 2011). This collaboration led to the teacher and students learning together, which created the sixth and final step in the relationship building process and the maximum academic and interpersonal realstionship were established and maintained (Sands, 2011).



The development of teacher-student relationship threshold

Figure 3. The Relationship Factor: Understanding the Role and Development of Teacher-Student Relationships in Middle School. Source: Sands (2011).

This study found valuable behaviors of teachers who entice positive relationships with students in an effort to create environments for effective learning and mutual respect. The research indicated that this process could be interrupted at any time by outside barriers that blocked or deteriorated the likelihood of positive teacher-student relationships (Sands, 2011).

Outside Barriers

Allen Blankstein (2004) referenced the importance of teacher-student relationships, as well as how those relationships were the underlying elements of school leadership and student achievement (Blankstein, 2004). He suggested that in order to build solid relationships, opportunities were needed in which students and teachers interacted with students inside and outside of the school setting (Blankstein, 2004). Blankstein (2004) cautioned, however, that teachers were not always equipped to deal with the level and seriousness of the problems students brought to school from their personal lives outside of school to the school and classroom setting (Blankstein, 2004). The building of relationships that were genuine and trusting allowed for the opportunity for students to reveal personal and private situations to the teacher and that sound judgment was needed to handle these situations in a professional, but caring, manner (Blankstein, 2004). At first, teachers may have been alarmed at some of the situations that students faced in the everyday operations in the lives of students, but Blankstein (2004) went on to note that teachers may have jumped to the conclusions that such negative or poor situations and problems inhibited the abilities of students, which may have not be true at all (Blankstein, 2004). Teachers often realized that teaching was a demanding profession with all of the tasks involved, and that intrinsic motivation of the teacher led to the ensuring of student achievement, despite the barriers (Blankstein, 2004). Consequently, it may have been a great challenge for teachers to weave the dynamics of the lives of students into the day to day professional processes of data analysis, planning, and daily operations, as well the effort of trying to build and develop trusting relationships between students and other colleagues so that data could have been objectively analyzed and discussed in all relationships with stakeholders in the

organization (Blankstein, 2004).

Demographics were shown as an outside barrier in the factor of studying student achievement (Blankstein, 2004; Fouts, Abbott, & Baker, 2001). According to the technical report of the Washington School Research Center, the income level variance explained a much larger percentage of variance than the subgroups of ethnicity variance (Fouts, Abbott, & Baker, 2001). The present and ever widening achievement gap indicated that ethnicity was no longer the central factor in barriers to learning and relationships, but socioeconomic status was a major factor in students maintaining school relationships and achieving on standardized scores (Fouts, Abbott, & Baker, 2001; Rotherstein, Rotherstein, and Lauber, 2003). Rotherstein, Rotherstein, and Lauber (2003) pointed out that, despite great efforts from many great schools, not even the best schools have managed to close the ever growing achievement gap (Rotherstein, Rotherstein, and Lauber, 2003). Reeves (2006), in The Learning Leader, found a statistical association between student poverty and achievement (Reeves, 2006). Reeves (2006) went on to point out that educational leaders should have paid attention to the variables in data analysis and thoroughly investigated the relationship between variables in studies that indicate an association between the apparent achievement gaps in lower socioeconomic students (Reeves, 2006). Robert Ingersoll (2003) echoed this information with the notion that teacher quality mattered in student achievment and that high poverty schools have a difficult time retaining highly qualified teachers, thus pointing back to the socioeconomic status of students as a factor in relationship building between teachers and students (Robert Ingersoll, 2003; Reeves, 2006).

Social networking was a new arena and perhaps was an outside barrier or was an

opportunity for teachers to interact with students outside the classroom (Safe Social Networking for Teachers and Students, 2011). Precautions were given at division level meetings to caution teachers about the interjection that social networking sites may have fostered negative or unsafe interactions (Safe Social Networking for Teachers and Students, 2011). With the onslaught of technology and the increased use of social networking by teachers and students, there was a breeding ground for inapproriate interactions between students and teachers, thereby forming negative teacher-student relationships rather than the desirable positive teacher-student relationship researched in this study (Safe Social Networking for Teachers and Students, 2011). It was reported that in the past ten years, 120 teachers, in Virginia alone, lost their teaching lisenses due to online sexual misconduct by teacher to students, resulting in the formation of negative or innapropriate teacher-student relationships (Safe Social Networking for Teachers and Students, 2011). Virginia was not the only state to have these instances occur (Safe Social Networking for Teachers and Students, 2011).

New teachers often experinced the outside barrier of being a novice in the classroom (Penrose, 2009 & Kohn, 2005). The research proposed that new teachers needed professional development in the classroom to learn how to create positive teacher-student relationships and how to foster shared ownership of the classroom (Penrose, 2009). Kohn (2005) cited that relationships were the key to classroom management for new teachers (Kohn, 2005). Kohn (2005) suggested that teachers “accept all students for who they are” and embrace their differences (p. 21) (Kohn, 2005). Kohn’s (2005) writings indicated that teachers needed to be not just mindful of the wrong doings of students, but be mindful to appear happy to see students and let students know that they

were cared for and trusted in the classroom (Kohn, 2005). Kohn (2005) stated that "unconditional teachers were not afraid to be themselves with students, to act like real human beings rather than crispy controlling authority figures" (p.22) (Kohn, 2005). There were certain factors which controlled the building of postive teacher-student realtionships (Mendes, 2003; Kohn,2005). There were key steps to building postive teacher-student realtionships according to Mendes (2003), who offered the following: Teachers should ask students about their interests and try to understand the interests of the students and as the teachers interact with students, teachers should pay attention to students' non-verbal responses in the body language emitted by the student (Mendes, 2003). Along with understanding the verbal and physical clues of communcation with the student, the teacher should use self-discloser; when appropriate, this self-discloser can be used to uncover some personal feelings or experiences that are appropriate to disclose in the classroom setting; be real (Mendes, 2003). Teachers should build on what is heard from students by sharing stories, interests, and worries (Mendes, 2003). This includes life experiences and concerns (Mendes, 2003). Teachers displaying empathy with indivduals and in classes, by communicating what is determined the needs or feelings of the students may be, is appropriate in some incidences (Mendes, 2003). By following this interaction, the teacher listening skills are enhanced by listening activley, and by the teacher being attentive by the matching expressions of students and conveyed moods of the students in an effort to know the students (Mendes, 2003). Teachers who get to know the world of the students are then able go first and to open the relationship door. Shere (2003) stated, "…showing respect and building realtionships had far more lasting effectivness than do the more controlling practices. Teacher thoughtfulness, kindness, patiences, tolerance,

and understanding toward students, even when they act thoughtlessly, unkindly, impulively, intolerantly, and insensitively…" (p.5) (Shere, 2003).

Teacher behavior influenced that of the students and student behavior influenced the teacher behavior (Shere, 2003; Petegem, Creemers, Rosseel, & Aelterman, 2006). This circular cummunication process drove the classroom environment (Petegem, Creemers, Rosseel, & Aelterman, 2006). Teacher-student interaction had a direct impact on achievment (Petegem, Creemers, Rosseel, & Aelterman, 2006). Questioning techniques, praise, and reinforcment of positive behavior all had an impact on the classroom realtionship (Petegem, Creemers, Rosseel, & Aelterman, 2006). The classroom discussion and interactions between student and teacher were social, managerial, and instructional (Petegem, Creemers, Rosseel, & Aelterman, 2006). Social interaction had a direct influence on the achievment of students (Petegem, Creemers, Rosseel, & Aelterman, 2006). The postive social interaction increased the sense of belonging in the classroom group (Petegem, Creemers, Rosseel, & Aelterman, 2006). There were direct questioning techniques, as suggested by Grossier (1964) that directly influenced the teacher-student realtionship and the interaction of the relationship:

- Clear specific questions should be used that channel student response (Grossier, 1964).
- Questions should be preplanned and purposeful and geared to the lesson (Grossier, 1964).
- Questions should be succinct (Grossier, 1964).
- Questions and discussion should have student friendly vocabulary with introduction to new vocabulary as nessessary (Grossier, 1964).

- Teachers should elicit higher level thinking skill and integration of new material to tie the subject concepts together (Grossier, 1964).
- Thought provoking questions should be used to teach students to analyze and understand concepts deeply (Grossier, 1964).

These questioning techniques generated rich and meaningful discussion that created a dialogue that enhanced the social and instructional relationship and developed positive teacher-student realtionships (Redding, 2006). The research suggested that the tone and level of respect should have also been examined to create the supreme teacher-student relationship and the discussion had been reflected upon after the fact to see if the goals were obtained and the level of respect would have been the highest possible (Redding, 2006). Wang, Haertel, and Walberg (1997) found, upon examination of twenty eight catagories of teacher influence on the academic success of students, that there were eleven top catagories of influence affecting student success, eight of which were the following in the social-emotional influence: classroom management can influence the relationship, parental support is a necessary ingredient to the relationship, social behavior attributes and motivational-affective attributes should be studied, peer group influence as a primary influence, the school culture and classroom climate, and the factor of influence of teacher-student interactions (Wang, Haertel, and Walberg , 1997). The caring teacher-student relationship, in a caring and orderly climate, advanced the connection and the commitment to fostering adult-student norms and increased the instance of student success (Greenberg et al., 2003).

Karen Wentzel (1998) created a study of 167 sixth grade students in a middle class community school. The study was intended to study the relationships in the

classroom and the motivation and ability to achieve (Wentzel, 1998). This study was in support of previous studies in which lower income students were the focus (Wentzel, 1998). It was apparent that the interpersonal relationship had an impact on the direct achievment of students. Wentzel (1998) suggested that positive social interaction may have produced opportunites and experinces that enhanced learning or that the postive social interaction reduced distress in the classroom and therefore enhanced learning (Wentzel, 1998). The findings indicated that parents, teachers, and other adults were all separate supports and that, combined, created a support network in which students were able to achieve (Wentzel, 1998).

Attitudes and beliefs created barriers to positive teacher-student relationships (Labratory, 1992). This resistence to change of the school culture was concerning preconceived attitudes and beliefs of the staff (Labratory, 1992). These beliefs and attitudes created mental images of what school should be or look like and people became resistant to change, creating a negative atmosphere (Labratory, 1992). The relationships and attitudes about the teacher-student relationship were affected as the school wide culture changed (Labratory, 1992). Students who felt the sense of community were part of the positive teacher-student relationship (Labratory, 1992). Another problem with barriers to creating positive relationships and student achievment was that all students must achieve and all students brought different problems, issues, backgrounds, and experinces to the classroom (Labratory, 1992). There were external and internal barriers to student success (Center for Mental Health in Schools, 2008). Hawkins, Catalano, and Miller (1992) sited a variety of external and internal barriers that impeded student achievement:

Table 3

Barriers of Relationships

External barriers		Internal barriers	
Community	Crime, drugs, poverty, media violence, moving, and firearms	Differences	Developmental delays or non-age appropraite development, not meeting the norms of the community
Family	History of problem behavior, conflict, parental attitudes	Vulnerabilities	Physical or mental disabilites, economic disadvantage, focus of racial or ethnic bias, rebellion, antisocial behavior
School	Failure starting in primary grades	Disabilites	True learning disabilites
Peers	Peers relationships or influence		

(Center for Mental Health in Schools, 2008; Hawkins, Catalano, & Miller, 1992)

Online Learning Environments in the Classroom

With the increased usage of pre-designed programs to assist with instruction in the classroom, the research proposed that the teacher-student relationships were impacted by the influx of technology and the technology driven instruction in core areas such as mathematics, English, science, and history (Ling-Shih, 2004; Clark, Jamison, & Sprague, 2005). The new barriers of online instruction impeded or forced change in the pedagogical design of instruction for educators (Ling-Shih, 2004). Technology was increasing by being used as a primary tool in the classroom and new methods for teaching students were almost constantly being introduced; one of the most common tools was technology and computer driven instruction (Clark, Jamison, & Sprague, 2005). With the focus on global learning and competiviness in school programs, schools continued to purchase programs and technology to enhance instruction in the classroom

(Clark, Jamison, & Sprague, 2005). Some critics suggested that schools purchased too many programs and fidelity of implemenation was not followed through on the numerous progams which most promised to show gains in achievement for all students (Clark, Jamison, & Sprague, 2005). Teachers in the same curriculum program may have implemented the same program with different levels of fidelity and creativness (Wilhelm, 2008). O'Conner, Small, and Cooney (2007) proposed that the following risks may have compromised the fidelity of an online program: the teacher directed reduction in the time alloted for the program usage, along with the decreasing of the participant engagment on behalf of the students; teacher chosen or directed elimination of key compenents of the program, (program not used with fidelity); teachers purposely removed topics of online instruction based on curriculumn needs; and the teacher adaption of the theoretical thread of the program (O'Conner, Small, and Cooney, 2007). Another barrier was the use of staff who were not trained to use the programs or were not qualified in the content area being used, which resulted in the using of less staff than the program required (O'Conner et al., 2007). Proponents of online mathematics programs exerted that students were digital technology natives and needed increased opportunites to utilize available technology to increase interest and success in learning (O'Conner et al., 2007). Butzin (2001) pointed out that instructional technology had a relativily short history in public schools and that there was not a great deal of research to end this deliberation between the advocates of technology use in the classroom and the critics of technology driven instruction (Butzin, 2001). There is a growing body of research that cited the effectiveness of computer-based learning (Butzin, 2001). The research suggested that the idea of classroom dominance may have shifted in the classroom in which the main

instructional tool was computer based learning (Butzin, 2001; Rovia, 2000). This caused a shift in classroom dominance from teacher based instruction to computer based instruction. Online discussion opportunites elicited greater opportunity to being opened and to have shared experiences and experienced this sharing more openly (Butzin, 2001; Rovia, 2000). Students reacted more with online discussions, chat, and collaborated more in online discussions than in face to face interactions (Rovia, 2000). A study in the San Francisco Bay area conducted by Cordova and Lepper (1996), produced a dramatic increase in student motivation and learning by comparing two different online instructional tools, one with an abstract delivery and one with a meaningful and appealing learning contex (Cordova and Lepper, 1996). The students who had the meaningful lesson were more engaged in their own learning and learned more in the time period set for the study (Cordova and Lepper, 1996). Further research was needed to observe and analyze the paradigm shift from teacher driven lecture based instruction to the computer based technology driven instruction and the varying array in between those to ends in which the teacher was a guide and supplement to prefabricated online curriculum programs (Cordova and Lepper, 1996).

The question remained, did online learning envionments lack the meaningful positive teacher-student realtionships (Kremer, 2011)? Online learning environments created a complex communication situation in which students were forced to make complex communication decisions, manage conversation and computing, and negotiate relationships with others in the room (Kremer, 2011). The question remained, how did students mangage these relationships in a computer lab with forty computers, thirty students, and one teacher (Kremer, 2011). Some classes utilized secure email exchanges

or discussion boards and blogs to overcome the relationship and communication issue (Kremer, 2011)? Texting could have been used, but caution had to be used and rules were set up to monitor the content and ettiquette of the classroom computerized discussion (Kremer, 2011). Online communication and sidebar conferences with students were the key to keeping the student-teacher interaction alive (Kremer, 2011). There were suggested safeguards to keep social networking between parents and students on a professional level to protect staff and students during student-staff exchanges (Kremer, 2011). These safeguards included the instance of allowing the administration access and knowledge of the site being used and the sites used school created/supported sites only (Kremer, 2011). Reminders were set to help stakeholders remember that online exchanges with students should be educational and professional with the use of goals for usage and a clear vision for use of the social networking (Kremer, 2011). In order to monitor and maintain a professional usage, schools created and maintained a code of conduct for the networking (Bumgardner & Knestis, 2011). Rules included the suggestions of not posting pictures of students without a signed release from parents/guardians to maintain privacy, and keeping security tight and only allowing those in the class to join the discussion (Bumgardner & Knestis, 2011). In online classroom environments, teacher-student relationships had a give and take of classroom dominance (Bumgardner & Knestis, 2011).The question was who was in charge?

Classroom Dominance

In the research involving classroom dominance, some teachers showed evidence of a preference of using different levels of control in the classroom. (Petegem et al., 2006) There were teachers who preferred a disciplined and structured classroom

environment and there were teachers that preferred a casual setting and classroom environment in which students were free to be creative and move about the room (Petegem et al., 2006). Teacher-student interpersonal relationships varied in the same degree as the environments of the classrooms (Petegem et al., 2006). Classroom authority shifting ultimately impacted the notion of classroom dominance (Petegem et al., 2006; Gorton, Alston, and Snowden, 2007). Gorton, Alston, and Snowden (2007) explored the belief that teachers held the authority that had a direct relationship to student control (Gorton, Alston, and Snowden, 2007). Gorton, Alston, and Snowden (2007) Gorton et al. (2007) stated that teachers based their authority in knowledge of the subject matter and pedagogy, and that teachers tended to believe they must have complete authority and control over students (Gorton, Alston, and Snowden, 2007). Teachers often felt the need to rule the classroom to avoid classroom management problems (Gorton, Alston, and Snowden, 2007). University professors often suggested to pre-service teachers to come into the first day of school serious and ruling with a hard stance (O'Grady, 2011). O'Grady (2011) reiterated this though by stating that her supervising teacher warned her to go in serious to the classroom and warned her to not smile until months into teaching (O'Grady, 2011). Some professors were quoted as telling the pre-services teachers to make an effort not to smile and to ease into being pleasant to the students (O'Grady, 2011). O'Grady (2011) The research suggested the opposite (O'Grady, 2011). Setting the tone for the first day of class may have been the prime time to add an air of acceptance and belonging to both students and teacher and aided in the creation of a positive learning environment. Gorton et al. (2007) suggested that these types of beliefs of complete teacher dominance could have severely impeded innovations

in school reform, and created challenges to the educational professionals to rethink the current paradigm shift of student empowerment and the authority and the shift in the notion of who controls what in classrooms (O'Grady, 2011; Gorton et al., 2007). This suggestion rang true to administrators who wanted to lead the learning community in working together as a horizontal team in which all stakeholders had decision making abilities and a voice in changes, and not as a top-down leadership model with students at the bottom of the pile with little input (Gorton, Alston, & Snowden, 2007). A learning-centered model was evident in the Cornelius-White (2007) article on a meta-analysis of teacher-student relationships (Cornelius-White, 2007). Cornelius-White (2007) indicated that learning-centered relationships focused on student variables and learning processes to ensure student success (Cornelius-White's, 2007). This referred to the need for transparency in educational encounters and the results of such research. Keeping the teacher control issue in mind, it was important to consider the point of views of teachers (Cornelius-White's, 2007). In a study by Leitao and Waugh (2007), three overlying themes became known in emotional and classroom relationships for teachers and students: teacher-student connectedness, communication between teacher and student, and the availability of teacher to the students (Leitao and Waugh, 2007). Students needed to feel a connection to the learning and to the classroom as a classroom family (Leitao and Waugh, 2007). In order to form the feeling of connectedness, responsible and respectable communication must have taken place and parameters and rules must have been in place (Leitao and Waugh, 2007). Teachers must have also appeared available and approachable so that students could feel safe in approaching the teacher for the discussion of issues, concerns, or ideas (Leitao and Waugh, 2007; Blum, 2005). These classroom

families formed teams that interacted with other classroom teams or families, forming grade level neighborhoods (Leitao and Waugh, 2007). According to Blum (2005), students who felt connected in classrooms exhibited three characteristics: students who had perceived strong teacher support and strong academic standards, students who had respectful and positive teacher-student relationships, and students who experienced environments in the school which made students feel emotionally and physically safe (Blum, 2005).

Classroom teams or team teaching provided a unique opportunity to develop relationships in the classroom (Minnett, 2003). Minnett (2003) spoke of the basic team of two professional teachers in one classroom to use the expertise of both teachers in the classroom to enhance student learning (Minnett, 2003). This model was often seen as the classroom inclusion or collaboration model in which there was only one content level teacher and one special education teacher (Minnett, 2003). Minnett (2003) points out that the relationship between the team teachers needed to be honed first so that students could have achieved at a higher and more meaningful level (Minnett, 2003). This shaping of the teacher-teacher relationship took a great deal of effort and a shared control of the classroom setting, to have impact on the teacher-student relationship (Minnett, 2003). Minnett (2003) wrote about the personal relationship that needed to be fostered to create a working relationship in which both teachers were valued and not one teacher was in more of control of the classroom than the other teacher (Minnett, 2003). Once this teacher-teacher relationship was developed and nurtured, the enthusiasm for teaching was built and students started to become a part of that wholehearted learning environment (Minnett, 2003). It was also imperative that the classroom not be dominated by just one

student or one group of students, but that democratic relationhips and shared ownership be created (Minnett, 2003). Relationships among peers in the classroom may have also promoted success in the mathematics classroom (Minnett, 2003). Buckley (2008) argued that peer association in interactions could have functioned in a variety of ways to develop and encourage positive attitudes, sound values, and desired behaviors related to student learning (Buckley, 2008). The power of the classroom and the power of realtionships were studied by Zhang Xiaogui (2006) in the analyzation of the power realtionship in the mathematics classrooms (Zhang Xiaogui, 2006). Xiaogui first defined power and then proceeded to the relationship portion of the analysis (Zhang Xiaogui, 2006). Xiaogui indicated that there were two pedagogical models for teaching mathematics, both of which effected the realtionships in the classroom in different ways. The first model was the traditional model with complete teacher control; students were in desks, the teacher was in front of the room, and the teacher had the power and control of the discussion in the classoom (Zhang Xiaogui, 2006). In this model, the teacher gave the assignment and the students worked independently on the assignments (Zhang Xiaogui, 2006). This was the tradtional method which was still used in China, the United States, and in many classrooms (Zhang Xiaogui, 2006). The other method, collaborative learning, was supported by international mathematics education supporters (Zhang Xiaogui, 2006). Upon summary of the shut the box game, a collaborative learning game, Michael Todd Edwards (2006) summarized the study in the following areas: teachers began to see the benfits of collaboration and big problem solving in interactions with other teachers, the study participants began to see mathematics as a connected discipline, and the benefits of solving authentic mathematics problems and the rich relationship building that took place

in this type of instructional model (Edwards, 2006).

Collaborative learning involved collaborative practice and collaborative inquiry (Xiaogui, 2006; Edwards, 2006). Collaborative practice involved the teacher introducing the subject in mathematics class and then, through the process, the students were moved into smaller groups in which real world mathematical problems were solved collaboratively (Xiaogui, 2006; Edwards, 2006). Collaborative inquiry involved groups reporting back to the classroom in intervals with the whole group discussion by the whole class supported the effort to solve the problem (Xiaogui, 2006). Xiaogui (2006) pointed out that the teacher controlled the relationship in the classroom with gestures, language, facial expressions to control the climate of the class, and this took place just as soon as the class started (Xiaogui, 2006). The shift of the realtionship power was evident in the traditional method of teaching in which students were powerless in the relationship, to a shift to the collaborative model in which students and teachers shared opinions and the trust to speak freely was developed (Xiaogui, 2006; Edwards, 2006; Goodlad, 1984). Goodlad (1984) traveled from school to school doing intuative observations of classrooms and noticed that in the core subject areas, teachers dominated the classroom in speech and behavior and in the arts and elective type classes, the opposite instance of teacher dominance was true (Goodlad, 1984). The students seemed to enjoy the interaction with the teachers more in the less textbook oriented classes and less lecture based classrooms of the arts, electives, and physical education than lecture based and textbook oriented classrooms (Goodlad, 1984). Goodlad (1984) noticed a remarkable increase of student decision making and less time teachers had to control student behavior (Goodlad, 1984). Students who were involved in the decision and rule making

process tended to adhere to the rules and stay busier in the problem solving and trying to please the teacher (Sullivan, 2002). This included intrapersonal empowerment, the ability for students to achieve personal goals through social and academic achievment, and interpersonal empowerment, the ability of students to interact with students in a positive manner, one which was free of conflict with peers and teachers (Sullivan, 2002). Student empowerment was fluid, unstable, and tenuous (Sullivan, 2002). Although students' empowerment could have been fragile, it could have been controlled by the teacher (Sullivan, 2002). This research also suggested that students who were able to control the social and academic goals were better able to relate to peers and teachers. This led to higher motivation to achieve in academics (Sullivan, 2002).

Teachers and students cycled through developed relationships in which power and control were tested for both sides (Aultman, Williams-Johnson, & Schultz, 2009). The relationship between the teacher and student was continually developing and involved negotiating and maintaining the social connection of the relationship (Aultman, Williams-Johnson, & Schultz, 2009). This often resulted in a struggle over the control of the classroom and dominance of the teacher-student relationship (Aultman, Williams-Johnson, & Schultz, 2009). Classroom control and classroom management by teachers was one of the areas that the teacher-student relationships developed and which was crucial in the success of the classroom (Aultman, Williams-Johnson, & Schultz, 2009). The effective teacher-student relationship in the classroom was characterized by the several factors: the teacher provided strong guidance in academic and behavior, the teacher control versus permissiveness in the classroom, and the teacher's ability to work as a cooperative team with students. This led to the ability of the teachers to be aware of

the various needs of individual students and the knowledge in how to address those needs (Aultman, Williams-Johnson, & Schultz, 2009).

The teacher-student relationship was the foundation to the classroom management and the control of the behaviors in the classroom setting research (Reeves, 2006; Aultman, Williams-Johnson, & Schultz, 2009). Students in a study for democratic classrooms demonstrated behaviors that found that relationship building between the teacher and student created a more democratic classroom in which students could help to make decisions about learning (Reeves, 2006). The study found that the more democratic the classroom, the more students were interested in learning and the instance of discipline was more relationship based (Reeves, 2006). Students believed that teachers sometimes used coercive discipline which decreased student involvement and responsibility, which in turn distracted the students from the learning (Reeves, 2006). Interestingly enough, students in a secondary setting in this study felt less involved in the classroom democracy than did sixth grade students in the same study (Lewis, 2001; Reeves, 2006). One of the dilemas in the instruction was that students may or may not have been directing their own learning (Lewis, 2001; Reeves, 2006). Students could, and did, direct the learning agenda in problem based learning. This type of interaction had students creating rich discussion about the problem based learning and extending the learning to outside the classroom (Lewis, 2001; Savoie & Hughes, 1994). The relationship dynamic shifted in problem based learning to further empower students and place the teacher in a more collaborative role (Savoie & Hughes, 1994). A study completed by Spyros Konstantopoulos reiterated this idea in the early grades (Konstantopoulos, 2011; Savoie & Hughes, 1994). The study indicated that, beginning in kindergarten, the teacher

influence significantly impacted student reading and mathamatics scores in the later secondary grades (Konstantopoulos, 2011). This was one of the first scientific longitudal experiments to find that teachers did in fact impact student achievment over a long period of time with the influence greatest in interaction of the teacher-student relationships started in the early grades (Konstantopoulos, 2011). The finding was that the influence of the teacher, termed, "teacher effect," continued to be a strong predictor of student achievement in later years (Konstantopoulos, 2011). The study went on to suggest that the hiring of strong, effective teachers in the early years increased the future success of the students in the later years (Konstantopoulos, 2011). Pais (2009) suggested that the following ideas would help increase the instance of postive teacher-student relationships:

Table 4.

Teacher Action to Promote Relationships

Teacher Action	Increased sensitivity and interact in a positive way with students.
Teacher Action	Teachers should be well prepared for class.
Teacher Action	High expectations should be held for all students.
Teacher Action	Respond to students as needed and provide choices for students.
Teacher Action	The induction was used, instead of coersive discipline. (Induction is explaining rules and reasons for rules.)
Teacher Action	Teach students and help students to be kind to fellow students.
Teacher or Leader Action	Help repair relationships in which the adult has been dominating and controlling.

Pais (2009)

The research suggested that there were a few questions that school divisions should

have asked in the effort to increase student achievement (Pais, 2009). The overall question was how did teachers establish and maintain postive teacher student relationships (Pais, 2009). This could have been accomplished with the following attributes: most teachers had an understanding of student interests and background, teachers displayed appropriate affection for students, and most teacher had the abilities display control and objectivity (Pais, 2009; Marzano, Frontier, & Livingston, 2011).

There were questions to ask at the classroom level and the need to provide evidence of realtionship building: (Marzano, Frontier, & Livingston, 2011)

- Did teachers have side discussions about student life events? Was time allotted to discuss relevance of instruction in relationship to the curricum content (Marzano, Frontier, & Livingston, 2011)?
- Did teachers discuss topics which interest students? Did students find interest and relevence in the topics (Marzano, Frontier, & Livingston, 2011)?
- Did teachers include student interest topics in curriculum lessons? Did teachers ask for student input about curriculum lessons (Marzano, Frontier, & Livingston, 2011)?
- Did students describe the teacher as someone who is interested in them? Did the teachers care about the students and did the students feel the caring (Marzano, Frontier, & Livingston, 2011)?
- Did students respond when teachers demonstrated understanding of student interests (Marzano, Frontier, & Livingston, 2011)?
- Did students feel accepted (Marzano, Frontier, & Livingston, 2011)?

Christensen offered guidance in making a student-centric approach to education in the new innovative educational realm (Christensen, Horn, & Johnson, 2011). This student-centric approach customized learning for individual students which increased the use of technology for the purpose of increasing student achievement (Christensen, Horn, & Johnson, 2011). The following was a list of key points that assisted in incorporating the student-centric approach to student achievement (Christensen, Horn, & Johnson, 2011). First, all students learned differently – students had different learning needs (Christensen, Horn, & Johnson, 2011). Schools used a disruptive positive force in which old methods were no longer used if ineffective and new innovative technology methods were incorporated into instruction (Christensen, Horn, & Johnson, 2011). Also, student-centric technology was used instead of monolithic technology, which was the one size fits all instuction of the past (Christensen, Horn, & Johnson, 2011). Online learning had proven to change, or disrupt, old educational models and schools would see much greater change in the near future with online instruction (Christensen, Horn, & Johnson, 2011). Innovative technology was made less expensive and, therefore, reached more students; more students used the technology to frame and change the problem solving process (Christensen, Horn, & Johnson, 2011). Transforming early childhood education methods to incorporate technolgy and student-centric methods versus monolithic methods of the past, and motivation of students to learn, increased trust in the classroom relationship, and the use of longitudinal data to track and predict college success, gaining employee buy in for student-centric education (Christensen, Horn, & Johnson, 2011).

Teacher-student relationships were the basis for classsroom management and was the key for increasing student achievement (Marzano, 2011). Marzano (2011) pointed out

that taking interest in students and building relationships in the classroom would have likely increased the instance of a balanced classroom dominance and increased instance of positive teacher-student relationships (Marzano, 2011). Marzano's (2003) best practices included having infomal discussion with students about student interests, acknowledging students outside of the school building, having lunch with small student groups in the lunch room, being aware, and discussing student extracurricular activities, pointing out student achievements outside of the school setting, and greeting each student by name (Marzano, 2011).

School Leaders

Student dominance and relationship building were and could have been observed school wide (Hoy and Miskel, 2008; Marzano, 2011). Teachers tended to teach as they were taught and leaders seemed to lead as they were led (Hoy and Miskel, 2008; Marzano, 2011). Hoy and Miskel (2008) offered a formal look at how school leaders and teachers considered control of students at the building level (Hoy and Miskel, 2008) ; Marzano, 2011).In the traditional model, custodial culture was the norm (Hoy and Miskel, 2008). This was a rigid and highly controlled environment in which operating order and student maintenance was the focus, teachers held autocratic organization, and students were low in the hierarchy of school control and decision-making or input (Hoy and Miskel, 2008). The opposite was true in the humanistic culture, where the school was viewed as an educational community; students learned through cooperation, and were allowed to experience opportunities to help make decisions about the school and student learning (Hoy and Miskel, 2008). This method led to a system of two-way communication between students and teachers, a democratic atmosphere, and an increase

in self-determination (Hoy & Miskel, 2008). This type of leadership was substantially affecting school culture (Hoy and Miskel, 2008; Deal & Peterson, 1999). The research suggested that school culture could have determined the success or failure of students in core content areas (Deal & Peterson, 1999). The school leader was responsible for building and maintaining a positive school culture, one in which students and teachers felt empowered, and one in which positive relationships could have been built (Deal & Peterson, 1999). School culture affected every part of the activity of day-to-day school operations from what faculty talked about in the lunchroom, to the type of instruction that was valued, and the way professional development was viewed (Hoy and Miskel, 2008; Deal & Peterson, 1999).This also affected the importance of learning for all students (Deal & Peterson, 1999). Leaders who shaped positive school culture valued the importance of shared leadership, positive relationships, and culture building that promoted a culture of affirmative teacher-student relationships (Deal & Peterson, 1999; Schein, 1985). Positive and shared school culture built commitment and identification of teachers as leaders, students as leaders, and effective school leaders (Schein, 1985). Schein (1985) pointed out that people would have been motivated, committed, and inspired by a positive social environment (Deal & Peterson, 1999; Schein, 1985). The research implied that school leaders who encouraged positive school culture, fostered positive relationships not only with teachers and students, but also throughout the whole building (Deal & Peterson, 1999; Schein, 1985). The research proposed that common sense points to the fact that the more everyone was involved in decisions and ideas, the more educational buy-in was ensured (Schein, 1985). This was shown in the study, Leaders Transforming Learning and Learner (Bezzina, 2010). In this study, the elements

of the "LTLL" conceptual framework were as follows:

Table 5

Elements of LTLL – Leaders Transforming Learning and Learner

Values	A school should hold particular values that should be visible in the life and the rhetoric of the school environment.
Ethics	The school community binds itself by how the values are lived out.
Transformed Learner	Transformed Learner – transformed learners will use the morals and ethics of the school community to become lifelong learners and to engage actively in the school community.
Educative Leadership	This is the ability to influence other to enhance student achievement.
Authentic Learning	Authentic Learning – learning that is based on pedagogy and student engagement.
Teacher as Leader	Teacher as a Leader – the ability to embrace the vision and the values of the school to transform learners to enhance achievement.

Leaders Transforming Learning and Learner (Bezzina, 2010)

The leaders in this study were able to explain and enhance student achievement by transforming the school culture so that the vision and moral purpose was a foundation and rational for the delivery of the curriculum content for the school (Bezzina, 2010).

School leaders needed to be mindful of the technological impact of online learning communities on relationships in the classrooms (Bezzina, 2010; Ferriter, 2011). Keeping the shared leadership and building rules for social media tools was a balance that the savvy leader would have approached with caution and embraced to create global learning environments in which the human impact was sustained (Ferriter, 2011). The dissemination of information throughout the classroom, parental homes, among staff, and

the community could have been obtained through social media websites and blogs so that uniform messages were sent and received, and, in short, so that all stakeholders received communication (Bezzina, 2010; Ferriter, 2011). School leaders built a vision and goals to reach the vision held for the use of social media communication and the leaders also modeled the etiquette for online opportunities to build relationships throughout the school community (Ferriter, 2011). Since the onslaught of social media, school leaders faced unprecedented challenges to educate an increasingly multicultural student population and must have also considered the widening economic desparites among twenty first century students (Ferriter, 2011; Greenberg et al., 2003).

Dufour and Marzano (2011) indicated a need for leaders of education to change the thinking and discussion about the leading of teachers and students to achievment (Dufour and Marzano, 2011). Dufour and Marzano (2011) wrote school improvement was about people improvement (Dufour and Marzano, 2011). School leaders needed to recognize that school improvement involved more than knowing how to increase teacher knowledge about pedagogy, but how to improve the classroom environment and the relationships in the classroom (Dufour and Marzano, 2011). The following were suggestions offered by Dufour and Marzano to assist schools and whole school systems rather than just individual teachers: professional learning as an ongoing activity; professional development embedded in the career, rather than as a separate activity; specific professional development aligned to the goals of the division rather than trendy new ideas; results focused rather than project focused; and viewed as a collaborative effort rather than a single action as a school system (Dufour and Marzano, 2011). Four school profiles were examined in the creation of *Breaking Ranks in the Middle* (NASSP,

2006). Joe Greenberg, Principal of Lehman Alternative Community School in Ithica, New York, shared his thoughts on relationships with students, teachers, and school leaders. The main points made in this profile were the following: (NASSP, 2006).

- Student adult advocates (NASSP, 2006)
- Individual student learning plans (NASSP, 2006)
- Teachers who care about the students (NASSP, 2006)
- Student center projects with culminating exhibitions (NASSP, 2006)
- Integrated and interdisciplinary curriculum (NASSP, 2006)
- Highlighting exemplary learning in the community (NASSP, 2006)
- Alternative assessments (NASSP, 2006)
- Flexible scheduling (NASSP, 2006)

This school made learning personal by building meaningful relationships with all students from all cultures. School leaders knew and understood the needs of the students and knew something personal about every individual student (NASSP, 2006). Making personal connections included involving parents/caregivers to share in relevant learning experiences for students (NASSP, 2006). The relationship building included all realms of the individual cultures of the students (NASSP, 2006; Natasha Warikoo, 2009).

Cultural Differences

Natasha Warikoo (2009) studied the teacher-student relationship in the context of race and ethnicity (Warikoo, 2009). Warikoo (2009) found that teachers made easier connections with the ethnic groups most closely identified with them (Warikoo (2009). Warikoo studied teacher-student matching in an urban high school in New York (Warikoo, 2009). The conclusion of the study indicated a need for teachers to study

diversity training and interrelations in education (Warikoo, 2009). This was an area of need in educational research (Warikoo, 2009; Brok, Wubbels, & Tartwijk, 2009). A Dutch study noted that multi-ethnic studies in teacher-student relationships were scarce in classroom studies (Brok, Wubbels, & Tartwijk, 2009). The results of this study indicated that influence and proximity were emergent factors in the study (Brok, Wubbels, & Tartwijk, 2009). Howard (2001) researched the perceptions of African American urban students of the teachers in the learning environments and found that ethnic and linguistic diverse students wanted teachers who cared about students, who actively created positive classroom environments, and had engaging instruction as the primary means to classroom management (Howard, 2001). The most frequent theme in the study was the teachers' ability to care about students and who were culturally responsive to the ethnicity of students (Howard, 2001). This study pointed to the link between the positive teacher-student relationship, engaged learning, and student achievement (Howard, 2001). Communication was also the key to developing positive relationships in the classroom (Howard, 2001). There were key strategies that promoted positive interactions between student and teacher (Howard, 2001). The following were strategies that promoted positive classroom interactions and congruent communications: the active listening by the teacher, teacher modeling of positive body and facial expressions that matched verbal cues, trying to avoid any blocks in the way communication, teacher empathy with frustrated or nervous students, and the teacher use of cultural responsive interactions (Howard, 2001). When teachers modeled desired behaviors for the communication interaction, students tended to respond in the same manner (Howard, 2001;Brown, 2005). There were strategies that helped teachers identify and reflect on teacher actions that

assisted in the building of positive teacher-student relationships in classroom situations (Howard, 2001). (Brown, 2005) Recognition of the cultural lens or biases of the teachers, teacher knowledge of the cultural backgrounds of students, awareness of the political context of social issues, and the ability to use correct and appropriate management strategies for diverse classroom populations were all noted as important in this research (Howard, 2001; Brown, 2005). It was important to address cultural diversity in the classroom setting, as well as to promote a positive classroom climate and positive interaction between teacher and students (Education, 2009). This positve realtionship was studied among disadvantaged, urban, and African-American students who expressed differntial levels of satisfaction with school (Baker, 1999). The subjects of the study were third through fifth grade students using observations, inteviews, and self-reporting surveys (Baker, 1999). The results of the study suggested that the perception of the relationships as being caring and suportive between the teacher and student were related to the satisfaction of the students with school, starting as early as third grade (Baker, 1999). These results pointed to the importance of positive teacher-student relationships as an important variable in successful learning (Howard, 2001; Brown, 2005; Baker, 1999). Likewise, a study was conducted using the QTI, The Questionaire on Teacher Interaction, in Austrailia in 1996 (Rickards, Fisher, & Fraser, 1996) that studied the gender and cultural differences in teacher-student relationships and interpersonal behavior (Rickards, Fisher, & Fraser, 1996). The purpose of the study was to determine associations between mathematics and science classroom learning environments and student perceptions with a variety of cultural backgrounds and student achievement outcomes (Rickards, Fisher, & Fraser, 1996). The study consisted of a sample of 3994

students in 182 schools in thirty-five secondary schools (Rickards, Fisher, & Fraser, 1996). This study showed that Asian students percieved the teacher-student relationship more positively than the other cultural groups in the analysis (Rickards, Fisher, & Fraser, 1996). The study also revealed that there was a positive correlation between student attitude and the instance of teachers being friendly, understanding, and helping (Rickards, Fisher, & Fraser, 1996). A negative correlation was observed when teachers were admonishing, dissatisfied, uncertain, and strict (Rickards, Fisher, & Fraser, 1996). Teacher-student relationships and the relationships with parents, along with the connection to the home of the students, was also affected according to cultural or ethnic background (Rickards, Fisher, & Fraser, 1996; Hughes & Kwok, 2007). Low-income and racial minority students and the families had less positive teacher-student relationships than higher income, white households (Hughes & Kwok, 2007).

Different cultures may have different relationship norms which may have affected the manner in which students and teachers interacted with one another (Rickards, Fisher, & Fraser, 1996; Hughes & Kwok, 2007). What may have been seen as distant behavior in one culture may have been normal attachment activity in another culture (Beyazkurk & Kesner, 2005; Hao, 1998). This was also true of the academic expectations of the cultural view of the weight of the importance of education (Beyazkurk & Kesner, 2005; Hao, 1998). In 2005, Beyazhurk and Kesner studied the United States teachers and the Turkish teachers in perceived relationships with the students (Beyazkurk & Kesner, 2005; Hao, 1998). The study consisted of thirty-one elementary school teachers from the United States and forty primary teachers from Turkey (Beyazkurk & Kesner, 2005; Hao, 1998). The group was studied from the viewpoint of public school systems (Beyazkurk &

Kesner, 2005; Hao, 1998). The method included the STRS, Student-Teacher Relationship Scale, that measured teachers' perceptions about the teacher-student relationship (Beyazkurk & Kesner, 2005; Hao, 1998). The study found that Turkish teachers had a considerable more dependency based relationship with the students than did the United States teachers (Beyazkurk & Kesner, 2005; Hao, 1998). This did not agree with the hypothesis of that in which teachers with more child developement training had better teacher-student relationships (Beyazkurk & Kesner, 2005; Hao, 1998). This study indicated that the family structure and relationship norms of the cultures had a greater impact on the teacher-student relationship (Beyazkurk & Kesner, 2005). This was true also of the fear or anxiety that parents of the Hispanic community felt in relation to interaction with schools (Zimmerman-Orozco, 2011). Teachers needed to be mindful of the interactions with the Hispanic commuity to make teacher-parent interaction stronger so that the teacher-student relationship could continue to develop and grow (Zimmerman-Orozco, 2011). There were six strategies that were offered to help ease the anxiety and to address the needs of the Hispanic community in school-community interactions: teacher created communication media and tools to address the needs of the language barrier; teacher realization of the economic needs of these families and provided resources to address these needs; teachers provided meetings and times that addressed the special needs of the Hispanic community; teacher empowered parents and students to address the Hispanic culture and shared the culture with classrooms; the teacher promoted the teacher-student relationships by making home visits and providing parents with information to ease homework anxiety, and the school offered training and English language classes for parents and invited parents to participate (Zimmerman-Orozco,

2011). Racial relationships in the classroom studies were conducted by Campbell (2007) to examine the impact of cultural differences in student achievment (Campbell, 2007). The purpose of the study was to take a look at the decreasing of student discipline and the increasing of the positive teacher-student relationship (Campbell, 2007). The study was conducted by looking at the white teachers and black and Hispanic male students (Campbell, 2007). The study conducted by Campbell (2007) uncovered insights into the relationship of non-minority teachers and the minority students (Campbell, 2007). The minority students were of the low socioeconomic spectrum and the teachers were Caucasian (Campbell, 2007). Cambell found that without a teacher-student relationship, little learning took place (Campbell, 2007).

Economically Disadvantaged Students

Rist (2000) stated that poor children had a hard time achieving in school (Rist, (2000). Rist (2000) added that being poor most often meant being a minority as well (Rist,2000). Rist (2000) mentioned that the heart of education lied at the issues of race and economic inequity for American education (Rist, 2000). Not only were the bottom 20% the economically less fortunate, but the opportunities to move out of that social rung was decreasing (Rist, 2000). The digital divide was driving that level of poverty from the students who had access to technology to students who did not have access to technology (Rist, 2000). In Rist's (2000) study, he observed that poor students received neither rewards nor attention that was granted for middle class students (Rist, 2000; Balfanz and Byrnes, 2006). According to Balfanz and Byrnes (2006), the math-score achievement gaps between socio-economic groups became most evident in the middle school years (Balfanz and Byrnes, 2006). Research conducted showed that most high-poverty students

suffered with attendance problems and low effort, falling behind in mathematic progress (Balfanz and Byrnes, 2006; Rist, 2000). High-poverty school leaders often had trouble making the connection between mathematics content and the conceptual understanding needed to be successful in the mathematics classroom (Balfanz and Byrnes, 2006; Rist, 2000; McKinney and Frazier, 2008). McKinney and Frazier (2008) showed in their study that few teachers used creativity in math lesson plans, relying instead on district pacing guides and traditional methods to teach mathematics, and basing classroom instruction on the traditional model, which included direct instruction, lecture, drill and practice, and textbook based instruction (McKinney and Frazier, 2008).

The passing of the Elementary and Secondary Education Act of 1965 promoted research into educational programs for economically disadvantaged students (Anderson and Pellicer, 1998). The majority of the studies were purposefully directed at Title I programs, which focused on standardized testing and the economically disadvantaged (Anderson and Pellicer, 1998). Anderson and Pellicer (1998) discovered a set of common themes in successful programs for at-risk youth, as did Poplin and Soto-Hinman (2006) (Anderson and Pellicer, 1998; Poplin and Soto-Hinman, 2006). A grant study funded by the Haynes Foundation, which looked inside the classroom, focused on grounded theory and observation of the most successful teachers in high poverty schools. The classrooms observed had rigor and teachers who modeled respect for their students. In this study, the teacher-student relationship reappeared as a factor in student success (Poplin and Soto-Hinman, 2006). A similar study that looked at teaming in the classroom and the practices of effective teachers in high-poverty schools concluded that any school could reap the benefits of teaming for the sake of teacher-student relationships that fostered greater

student achievement (Minnett, 2003). The reflective pedagogy, collaborative model of teaming, and superior professional relationships created a model for any school to follow (Minnett, 2003). Using this research, universities could better prepare pre-service teachers for the induction into the classroom. Teacher preparation programs needed to change to reflect the research in high-poverty schools. Hunter Elementary School and the University of North Carolina formed a partnership in 1996 (Miller, Duffy, Rohr, Gosparello, & Mercier, 2005). This partnership, following the Professional Development Model, took a different path than the traditional teacher-preparation model. The focus was to place pre-service teachers in semester-long school settings with university support, in which pre-service teachers traveled to the schools (Miller, Duffy, Rohr, Gosparello, & Mercier, 2005). This study had longitudinal results of an almost 90% rise in achievement rate for students with Free and Reduced Lunch participation in the North Carolina end-of-grade reading test (Miller, Duffy, Rohr, Gosparello, & Mercier, 2005). Furthermore, the school achieved a Distinguished School Award for significantly reducing the achievement gap (Miller, Duffy, Rohr, Gosparello, & Mercier, 2005). The researcher proposed that research has proven that pre-service teachers may have lacked the reflective process of the veteran teachers and needed preparation in teaming to create successful opportunities for student achievement (Miller, Duffy, Rohr, Gosparello, & Mercier, 2005). (Ilatov, 1998) Pre-service teachers came to schools with the technological skills and prowess of the student digital natives (Ilatov, 1998). Not only was socioeconomics a factor in the teacher-student relationships, but gender was a factor as well (Ilatov, 1998). The study collected data on gender and student response (Ilatov, 1998). Pre-service teachers were encouraged to reflect on student questioning and on the

effect of random student questioning or gender biased student selection (Ilatov, 1998). Did the teacher favor one gender over the other in questioning techniques and relationship building (Ilatov, 1998)?

Gender

Gender roles affected the perceptions of students regarding the teacher-student relationship (Veroff, 1983). Veroff (1983) suggested that adolescent females had a greater need than the male counterparts did for the social connectedness with the teacher in a more social classroom manner (Veroff, 1983). The females were more sensitive to the lack of, or the need for, more support from the teacher in the classroom (Veroff, 1983). Teacher gender also affected the climate of the classroom relationship (Krieg, 2002). Male students viewed teachers in a more positve perception among students (Krieg, 2002). Female teachers created a more general overall postive perception among students (Krieg, 2002). A female teacher might have called on male students more often and a male teacher might have increased the incident of interaction among female students (Krieg, 2002).

A study of teacher-student interaction in two Israeli seventh grade classes had the focus that was on the gender and academics in the communication styles (Ilatov, 1998). Data was collected by videotaping classroom lessons and analyzing the classroom interactions between the teacher and students (Ilatov, 1998). The purpose was to look at the student gender, academic composition, and teacher communication style in reference to the teacher-student relationship (Ilatov, 1998). In the study, females dominated one class and the other class was not dominated by either gender (Ilatov, 1998). The results indicated that the same issues influenced the teacher-student relationship, which included

the teacher personal characteristics, the group values of the classroom, and the focus of student- student relationships (Ilatov, 1998). Student success may have also been affected by the actions of the teachers depending on the gender. In a recent study of 1996 students, ages 8 to 16 on the Caribbean Islands, students were randomly selected to participate in the study to explore the differences in male and female's perceptions of their teachers (Cline & Ertubey, 1997). The gender issue of the study was portentous in the study because, historically, the female students of the islands performed superior compared to the male counterparts (Cline & Ertubey, 1997). The study examined the similarities and differences in the perception of the two genders as a student body (Cline & Ertubey, 1997). Essays and interviews were analyzed to determine if there were similarities and differences in the perceptions (Cline & Ertubey, 1997). The groups of traits of the teachers studied included the physical and personal characteristics of the teachers, the quality of the relationship between the students and teachers, the behavior control by the teacher, the teaching process descriptions, and the educational outcomes of the students due to teacher effort (Cline & Ertubey, 1997). The results proved that female students identified the incidence of good teacher habits more than their male counterparts (Cline & Ertubey, 1997). The male and female students were inclusive with the perception of the teacher-student relationship and good teaching practices (Cline & Ertubey, 1997). Males showed greater concern about teacher control and discipline issues, and only the oldest of the males indicated good teaching as a quality of teachers (Cline & Ertubey, 1997). The study concluded that teacher actions in the classroom significantly affected student success and the instance of positive teacher-student relationships in the classroom (Cline & Ertubey, 1997).

Many factors either inhibited or created the oportunity for teacher-student relationships in the classroom. The Attachment Theory, the Social Cognitive Theory, and the Humanistic Theory weaved throughout the literature about teacher-student relationships and the constructs and barriers of said relationships (Baldwin & Ainsworth, 1992, Bretherton, 1996, Pajares, 2002, Maslow, 1943, & Rogers, 1980). Trust was an attribute that teacher-student relationships must have to grow and thrive (Shorter & Greer, 2002). The classroom environment, the classroom power, and classroom management all played a role in the formation of the teacher-student relationship (Aultman, Williams-Johnson, & Schutlz, 2009). The socio-economic status, the race, and the gender of the student also impacted the teacher-student relationship (Veroff, 1983).

CHAPTER THREE: METHODOLOGY

This research proposal suggested that an additional study in the emergent data comparing standardized tests and the QTI questionnaire would have produced results enhancing successful relationships in the classroom and therefore in the increase of student achievement (Leitao and Waugh, 2007). Leitao and Waugh (2007) suggested that since the concentration was on testing and standards, it was imperative to analyze human interactions (Leitao and Waugh, 2007).

Design

The QTI, Questionnaire of Teacher Interaction, which was a non-experimental design, was a survey used to measure the interpersonal relationships between teachers and students. This survey questionnaire elicited the beliefs, perceptions, and opinions of sixth and seventh grade mathematics students about the teachers that taught mathematics to them during the school year indicated. This survey was used as a source of data to determine the teacher-student relationship and the achievement of mathematics and passing scores on the Virginia Standards of Learning Tests. The sample group chosen for this study was two entire grade levels of sixth and seventh grade mathematics students of a small rural school division. The sample group responses were used to make inferences about the teacher student relationship and achievement in mathematics. This sample survey of intangibles sought the perceptions of middle school students about their teachers in a sample to represent the population parameters of middle school mathematics students. This was a directly administered questionnaire in which the students selected for the sample had one thing in common: they were sixth or seventh grade students who took the Virginia Standards of Learning Mathematics Tests in either grade six or seven in

the school year indicated, from the school division chosen. The instrument was predesigned and tested for validity and dependability prior to the administration of the survey. The researcher gained permission from the author of the questionnaire to change only gender related questions to non-gender biased questions, which did not affect the validity nor did it affect the validity of the questionnaire. The questions remained the same, only the “he” and “she” word were changed to non-gender pronouns. The order of the questions was predetermined by the author of the survey and were placed in the survey according to teacher characteristics. The questionnaire administrators maximized the response rate to encourage student completion.

The researcher first broke down the questionnaire data retrieved into manageable sets according to relationship characteristics. The questionnaire and the SOL scores were coded according to the predetermined relationship groups and subgroups of students. Factors of relevance studied included those behaviors that were consistent in positive teacher-student relationships; the link to student success in the classroom due to teacher-student relationships; and how struggling teachers could have produced such relationships in the classroom (Ary, Jacobs, Razavieh, & Sorensen, 2006). The research intended to triangulate the data by using the relationship qualities of the teachers and the SOL scores in relation to the presence of a positive teacher-student relationship in the classroom.

Questions and Hypotheses

The following questions guided the researcher in this project:

Research Questions

Two research questions guided this study:

1. Did students who had positive relationships with teachers have higher scores on the Virginia Standards of Learning mathematics tests as measured by the Questionnaire on Teacher Interaction survey?

2. Did students who were scoring higher, as defined by the score of greater than three hundred and ninety nine (passing score) on individual tests on mathematics tests, have positive relationships with teachers and have higher scores on the mathematics Virginia Standards of Learning tests than students who did not exhibit a positive relationship, as defined by the Questionnaire on Teacher Interaction in teacher categories; strict, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain ?

Hypotheses

Null Hypothesis One: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic admonishing.

Null Hypothesis Two: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic dissatisfied.

Null Hypothesis Three: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction

questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic freedom.

Null Hypothesis Four: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic helpful.

Null Hypothesis Five: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic leadership.

Null Hypothesis Six: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic strict.

Null Hypothesis Seven: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic uncertain.

Null Hypothesis Eight: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic understanding.

Participants

The participants were students in a diverse rural middle school in Virginia. The demographic makeup of the school was 58% African American, 40% Caucasian, 1% Asian American, and 1% American Indian. The middle school had a specific population of students who took advanced mathematics in the middle school and those students were discarded from the study; the target group was grades six and seven math students, excluding Algebra and Geometry students. There were seven teachers included in the target group. This middle school had 416 students who had free and reduced lunch, out of 748. This information was of March 31, 2010. (Information retrieved from the school division being studied.)

Setting

The site was a Title I middle school in Virginia. It was a rural school in close proximity to two universities. This school had consistently integrated online math programs since the late nineties. The school population was 747 students, including grades six through eight. The school had moved to full inclusion for special education students, with the exception of the severely impaired, for the school year 2009-2010. Benchmark tests were conducted every six weeks, with a common assessment by content and grade level every three weeks. Teachers participated in data-review sessions after

every benchmark test. These sessions offered time for reflection on student achievement and planning time for student data disaggregation and the creation of intervention plans for students who were not achieving. The sessions helped to create a trusting relationship between teachers and administrators so that honest and productive discussion could occur.

Data Collection Process & Methodology

Data were collected in the form of a one-time questionnaire, QTI, designed by Wubbels and Levy (1993) (Wubbels and Levy, 1993). The survey was conducted by the middle school guidance team so that researcher bias was kept at a minimum. This data was compared to the state mathematics Standards of Learning (SOL) scores. The QTI instrument indicated the following:

> In the Model for Interpersonal Teacher Behavior, (Wubbels and Levy, 1993) the two dimensions were Influence (Dominance-Submission) and Proximity (Opposition-Co-operation). These dimensions could have been represented in an orthogonal co-ordinate system. The two dimensions, represented as two axes, underlie eight types of teacher behavior: leadership, helpful/friendliness, understanding, giving students freedom and responsibility, uncertainty, dissatisfaction, admonishing and strictness (Wubbels, 2006, p. 25).

Family Education Rights and Privacy Act regulations were followed and all participants (students, parents, and teachers) were notified of the purpose of the study, which was clearly defined. Student confidentiality was closely guarded and permissions were obtained. Student state testing numbers were used for data collection, and the identity of participants was protected. The questionnaires and tests scores were coded

according to subgroups: gender, ethnicity, age, socio-economic status, and special or general education status. The data were collected in teacher characteristic categories.

Instrumentation

Wubbels and Levy (2006) explained the QTI instrument in the handbook *An Interpersonal Perspective on Classroom Management in Secondary Classrooms in the Netherlands* (as cited in Wubbels & Levy, 1991) states,

> The perceptions of teachers by students at the pattern level could be measured with the Questionnaire on Teacher Interaction (QTI). To map interpersonal teacher behavior, the QTI was designed according to the two-dimensional Leary model and the eight sectors (p. 25).

The QTI was initially developed in the Netherlands, and a 64-item American version was constructed in 1988 (Wubbels & Levy, 1991). The Dutch items were formulated based on large numbers of interviews with both teachers and students, and the creation process included many sessions of vigilant testing (Wubbels & Levy, 1993). The instrument was created in the following languages: Dutch, English, French, German, Hebrew, Russian, Slovenian, Swedish, Norwegian, Finnish, Spanish, Mandarin Chinese, Singapore Chinese, and Indonesian, among others. (Wubbels, 2006) Several studies have been conducted on the reliability and validity of the QTI. The studies have included the Dutch version (Brekelmans, Wubbels, & Créton, 1990; den Brok, 2001; Wubbels et al., 1985), the American version (Wubbels & Levy, 1991), and the Australian version (Fisher, Fraser, &Wubbels, 1992; Fisher, Henderson, & Fraser, 1995). In recent studies the cross-nationality validity study was completed comparing the

questionnaire in Singapore, Brunei, the United States, The Netherlands, Slovakia, and Australia (den Brok, Fisher, Brekelmans, Rickards, Wubbels, Levy, & Waldrip, 2003). In all the studies above, both reliability and validity were considered satisfactory (Wubbels, 2006, p. 25). The homogeneity of each of the eight groups articulated in internal consistencies (Cronbach's ÿ) at class level was generally above .80. The agreement between the scores of students in a single class usually met the general requirements for agreement between observer scores. The internal consistencies (Cronbach's ÿ), when students' scores in one class were considered as repeated measures, were above .90 (Brekelmans et al., 1990). The variance at the class level was much higher than for most other learning-environment questionnaires, which indicated that the QTI was very effective in discriminating between classes (Wiggins, Philips, & Trapnell, 1989; as cited by Wubbels, 2005). In the American version the percentage of variance at the class level was between 36% and 59% (Wubbels & Levy, 1991), and in the Dutch version between 48% and 62% (den Brok, 2001). Although most of the variance was at the teacher level, there was a crossing point between the teacher level and the class level, so teachers may vary in their relationships across programs (Brekelmans et al., 2004; den Brok, 2001; Levy et al., 2003). From a generalizability study (Shavelson, Webb, & Burstein, 1986), it was decided (Brekelmans, 1989) that the QTI should be administered to at least ten students in a class for the data to be reliable (Brekelmans, 1989). It was decided that the QTI did not need to be given more than once a year since the relationship style remained relatively stable (Brekelmans, 1989). When looking at the validity,

factor analyses on class means and LISREL analyses (den Brok, 2001; den Brok, Levy, Wubbels & Rodriguez, 2003; Wubbels & Levy, 1991) it was determined that the questionnaire supported the eight scales (Brekelmans, 1989). Brekelmans et al. (1990) demonstrated that both factors explained 80% of the variance on all the scales of the Dutch QTI (Brekelmans, 1989). Results were found that were acquired for the version within the other countries (den Brok et al., 2003). An analysis of each question was presented in Chapter 4. Each question was analyzed to delve deeper into the individual and group answers to each question on the QTI survey (Brekelmans, 1989) (Brekelmans et al., 2004; den Brok, 2001; Levy et al., 2003).

The Virginia SOL tests were designed by the Virginia Department of Education to meet reliability and validity requirements. As quoted from the DOE website, "From their inception, the Virginia Standards of Learning (SOL) tests have been developed with the utmost attention to the technical requirements of a high-stakes testing program. Two key areas of technical merit are essential in such tests: validity and reliability, and according to the Virginia Department of Education, 'Considerations regarding test validity and reliability are present throughout the SOL test development processes" (VA DOE website, 2006).

Procedures

The Liberty University Internal Review Board (IRB) approved the collection of the data and proper procedures were followed to ensure the ethics of this study according to the IRB regulations. Family Education Rights and Privacy Act regulations were followed and all participants (students, parents, and teachers) were notified of the purpose

of the study, which was clearly defined. Student confidentiality was closely guarded and permissions were obtained. Student state testing numbers were used for data collection, and the identity of participants was protected. The questionnaires and test scores were coded according to subgroups: gender, ethnicity, age, socio-economic status, and special or general education status. The data was collected in teacher characteristic categories. The school granted permission for this study by gaining approval from the division superintendent of the school division. The assistant principal and guidance counselor were trained and provided with instructions on how to administer The Questionnaire on Teacher Interaction. The survey was delivered to the school board office of the school in a sealed envelope with instructions included. The assistant principal picked up the surveys, read all directions, gathered the students from the selected group into the cafeteria and then administered The Questionnaire on Teacher Interaction. The assistant principal collected the surveys and placed the surveys and the instructions into a sealed envelope and delivered the sealed envelope to the school board office of a neighboring school as designated by the researcher. The researcher picked up the surveys and began the data analysis.

Data Analysis

This type of quantitative study tried to elicit key behaviors of teachers in positive teacher-student relationship situations that might have directly related to student achievement. This study enabled a deep and vivid account of the human element in student achievement and teacher-student interaction. This study utilized the triangulation of data to secure a more accurate picture of the presence of a correlation between the relationship of teacher-student and student achievement.

Statistical Analysis Procedures

The analysis of this study consisted of analysis of the Questionnaire of Teacher Interaction survey instrument and the May 2010 Standards of Learning test scores (Brekelmans et al., 2004; den Brok, 2001; Levy et al., 2003). The researcher attempted to study the interactions, perceptions, and behaviors between teachers and students, as perceived by the students to attempt to determine if the characteristics of the teachers created positive relationships, which in turn created the environment of student achievement on mathematic tests, which may or may not have made the connection between positive teacher-student relationships and student achievement using the QTI results (Wubbles, 2006). The researcher used ordinal data in comparing the test scores of the students in relationship to the number of character traits which teachers displayed and students perceived. The researcher intended to look for a statistical significance between the indication of positive perceptions between teachers and students and a possible increase in mathematics state test scores. The researcher used SPSS to run a Pearson Correlation with the independent variable in the relationships as indicated by the QTI questionnaire, the dependent variable was the SOL scores. The writer sought to look for statistically significance of data that may have indicated a pattern of achievement, or lack thereof. The focus was to use illustration and examination of data plots, skew, kurtosis, and P-P plots to check for normalcy in the variables, and to convert the data to z-scores to find outliers.

CHAPTER FOUR: FINDINGS

Overview

This quantitative inquiry focused on the teacher-student relationship between mathematics students in grades six and seven and the teachers of those students in relationship to the Virginia Standards of Learning end of the year/course tests and the rate of achievement. In effort to gain a true understanding of how students perceived the teacher-student relationship, a survey was used to find out how the student felt about the mathematics teacher and it was then compared to the student success on the test.

The essential research questions focused on the characteristics of the teacher and how those characteristics impacted the teacher-student relationship in the mathematics classroom. Two research questions guided this study:

1. Did students who had positive relationships, as measured by the Questionnaire on Teacher Interaction survey, with teachers, have higher scores on the Virginia Standards of Learning mathematics tests?

2. Did students who were scoring higher, as defined by the score of greater than three hundred and ninety nine (passing score) on individual tests on mathematics tests, have positive relationships with teachers and have higher scores on the mathematics Virginia Standards of Learning tests than students who did not exhibit a positive relationship, as defined by the Questionnaire on Teacher Interaction in teacher categories; strict, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain ?

This research was conducted to determine if there was a relationship between teacher-student relationships and mathematics achievement on the Virginia Standards of Learning tests. In the wake of accountability in teaching and performance evaluations, it was

hypothesized that teachers who had a positive relationship with students had higher results in student achievement on the mathematics SOL tests. The survey was given to forty middle school students who answered questions about the mathematics teachers in the following categories: leaderships, helpfulness, understanding, freedom, uncertainty, dissatisfaction, admonishment, and strictness of teacher behaviors.

Sixty-four possible responses in the eight categories of teacher behavior were included in the data analysis using SPSS to perform a Pearson Correlation. The QTI, Questionnaire on Teacher Interactions, survey was already proven valid and reliable in the prior chapters by the author of the QTI, Questionnaire on Teacher Interactions, in the teacher interpersonal relationship survey scale. (Wubbles, 2006) Each question had a Likert Scale from 0 = never to 4 = always for responses to the questions. The overall total percentages per answer in the categories were as follows: strictness, leadership, understanding, helpfulness, dissatisfied, freedom, admonishing, and uncertain in teacher characteristics. This research was conducted to determine if there was a relationship between teacher-student relationships and mathematics achievement on the Virginia Standards of Learning tests. In the wake of accountability in teaching and performance evaluations, it was hypothesized that teachers who had a positive relationship with students had higher results in student achievement on the mathematics SOL tests. The survey was given to forty middle school students who answered questions about the mathematics teachers in the following categories: leaderships, helpfulness, understanding, freedom, uncertainty, dissatisfaction, admonishment, and strictness of teacher behaviors.

Results

This quantitative study was a survey of sixth and seventh grade students who answered questions about the mathematics teacher. The results of the survey were then compared to the year-end Standards of Learning Mathematics Test. The survey answers were then compiled using a pre-set number organization that grouped the answers into the eight different teacher characteristic categories of strictness, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain. The goal of the survey data collection was to have a non-biased and non-teaching professional administer the surveys to the students. The guidance counselor and the assistant principal administered the survey to the students. Once the surveys were completed, the surveys were collected, labeled with the student testing identification number, sealed in an envelope and hand delivered to the researcher. The researcher collected the surveys from each student, created a spreadsheet of each survey answer, and categorized the data into the eight teacher characteristic categories. These answers and categories were entered into SPSS and a Pearson Correlation was run in attempt to find a significant difference in any given teacher characteristic category. Of the eight different categories, each category had a varied number of possible questions, with the same number of possible replies dedicated to that category. Percentages of overall answers were compiled to show a broad overview of which categories were largest in teacher characteristic. Although the hypothesis and finding did not indicate a significant difference, teacher characteristics did emerge that will be helpful in future research and in the teaching profession.

Research Questions

Two research questions guided this study:

1. Did students who had positive relationships, with teachers have higher scores

on the Virginia Standards of Learning mathematics tests, as measured by Questionnaire for Teacher Interaction?

2. Did students who were scoring higher as defined by the score of greater than three hundred and ninety nine (passing score) on individual tests on mathematics tests, have positive relationships with teachers and have higher scores on the mathematics Virginia Standards of Learning tests than students who did not exhibit a positive relationship, as defined by the Questionnaire on Teacher Interaction in teacher categories; strict, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain ?

Hypotheses

Hypothesis One: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic admonishing.

Hypothesis Two: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic dissatisfied.

Hypothesis Three: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and

Virginia Standards of Learning mathematics scores and the teacher characteristic freedom.

Hypothesis Four: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic helpful.

Hypothesis Five: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic leadership.

Hypothesis Six: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic strict.

Hypothesis Seven: There will be no statistically significant relationship between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic uncertain.

Hypothesis Eight: There will be no statistically significant relationship

between the scores from the Questionnaire on Teacher Interaction questionnaire data of positive interpersonal relationships between teachers and students and Virginia Standards of Learning mathematics scores and the teacher characteristic understanding.

The results indicated that teachers who were strict, understanding, leadership, and had uncertainty teacher characteristics received support of statistically significance of feedback from the student surveys. The Pearson Correlation did show support of a statistical significance in the area of teacher characteristics strictness, understanding, leadership, and uncertainty. The following were the data collected from the survey and the analysis:

Table 6

Student Response by Category

Teacher Quality	Overall Percentage of Survey Results
Strictness	45%
Leadership	82%
Understanding	79%
Helpful	81%
Dissatisfied	17%
Freedom	41%
Admonishing	26%
Uncertain	13%

In review of the overall percentages, it appeared that the students found the

teachers in this mathematics-teaching group to have strong skills in leadership, understanding, and helpfulness. Using the Pearson Correlation with the mathematics SOL scores as the dependent variable, Y and the categories of teacher characteristic categories; strictness, leadership, understanding, helpful, dissatisfied, freedom, admonishing, and uncertain. A Pearson Correlation was run with the dependent variable as the SOL mathematics test scores and the results are displayed below in Table 9.

Table 7

Pearson Correlation

	Pearson Correlation		
	Pearson Correlation	Significance 2 Tailed	N
Strictness	-.364*	.025	38
Leadership	.022	.895	38
Understanding	.051	.762	38
Helpfulness	.038	.819	38
Dissatisfied	.016	.923	38
Freedom	.126	.450	38
Admonishing	-.090	.591	38
Uncertainty	-.120	.479	37

p<.05

The f ratio was the amount of variability between groups and within groups. The data set indicated that there was support for statistically significance for four of the teacher characteristic categories. A linear regression was run to check for a linear correlation. The first step of the regression was the models, checking for the multiple correlations (R) and R squares at each step of the analysis. The third step presented the

standardized and unstandardized coefficients for each independent variable and how far from zero these coefficients were from zero. The negative sign was the direction of the relationship between the variables. In this analysis, the independent variables had support for impact on the explanation or prediction of the dependent variable (Green, Salkino, & Akey, 2000) (Cronk, 1999) (Frankfort-Nachmias & Leon-Guerrero, 2002) (Salkind, 2000) (Nardi, 2006) (Griffith, 2010).

Sample Questions

The following are sample questions on the QTI survey that indicate the notion of teacher categories: strictness, leadership, understanding, and uncertainty. The following are the actual samples of the survey questions, to make clear to the reader the definition of the teacher categories: strictness, leadership, understanding, and uncertainty.

Strictness Questions

	POSSIBLE RESPONSES			
NEVER			ALWAYS	
A	B	C	D	E

	Never Always
1. My teacher is strict.	A B C D E
2. We have to be silent in class.	A B C D E
9. My teacher is demanding.	A B C D E
14. Our math tests are hard.	A B C D E
20. My teacher's standards are very high.	A B C D E
22. We need our teacher's permission before we can speak.	A B C D E
53. If we don't finish our homework we're scared to go to class.	A B C D E

57. My teacher is severe when marking papers. A B C D E

61. We are afraid of my teacher. A B C D E

Leadership Questions

3. My teacher talks enthusiastically about math. A B C D E

31. My teacher explains things clearly. A B C D E

36. We learn a lot from my teacher. A B C D E

40. My teacher holds our attention. A B C D E

45. My teacher knows everything that goes on in the classroom. A B C D E

52. My teacher is a good leader. A B C D E

62. My teacher acts confidently. A B C D E

Understanding Questions

4. My teacher trusts us. A B C D E

6. If we don't agree with our teacher, we can talk to our teacher about it. A B C D E

11. My teacher will explain things again. A B C D E

13. If we want something, my teacher is willing to cooperate. A B C D E

17. If we have something, to say my teacher will listen. A B C D E

18. My teacher sympathizes with us. A B C D E

32. My teacher realizes when we do not understand. A B C D E

56. My teacher is patient. A B C D E

Uncertainty Questions

23. My teacher seems uncertain. A B C D E

34. My teacher is hesitant. A B C D E

39. My teacher acts as if he/she does not know what to do. A B C D E

42. My teacher lets me boss her/him around. A B C D E

46. It is easy to make a fool out of my teacher. A B C D E

55. My teacher is timid. A B C D E

These questions are designed to elicit the perception of the students toward the teacher characteristics that the teachers exhibit in the middle school mathematics classroom. The questions are actual questions from the QTI, Questionnaire of Teacher Interaction, (Wubbles, 2006).

CHAPTER FIVE: DISCUSSION

Summary of the Findings

Positive student-teacher relationships enhanced the classroom environment and were making learning a pleasurable experience. Several key qualities may have impacted student-teacher relationships and might have impacted student achievement. Those qualities were defined by the Questionnaire on Teacher Interaction as:

- Teacher strictness - included how rigid the teacher was in interaction and the rules.
- Teacher leadership – the teacher as the leader of the class acting as a guide.
- Teacher understanding – empathy and caring on the part of the teacher.
- Teacher helpfulness – willingness to help students as needed.
- Teacher dissatisfaction - disappointment of the teacher of student actions.
- Teacher freedom - freedom to interact and make shared decisions.
- Admonishment – putting negative pressure on students.
- Uncertainty – novice or not confident in teaching abilities or content.

The researcher did find a statistically significant difference among the tests run comparing the dependent variable, SOL scores in mathematics, and the above-mentioned teacher behavior categories, strictness, leadership, uncertainty, and understanding. Teachers can use this information to track and monitor the behaviors exhibited in the classroom with the feedback generated from the QTI survey. Reflection is an important subjective action monitored by teachers and can contribute to the overall success of the students impacted by the reflection process.

Discussion

This investigation found a common theme of teacher actions that were consistent throughout the research. In the data from this study, the student replied to the survey indicated support for statistically significant indicators that some teacher behaviors received more of a positive response from the students than other categories. The four teacher attributes had statistically significant response relationships than did the other teacher characteristic categories. Teacher characteristics: strictness, leadership, understanding, and uncertainty supported the research in that those categories had an impact on student achievement. Leadership, for example had an average of eighty two percent positive (average scale score of a four) possibly indicating that the students in the classroom found the teachers in the study having leadership skills that enhanced the student perception of the teacher. Teacher category understanding indicated a seventy nine percent overall rating (average scale score of a four) and the teacher category helpful was an eighty one percent rating (average scale score of a four). These teacher characteristics were similar to the attributes much of the research indicated to be characteristic of the teacher behaviors that build positive teacher-student relationships. There were key steps to building postive teacher-student realtionships according to Mendes (2003), who offered the following: Teachers should ask students about their interests and try to understand the interests of the students and as the teachers interact with students, teachers should pay attention to students' non-verbal responses in the body language emitted by the student (Mendes, 2003). Along with understanding the verbal and physical clues of communcation with the student, the teacher should use self-discloser; when appropriate, this self-discloser can be used to uncover some personal feelings or experiences that were appropriate to disclose in the classroom setting; be real

(Mendes, 2003). Teachers should build on what is heard from students by sharing stories, interests, and worries (Mendes, 2003). This includes life experiences and concerns (Mendes, 2003). Teachers displaying empathy with indivduals and in classes, by communicating what was determined the needs or feelings of the students may be, is appropriate in some incidences (Mendes, 2003). By following this interaction, the teacher listening skills were enhanced by listening actively, and by the teacher being attentive by the matching expressions of students and conveyed moods of the students in an effort to know the students (Mendes, 2003). Teachers who get to know the world of the students were then able go first and to open the relationship door (Mendes, 2003).

Recommendations

The results of this study indicated the need to further develop and research the characteristics of relationships in the classroom, in particular the teacher-student relationship. The literature indicated that there were key qualities of successful classroom teachers and the teacher-student relationship that were helped between the students and the teacher by utilizing these qualities. Extended research on this subject might include a qualitative study involving extensive teacher-students interactions and observations to conclude the key behaviors of teachers of successful students. Recent shifts in the teacher evaluation models from the Virginia Department of Education include a pilot model evaluation system that incorporated the use of student surveys, which surveyed students about the qualities and characteristics of the teachers from grades kindergarten through grade twelve. Some of the survey questions included items as follows: my teacher listens to me, my teacher shows respect to all students, my teacher helps me, my teacher helps me outside of class time when needed, my teacher is

respectful to my culture, and other categories as shown in the following table. The teachers had three focus questions on the teacher survey cover sheet to analyze and reflect in relationship to the student answers, which included:

A) What did students perceive as the major strengths of the teacher?

B) What did students perceive as the major weaknesses of the teacher?

C) How can you use this information for continuous professional growth?

It was important to observe a portion of the survey for secondary students as shown in Figure #4. The figure indicates the search for the attributes of teachers and compares this in the teacher evaluation model to student achievement indirectly.

Figure 4: Sample Survey Questions Teacher Evaluation

Sample Survey Questions	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**	**Not Applicable**
My teacher communicates clearly.					
My teacher is knowledgeable about the subject area he/she teaches.					
The workload in this class is manageable.					
My teacher gives feedback on work and exams in a timely manner.					
I get helpful feedback from my teacher.					
My teacher handles classroom disruptions effectively.					
My teacher allows me to demonstrate my learning in a variety of ways.					

I feel challenged in this class.
I feel comfortable sharing my ideas in class.
My teacher helps me outside of class time when needed.
My teacher shows respect to all students.
My teacher respects my culture.
I feel my teacher values me as a person.
*
*

*Add other elements if needed, such as school-wide goals, or subject specific-elements. (Stronge, 2011)

Some schools have been created to focus on the interpersonal relationships between the teachers and the students. The New American Academy in Crown Heights, Brooklyn, New York serves disadvantaged minority students in an environment that focuses on relationships. Teachers and students work in teams. This school utilizes the formation of informal relationships that enhance student learning (Brooks, 2012). Many mentor programs have been created to address the issue of building interpersonal relationships between the adults and the students in schools. This occurance of mentor programs is being created in elementary, middle, and high schools based on the importance of the positive teacher-student relationships and the impact on student success and the sense of belonging in schools. Schools are seeing the power of the interpersonal relationship and increased communication between adults and students to enhance the learning experience. School divisions are using personality tests to best match students and teachers in classrooms. Some of the schools have seen increases in student public speaking, student involvement, and interdisciplinary learning. This mentor or family-like

atmosphere creates informal contacts for years. The health care field is also beginning to take a look at the interpersonal relationships between health care providers and students (Morgan & Herschend, 2012; Towle, Godophin, & Van Staalduinen, 2006). At risk students benefit from the teacher-student or teacher-mentor relationship.

Recommendations for Future Research

The researcher plans to conduct an action research study at the current school in which she works to compare the data collection of the positive teacher-student relationship to the number of discipline referrals. The purpose of this study was to determine the elements of the positive teacher-student relationship to increase student achievement and determine if this relationship has an impact on the decrease of the number of discipline referrals per teacher. The past and present research is in the effects of positive teacher-student relationships on student achievement.

The plan is to collect data beginning in the summer of 2012. The data that is planned to collect will be discipline data from the school year 2011-2012 and ongoing discipline data for the current year will be collected from the data base of Power School and from existing student discipline files. Field notes will be utilized to collect teacher-student interaction data. Informal, formal, walk-throughs, and administrative observations will be collected to determine teacher student interactions. Teacher survey cover sheets in the Virginia Public School Teacher Evaluation model will also be collected for the school year 2011-2012 and for the school year 2012-2013. Teacher check sheets will be given to all administrators to collect/tally the number of referrals by individual teachers. Trends will be observed from classrooms with high achievement and low referral rates and classrooms with low achievement and high referrals rates.

The plan is to monitor this process with data collection at the end of each nine-week period and at the end of the semesters. This will be a yearlong process. An in-service will be conducted prior to the study on the importance of positive teacher-student relationships and the impact those relationships have on student achievement, during the opening week of school. Teacher summative evaluation conferences will include the component of discussion of the teacher-student relationship as it was and how goals can be set to improve this component for the following school year. The following questions will drive this study:

1. What characteristics do the positive teacher-student relationships contain?
2. What strategies do teachers use to build positive teacher relationships and how do these strategies impact optimal student learning?
3. How can teacher-student relationships be improved?
4. Does the number of referrals have a correlation to student achievement?

The hope is to see a long-range impact on the increase of student achievement, the decrease of student discipline instances, and the increase of attendance, which may impact the dropout rate.

The planned proposal is so that a school-wide mentor program is created between small student groups and adults in the high school to increase the incident of positive teacher-student interactions outside the classroom setting. Teachers will be encouraged to dedicate themselves to attend at least three after school activities during the school year. The plan is to share the results with all pertinent stakeholders: the central office staff, administrative colleagues, and the staff included in the study at this school.

It is realized now that the plan for me was to study the teacher-student

relationship in the schools in which the I conducted research and worked so that I could enhance the lives of the children in Virginia: "Let nothing be done through selfish ambition or conceit, but in lowliness of mind; let each esteem others better than himself" (Philippians 2:3).

As an educational leader in public schools, the idea is to hold firm the belief that the relationships teachers build with students are priceless and merit creating so that students embrace a sense of belonging and a prudence of need to achieve. Throughout the research, there are key behaviors that elicit positive teacher-student relationships. Teachers who are understanding and helpful make personal the instruction that drives the classroom. Paul created affirmation of relationships by personal greetings (Romans 16:1-21). Teachers who greet and call on students by name gain greater response. Teachers need to be leaders who are kindhearted, but strong. Tough, and yet tender, relationships with strong expectations for students often reap many benefits, including higher student achievement (2 Corinthians 7:8-13). Teachers model desired behaviors, whether intentional or not and those who model integrity find success in the classroom through partnerships in learning. In Proverbs 13:20, it is implied that you become like those you partner with. Teachers who are guided by the high road with integrity and good character model these behaviors above the minimum social norm (Job 42:10). This researcher takes note from Abigail, a relationship expert who had strategies in place to deal with difficult people and she saw the value of building relationships with those she encountered (1 Samuel 25:1-42). As educators, we are leaders as well as shepherds. We direct our students, search out our students who are lost, deliver our captive students, gather our dispersed students, allow our weary students to rest, help our hurt students,

strengthen our weak students, protect our vulnerable students, and equip out students with what they need (Ezekiel 34:11-24). We do this by forming resilient and eternal relationships with students so that students can learn. (Maxwell, 2007)

Summary

A comparison of the Standards of Learning mathematics scores and the key teacher-student relationship traits, as indicted by the Questionnaire on Teacher Interactions, do support a teacher characteristics strict leadership, understanding, and uncertainty as significant predictors of student success in determining student mathematic success in the classroom testing situations. The findings did uncover that the perceptions of students in the categories of strictness, leadership, understanding, and uncertainty had a significant impact on the prediction for student success. In addition to the findings of the research survey and study, the literature suggested that belongingness was a factor in how students related to the school environment and may have impacted the success in the classroom. It was the intent of the researcher to find key qualities that teachers held in gaining success from the students in the middle school mathematics classroom.

The hope was to find a correlation between the key characteristics of teacher-student relationships and teacher qualities, as identified in the QTI to gain insight on how to increase the mathematics scores in the middle school classrooms, by increasing the quality of the teacher-student relationship. The research in this study did provide support with statistically significant relationships with the teacher characteristics; strict, leadership, understanding, and uncertainty and the Virginia Standards of Learning Mathematics Test. With the onslaught of computer based, blended, and data driven classrooms, my research reminds educators that the human factor must also warrant

attention as students are human beings that have basic attachment and motivational needs in order to “belong” to the classroom and find success as students. There are embedded key behaviors that elicit teacher characteristics which increase the likelihood for students to be successful in the classroom and on standardized tests. Teachers who display leadership qualities, such as talking enthusiastically about the subject, explaining things clearly, holding student attention, knowing everything that goes on in the classroom, displays good leadership qualities, and acts confidently while teaching will portray a sense of leadership and therefore add to the teacher-student relationship paradigm. This is also true of teachers who trust their students, talk about student-teacher disagreements, explain things well, listen to students, realize when students do not understand, and those teachers who are patient display the teacher characteristic of understanding and student perceive this quality well in the classroom, thus lending to success. Students also respond to teachers who are strict showing behaviors such as having silence in the classroom, are demanding of the students, increase the level of expectations on tests, hold high standards, need permission for students to speak to create order, expect students to complete all homework, have a critical eye while marking student papers, and students fear their teacher also garner student respect and increase student achievement. Teacher uncertainty gains student attention in the classroom and impacts student achievement. Teachers who are uncertain, hesitant, appear unaware, those that are uneasy while students are not on task, and are timid also have an impact on the teacher-student relationship and student achievement in mathematics, not necessarily a positive impact.

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Appendix I

The Questionnaire on Teacher Interaction (American Version)

QUESTIONNAIRE

This questionnaire asks you to describe your teacher's behavior. Your cooperation can help your teacher improve his/her instruction. DON NOT WRITE YOUR NAME, for the responses are confidential and anonymous. This is NOT a test. Your teacher will NOT read your answers and they will not affect your grade. Your teacher will only receive the average results of the whole survey, not individual surveys.

On the next few pages you'll find 64 sentences on the questionnaire find the same number on the answer sheet and darken the circle you think most applies to the teacher of this class. Please use only a #2 pencil.

For example:	Never				Always
My teacher expresses herself/himself clearly	A	B	C	D	E

If you think that your teacher always expresses himself/herself clearly, darken letter E on your answer sheet. If you think your teacher never expresses herself/himself clearly darken letter A. You can also choose letters B, C, or D, which are in between. If you change your answer after you've darkened a circle please erase completely. Please use both sides of the answer sheet. Thank you for your cooperation.

PLEASE BEGIN

POSSIBLE RESPONCES

NEVER ALWAYS

A B C D E

	Never Always
1. My teacher is strict.	A B C D E
2. We have to be silent in class.	A B C D E
3. My teacher talks enthusiastically about math.	A B C D E
4. My teacher trusts us.	A B C D E
	Never Always
5. My teacher is concerned when we do not understand something.	A B C D E
6. If we don't agree with our teacher we can talk to our teacher about it.	A B C D E
7. My teacher threatens to punish us.	A B C D E
8. We can decide some things in class.	A B C D E
	Never Always
9. My teacher is demanding.	A B C D E
10. My teacher thinks we cheat.	A B C D E
11. My teacher will explain things again.	A B C D E
12. My teacher thinks we don't know anything.	A B C D E
	Never Always
13. If we want something my teacher is willing to cooperate.	A B C D E
14. Our math tests are hard.	A B C D E
15. My teacher helps us with our work.	A B C D E
16. My teacher gets angry unexpectedly.	A B C D E

	Never				Always
17. If we have something to say my teacher will listen.	A	B	C	D	E
18. My teacher sympathizes with us.	A	B	C	D	E
19. My teacher tries to make us look foolish.	A	B	C	D	E
20. My teacher's standards are very high.	A	B	C	D	E

	Never				Always
21. We can influence our teacher.	A	B	C	D	E
22. We need our teacher's permission before we can speak.	A	B	C	D	E
23. My teacher seems uncertain.	A	B	C	D	E
24. My teacher looks down on us.	A	B	C	D	E

	Never				Always
25. We have the opportunity to choose assignments, which are most interesting to us.	A	B	C	D	E
26. My teacher is unhappy.	A	B	C	D	E
27. My teacher lets us fool around in class.	A	B	C	D	E
28. My teacher puts us down.	A	B	C	D	E

	Never				Always
29. My teacher takes a personal interest in us.	A	B	C	D	E
30. My teacher thinks we can't do things well.	A	B	C	D	E
31. My teacher explains things clearly.	A	B	C	D	E
32. My teacher realizes when we do not understand.	A	B	C	D	E

	Never				Always
33. My teacher lets us get away with a lot in class.	A	B	C	D	E
34. My teacher is hesitant.	A	B	C	D	E
35. My teacher is friendly.	A	B	C	D	E
36. We learn a lot from my teacher.	A	B	C	D	E

	Never				Always
37. My teacher is someone we can depend on.	A	B	C	D	E
38. My teacher gets angry quickly.	A	B	C	D	E
39. My teacher acts as if he/she does not know what to do.	A	B	C	D	E
40. My teacher holds our attention.	A	B	C	D	E

	Never				Always
41. My teacher is too quick to correct us when we make a mistake.	A	B	C	D	E
42. My teacher lets me boss her/him around.	A	B	C	D	E
43. My teacher is impatient.	A	B	C	D	E
44. My teacher is not sure what to do when we fool around.	A	B	C	D	E

	Never				Always
45. My teacher knows everything that goes on in the classroom.	A	B	C	D	E
46. It is easy to make a fool out of my teacher.	A	B	C	D	E
47. My teacher has a sense of humor.	A	B	C	D	E
48. My teacher allows us a lot of choice in what we study.	A	B	C	D	E

	Never				Always
49. My teacher gives us a lot of free time in class.	A	B	C	D	E
50. My teacher can take a joke.	A	B	C	D	E
51. My teacher has a bad temper.	A	B	C	D	E

52. My teacher is a good leader.	A B C D E

	Never	Always
53. If we don't finish our homework we're scared to go to class.	A B C D E	
54. My teacher seems dissatisfied.	A B C D E	
55. My teacher is timid.	A B C D E	
56. My teacher is patient.	A B C D E	

	Never	Always
57. My teacher is severe when marking papers.	A B C D E	
58. My teacher is suspicious.	A B C D E	
59. It is easy to fight with my teacher.	A B C D E	
60. My teacher's class is pleasant.	A B C D E	

	Never	Always
61. We are afraid of my teacher.	A B C D E	
62. My teacher acts confidently.	A B C D E	
63. My teacher is sarcastic.	A B C D E	
64. My teacher is lenient.	A B C D E	

THANK YOU!

Appendix II

Direction to Administer the QTI

NAMES SHOULD NOT BE PLACED ON THE SURVEY! SURVEY ADMINISTERS – PLEASE SEE ATTACHED NAME LIST TO ENSURE THAT STUDENTS ARE MATHCED TO THE STATE TESTING ID NUMBER. PLEASE ASSURE THE STUDENTS THAT NAMES WILL NOT BE USED AND THAT THIS SURVEY IS FOCUSING ON THE MATH TEACHER THEY HAD LAST SCHOOL YEAR ONLY.

"You are about to take a survey about your math teacher from last year. Please remember when you are answering this survey you should be thinking about your math teacher from last school year, not your current math teacher. Your survey does not and should not have your name on it. A=never and E =always. If you feel somewhere in between never and always the letter B C D are in between. As we begin, please read the directions with me."

AS STUDENTS FINSH THE SURVEYS PLEASE CHECK FOR COMPLETION AND PLACE THE SURVEYS IN A LARGE ENVELOPE AND RETURN ALL SURVEYS TO ****** ***** – ASSISTAANT PRINCIPAL.

Thank you for your help in administering the QTI. Julia E Britt MS ED Liberty University

Appendix III

Table 6

Virginia Department of Education
September 30, 2009 Student Membership by School (Grade, Ethnicity, & Gender)
(Revised on 02/19/2010)

School Name	Grade	Unspecified Male	Unspecified Female	Amer Ind Male	Amer Ind Female	Asian Male	Asian Female	Black Male	Black Female	Hisp Male	Hisp Female	White Male	White Female	Hawaiian Male	Hawaiian Female	Total Full-time Students	Part-time Students	Total Full-time & Part-time Students
School A MIDDLE	07	2	0	0	0	0	0	23	21	2	1	35	30	0	0	114	0	114
School A MIDDLE	06	1	1	0	1	0	0	20	20	2	0	30	34	0	0	109	0	109
School A MIDDLE	08	2	1	0	0	0	1	21	29	0	3	30	31	0	0	118	0	118

(Data from the school in the study.)

Appendix IV

List of Participants

STID	Student	Gender	Ethnicity
1012******	Student A	F	C
1012******	Student B	F	AA
1012******	Student C	F	AA
1012******	Student D	F	C
1012******	Student E	F	C
1012******	Student F	M	C
1012******	Student G	M	C
1012******	Student H	M	AA
1012******	Student I	M	C
1012******	Student J	F	AA
1012******	Student K	F	AA
1012******	Student L	F	C
1012******	Student M	M	AA
1012******	Student N	M	C
1012******	Student O	M	AA
1013******	Student P	F	C
1013******	Student Q	F	AA
1013******	Student R	M	AA
1013******	Student S	F	C
1013******	Student T	F	C

1013******	Student U	M	C
1013******	Student V	M	C
1013******	Student W	M	C
1013******	Student X	F	C
1013******	Student Y	F	AA
1013******	Student Z	M	AA
1013******	Student Aa	F	C
1013******	Student Ab	M	AA
1013******	Student Ac	M	H
1013******	Student Ad	M	C
1013******	Student Ae	M	AA
1013******	Student Af	F	AA
1013******	Student Ag	F	AA
1013******	Student Ah	M	AA
1013******	Student Ai	F	C
1013******	Student Aj	F	C
1013******	Student Ak	F	C
1013******	Student Al	F	C
1013******	Student Am	F	C
1013******	Student An	F	C
1013******	Student Ao	F	C
1013******	Student Ap	F	C
1013******	Student Aq	F	C

1013******	Student Ar	F	AA
1013******	Student As	F	AA
1013******	Student At	F	C
1013******	Student Au	M	C
1014******	Student Av	M	AA
1014******	Student Aw	F	C
1015******	Student Ax	M	AA
1013******	Student Ay	M	C

Photo courtesy of author

The future in education may well include creating social networking groups to foster teacher-student relationships. Is it possible to separate personal networks from school-based network accounts? Of course.

more influence over the direction of students' learning. Technology can be the tool to make this relationship work. When I was teaching, and in a few instances as an administrator, I have given out my personal cell phone number to students. To this day, I get a text message every now and then from students whom I coached on a particular academic team, asking how I am doing and what new educational project I am working on. In my experience, students do not abuse this privilege. Social networking offers a new way to communicate with students.

The future in education may well include creating social networking groups to foster teacher-student relationships. Is it possible to separate personal networks from school-based network accounts? Of course. The key to doing this successfully would be in making password-protected accounts for the students and having them sign contracts that have clear rules. Imagine if the former middle school student from the beginning of this article could have texted his feelings to his teachers before the situation reached such a crisis; would this have changed his relationships with his teachers? Maybe.

More Important Than Ever

When I became a school administrator, I was worried that I would not be able to re-create the types of relationships that I had built with students when I was a classroom teacher. But I was amazed at how responsive students were to my overtures. I make a point to greet as many students as possible every morning. I try to notice if students have a new haircut or look nice and I offer positive comments. I discuss student learning with students.

Positive exchanges build student-teacher relationships that weave together school leadership and studem achievement. With the increase of teacher accountability, relationships in the classroom are more important than ever. When students have positive working relationships with teachers and other adults in the school, students will take ownership of their learning and, in turn, achieve much more. PL

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