

2-1-2012

The Perception of Science Teachers on the Role of Student Relationships in the Classroom

Cheryl Mattison

Follow this and additional works at: https://digitalrepository.unm.edu/educ_teelp_etds

Recommended Citation

Mattison, Cheryl. "The Perception of Science Teachers on the Role of Student Relationships in the Classroom." (2012).
https://digitalrepository.unm.edu/educ_teelp_etds/29

This Dissertation is brought to you for free and open access by the Education ETDs at UNM Digital Repository. It has been accepted for inclusion in Teacher Education, Educational Leadership & Policy ETDs by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.

Cheryl A. Mattison

Candidate

Multicultural Teacher and Childhood Education

Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

Dr. Kathryn Watkins, Chairperson

Dr. Joseph Ho

Dr. Rose Mitchell

Dr. Terry Sheldahl

Dr. Penny Pence

THE PERCEPTION OF SCIENCE TEACHERS ON THE ROLE OF
STUDENT RELATIONSHIPS IN THE CLASSROOM

By

CHERYL A. MATTISON

Bachelor of University Studies, University of New Mexico, 1983

Master of Arts in Education, University of New Mexico, 2000

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Philosophy
Multicultural Teacher and
Childhood Education

The University of New Mexico
Albuquerque, New Mexico

December, 2011

2011

Cheryl Mattison

DEDICATION

I would like to dedicate this dissertation to my greatest supporters, my husband and my children. Without their constant encouragement I would not have made it through. To my husband, thank you for always being there; for letting me vent my frustrations; for letting me bounce ideas off you when I needed to; and for being the best friend I have in the whole world. To my children, just remember, if I can do this, you can do anything and I hope this will instill in you the importance of perseverance.

Finally, to my mentor and friend, Dr. Kathryn Watkins, whose guidance and inspiration made me believe that I could succeed.

ACKNOWLEDGMENTS

I would like to express my utmost appreciation to the many people who helped me as I worked toward this degree. To Dr. Kathryn Watkins, thank you so much for all the encouragement and time that you spent with me. I will never forget how you always let me whine about how hard this process was, but always encouraged me to keep moving forward. You are my hero. To Dr. Rosalita Mitchell, I sincerely appreciate all the help you provided on my literary review, reading, advising, and re-reading, and for all you taught me about Adult Education. Your help was invaluable. To Dr. Teri Sheldahl, thank you for all your encouragement, advise, and for being such a good friend. Your direction helped me more than you will ever know. To Dr. Joseph Ho, thank you for bringing a totally different viewpoint to my study. Being from a discipline outside of the education department your advice and guidance was crucial to the integrity of this study. Thank you all for your patience, as I struggled through this process. I truly appreciate you all.

To my fellow colleagues, there is no way I can ever express the eternal gratitude that I have for you. Without you, I literally could not have accomplished this task. You are the greatest group of people that anyone could ever hope to work with, or to call friends. All your time and effort to endure all the observations, interviews and group discussion meeting were truly appreciated. I love you all.

PERSONAL BACKGROUND

My original degree is in Medical technology, and I worked for Lovelace Medical Center in the Laboratory from January of 1985 until August of 1987, when I entered UNM to complete requirements for my teaching license. At the end of my student teaching I became pregnant with my son, and instead of teaching, I went back to work at Lovelace because they would let me work part time and set my own hours. I stayed at Lovelace from August 1988 until my oldest child was in 1st grade. At that time I wanted a job that would let me use my teaching degree.

I am currently employed at Del Norte High School, where I teach Physics I, AP Chemistry and Introduction to Forensics. I have worked at Del Norte for the past 5 years. I am currently the department chair, and the sponsor for the science club. Before I worked in my present position, I was employed at Madison Middle School where I spent the first 12 years of my teaching career. While there I taught 6th, 7th and 8th grade science and coached both Science Bowl and Science Olympiad.

I reentered UNM in the fall of 1998 to begin work on a Master's degree which I completed in 2000. I am currently married to my husband of 26 years, Dean, and I have 2 children, Eric, the oldest, and Kelly.

The Perception of Science Teachers on the Role of Student Relationships in the Classroom

by

Cheryl Ann Mattison

Bachelor of University Studies, University of New Mexico, 1983

Master of Arts in Education, University of New Mexico, 2000

To be awarded PhD., Multicultural Teacher and Childhood Education,

University of New Mexico, 2011

ABSTRACT

With the increased accountability of educators comes the responsibility of the entire educational community to find ways in which we can help our students succeed in the classroom. In addition, it is important to discover what it takes to keep those students in school. Many science teachers enter the profession unprepared to handle the regular classroom routine. Classroom management, grading, lesson planning, setting up labs, and the myriad of other obligations, can leave teachers overwhelmed and sometimes can get in the way of actually helping students be successful. This study investigated how science teachers viewed the importance of developing strong teacher/student relationships to the increase of student success in a science classroom.

I attempted to answer 4 major questions:

- How do science teachers in a select high school community view the role of interactive relationships in their classrooms and how that might impact their students?
- How do science teachers in a select high school community believe they establish successful interactive relationships with their students?

- What do science teachers in a select high school community believe are some of the outcomes of those relationships?
- What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

A qualitative research method was used including observations, interviews and group discussions of 5 high school science teachers in a small urban school.

Table of Contents

		<u>page</u>
Chapter 1:	Introduction.....	1
	Purpose.....	6
	Research Question.....	7
	Limitations of the study.....	7
	Assumptions of the study.....	8
	Definitions.....	8
	Organization of the Study.....	9
	Summary of Chapter 1.....	9
Chapter 2:	Literature Review.....	10
	Introduction to Chapter 2.....	10
	General Psychology of Classroom Relationships.....	11
	Creating Communities	16
	Cultural Aspects.....	19
	What is a Good Relationship?.....	21
	Good Teacher/Student Relationships in a Science Classroom.....	24
	Classroom Management	32
	Good Relationships and No Child Left Behind.....	35
	Science Teacher Professional Development.....	37
	Summary of Chapter 2.....	38
Chapter 3:	Methodology.....	39
	Introduction to Chapter 3.....	39

	Purpose of the Study.....	40
	Significance of the Study.....	40
	School Demographics.....	42
	Procedure.....	42
	Sample Teachers.....	46
	Ethical Considerations.....	46
	Analysis Method.....	47
	Trustworthiness.....	48
	Summary of Chapter 3.....	50
Chapter 4:	Teacher Profiles and Discussions	51
	Introduction to Chapter 4.....	52
	Grace.....	53
	Max.....	64
	Robert.....	74
	Lynn.....	84
	Karen.....	90
	Teacher Reflections.....	97
	Summary of Chapter 4.....	99
Chapter 5:	Analysis.....	100
	Introduction to Chapter 5.....	100
	Question 1.....	101
	Question 2.....	104
	Question 3.....	106

	Question 4.....	107
	Time Constraints.....	111
	Relationships with Each Other.....	112
	Forming Communities.....	113
	Relationships in the Science Classroom.....	116
	Eye Contact.....	117
	Body Language.....	118
	Proximity and Contact.....	119
	Voice Quality.....	120
	Teacher Roles.....	122
	The Teacher as the Authority.....	122
	The Teacher as a Mentor/Role Model.....	123
	The Teacher as a Good Listener.....	124
	Teacher Reflections.....	125
	Findings from Teacher Survey.....	126
	Summary of Chapter 5.....	126
Chapter 6:	Conclusion.....	128
	Introduction to Chapter 6.....	128
	Recommendations.....	130
	Summary of Chapter 6.....	130
	Concluding Remarks.....	131

Appendices	133
References	137

Chapter 1: Introduction

“The relationship between teacher and student has been a focus of inquiry for over 2000 years, since Plato, Socrates, and Confucius established much of the philosophical guidelines for teaching. By emphasizing the acquisition of knowledge through dialogue, each philosopher stressed a commitment to the teacher-student relationship.” (Wang & Haertel, 1994)

In the early history of education the 3 R’s referred to reading, writing and arithmetic. Today we still have the 3 R’s, only now they refer to rigor, relevance, and relationships. Rigor and relevance both seem like logical requirements for a successful classroom, but what is the role of the teacher/student relationship in a typical high school science class? Can the relationship between a science teacher and a student actually lead to greater motivation from the student to succeed in the science classroom? According to Marks (2002), Pianta (1999), and Connell (2004), relationships do matter. But is the ability to form good relationships with students something that is innate or is it something that can be learned, or at least improved through college classes and professional development? This study looks at the perceptions of a group of science teachers regarding the importance of relationships in science classroom and how those relationships drive student motivation and success in their classrooms.

I became interested in this area early in my teaching career after struggling to find ways to reach those unreachable students, the ones that sit in the back and never participate. Actually, there was one in particular that really made me think about

teacher/student relationships. I will refer to him as H. I knew that the rigor and relevance were there because I always have high expectations and I strive to find ways to connect the classroom content to real life instances. However, when I examined the idea of a meaningful relationship with H, I had to admit to myself, that there wasn't much there. I used the excuse that I did not have time to form relationships when in reality I just didn't know how.

I began by asking myself "what I knew about H and his situation." He seemed like an intelligent student, because when I did get a response from him, which was rare, he was logical and his answer was well thought out. I knew that he was being raised by his mother and grandmother, and that his father was in prison. I also knew that he was failing my class. I made a decision that I was going to do whatever I could to make a difference.

The first day I simply asked H, "How are you, today H?" He seemed startled that I asked him that and mumbled that he was fine. I made a point to walk by his desk that day and asked him if he needed any help. It was pretty obvious that he didn't trust me and again mumbled a reply that he didn't need help. Each day after that, I made it a point to ask how he was and if he needed help. One day, when I asked how he was, he actually said that he missed his dad. I knew where his dad was, but I asked him anyway. He replied that his dad was in prison. I simply said that I was sorry and asked if I could help. He said no and went to his seat. The next day, he added a little to the story and I again offered my help.

About 2 weeks after that first encounter, H came in at lunch (I frequently have students come and eat lunch in my room). I was really surprised to see him. He didn't

say anything; he just quietly ate his lunch and then left. The next day, he did that again, as he did everyday for about the next 3 weeks. I didn't pressure him, I just said hello and told him he was welcome. Finally, one day he came in and started talking to me. He really didn't say much, but I took it as a good sign that he was beginning to trust me.

H finally opened up to me and began talking about things at home and what his life was like. This didn't happen quickly and it took willingness on both our parts to make it happen. The more that I got to know him the more I began to understand why school was not his first priority. The situation that he had at home was very unstable which made it difficult for him to focus on school. Knowing that really made a difference in how I approached him. The final piece of this story has a happy ending. H brought his grade up from an F to a B in just a few months. He seemed more eager to do the work and generally appeared to be more interactive with me and his fellow classmates. He also seemed happier. He continued to visit me during his 7th and 8th grade year. After middle school his family moved away and I lost track of him. I will never forget him, because he changed me.

This experience made me realize that interacting and just letting a student know that I cared about them did indeed make a difference, at least with this student. Consequently, this situation made a change in the way that I viewed myself as a teacher. Before H, I viewed my classroom as a place for my students to practice science, a place to be logical and analytical. I didn't see the need for any type of personal interaction. This experience showed me that I needed to work on the idea that my students were individuals and not a collective. The relationship that I established with H, not only

changed me as a teacher but it changed him as a student. He now seemed to be motivated to succeed.

In reality, it seems that most children begin school eager to learn but they lose that enthusiasm. Research shows that as students proceed through middle and high school, they become “unmotivated, apathetic and totally disengaged” (Pianta, 1999; Connell, 2004). Why? Marks (2000), surveyed more than 3500 students and found that their self-reported lack of engagement was due to school work that had no connection to real life and teachers who didn’t seem to care if they succeeded or not. Fallis and Opotow (2003), conducted a similar study with a focus on class cutting. Relationships with teachers were also stated as being one of the contributing factors to the class cutting problem (Fallis & Opotow, 2003). It is difficult to educate a student who doesn’t come to class. With the increased emphasis of making Adequate Yearly Progress according to “No Child Left Behind” (No Child Left Behind [NCLB], 2002), it is imperative that we get these students back in the classroom.

Nell Noddings (1992), writes that schools “as educational institutions, do not attend to the socio-emotional needs of students, individually or collectively.” She stresses the concept of “caring” for students. There is such a national emphasis placed on standardized achievement tests, that other aspects of the educational process are forgotten or ignored (Osterman, 2000). This test score emphasis sometimes makes it easy to lose sight of the fact that students are more than a test score. Robert Pianta (1999), states that there “is little formal attention given to student social needs, and shaping the school culture are beliefs and practices that nurture individualism and competition, rather than community and collaboration. Integral to this culture are

organizational policies and practices that systematically prevent and preclude the development of community among students and directly contribute to students' experience of isolation, alienation, and polarization, which in turn hinders their academic achievement” (Pianta, 1999). The quality of the relationship in the classroom is put on the back burner, so to speak. However, those teachers who see their students as individuals and not as a test score are more likely to provide the type of environment where students can build self-esteem and help them develop good work habits (Kiernan, 2008). However, there seems to be a large gap in what the research says is important and what actually happens in the classroom.

Since the experience with H, I have tried to establish some type of relationship with as many of my students as possible, and it is my opinion that interaction with students has made a difference in their success in my classroom. I know now that many of these students often have no one to care or support them and many times are just trying to survive. I believe the experience with H was a major factor in the way that I now set up and run my classroom. As a science teacher, additional responsibilities of setting up and taking down labs, and dealing with safety issues take more time, an already limited commodity. Nevertheless, even though I sometimes feel that I just don't have the time with everything else that is happening around me, I also realize that this is an important part of helping my students be successful. My experience with H led me to wonder how other science teachers viewed the importance of student relationships, what role it played in their classroom, how they interacted with students to form relationships, and if it seemed to make any difference.

Intuitively, teachers might know the importance of good teacher/student interactions, but may not have the education or experience to make that happen. Sometimes it is difficult to take what we know is important and put that into practice because we do not have the necessary skills or support needed to make the transition. We talk about making strong learning communities and how important they are to the educational process, but we generally refer to communities among groups of teachers, or groups of students. It is just as important to establish those communities in the classroom between teachers and their students.

Purpose

Knowing that I needed additional skills in learning to relate to my students I began to look for professional development courses that would strengthen my student relationship-building ability not only help my students succeed, but to make my classroom a more pleasant place to be. I could not find any type of educational opportunity designed to accomplish this. I then started looking at the available literature in the area of teacher/student relationships and how these relationships could be utilized to increase both motivation and success in the students. There was a great deal of information about the theoretical value of positive teacher/student relationships but very little information about how to put it into practice. There was no literature available that dealt specifically with the science teachers' point of view. Since I felt that positive relationships with students were especially important in the science classroom, I wanted to know if other science teachers had had similar experiences in forming positive relationships with their students. The purpose of this study was to determine the perception other science teachers had on the role of the teacher/student relationship in

their classroom and if/how they put that into practice. It was also an attempt to show how these teachers view the idea of professional development and/or college coursework that would strengthen a teacher's ability to form positive relationships with their students.

Research Questions

This study investigated the following research questions:

- How do science teachers in a select high school community view the role of interpersonal teacher/student relationships in their classrooms and how that might impact their students?
- How do science teachers in a select high school community believe they establish successful interpersonal relationships with their students?
- What do science teachers in a select high school community believe are some of the outcomes of those relationships?
- What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

Limitations of the study

- This study is limited by the sample size and single location of the participants therefore, **generalization is not intended.**
- This study is limited in that the information is gained from the responses of faculty members from a single school.
- This study has the potential to be limited by the author's personal involvement with the volunteers.

- This study has the potential to be limited in that the observations of the classrooms were completed solely by the author and therefore, may be subject to bias.

Assumptions of the study

- The teachers involved in the study will answer all questions truthfully.
- The teachers involved in the study responses to questions about their perceptions of the importance of teacher-student relationships will not be influenced by outside opinions and will reflect their own individual perceptions.

Definitions

For the purpose of this study the terms, *teacher/student relationship*, *interpersonal relationship*, *positive relationship* and *good relationship* will all have the following meaning: An appropriate emotional connection between teachers and students that consists of two way communication, where each person in the relationship shares information about his or herself, feels comfortable with each other, and generally like each other's company.

The term *Classroom Management* will be defined as the process by which a teacher manages the behaviors within a classroom including all types of praise and or discipline.

The term *Professional Development* will be defined as continuing education opportunities that contain rigorous and relevant content, strategies and organizational supports that ensure the preparation and career-long development of teachers (USDE, 1996).

Organization of the Study

Chapter I provides a general overview of the study, statement of the problem, purpose of the study, research questions, limitations, assumptions, and definition of the terms. Chapter II focuses on the relevant literature regarding the importance of good teacher/student relationships, importance of trust, honesty, and respect between teachers and students, the general psychology of classroom relationships, the importance of creating communities, good teacher/student relationships in the science classroom, and classroom management.

Chapter III discloses the methods and procedures used in the study, including the population and sample, instrumentation, data collection procedures, and data analysis. Chapter IV is the report of all finding in the study. Chapter V describes conclusions, implications, and recommendations for areas of further research.

Summary of Chapter 1

In summary, although researchers such as Marks, Pianta, Connell etc. tell us that relationships between teachers and students are important, that doesn't always translate to classroom practice. How do science teachers perceive the role of positive teacher/student relationships, and how they accomplish transitioning from theory to practice in their own classrooms? This section of the study discusses the personal experience that I had with a student and how that lead to his success. In addition, this chapter discusses the purpose of the study, the limitations and assumptions of the study, and the overall organization of the study.

Chapter two: Literature Review

Introduction to Chapter 2

This literature review will explore what general criteria are involved in establishing good relationships with others, and how those relationships affect the overall student success in the classroom. The first part of the literature review discusses how simple physical gestures influence the way in which people relate and how this translates into either feelings of acceptance or rejection. The types of gestures used in classrooms on a daily basis affect the way a student perceives the teacher/student relationship (Pianta, 1999). Furthermore, the first section of this literature review will discuss the use of space, voice inflection, eye contact and communication styles.

The next section of the review covers the idea of social living, creating communities, cultural aspects, and how communities help individuals feel as if they “fit in.” Along with the idea of community is the idea of authority and how authority distributes itself in a community. Following this section will be information on the major characteristics involved in having good relationships, focusing on honesty, trust, and respect. In the next section, the review will explore good relationships between teachers and students in a science classroom. The final section of the literature review will discuss the connection of teacher/student relationships with classroom management.

General Psychology of Classroom Relationships

The study of human relationships has given psychologists a plethora of information. Studies have been done that examine how people influence, and are influenced, by others, and how the presence of others affects how an individual will perform (Caldwell, 2008). Relationships involve many different factors, all of which deal with our emotions. Emotion plays an extremely large role in education because it “drives attention, which in turn drives learning” (Sylwester, 1994). We tend to think of emotion as feeling, but that does not completely encompass its true meaning. Physiologically, emotions mean survival. They are guided by a set of chemical reactions that help us evaluate situations. They help us to keep away from danger (Carter, 1998). Since there are both a psychological and physiological response to the idea of a relationship, it is difficult to define the term “relationship” fully, in a manner that is agreed upon by all the experts (Duck, 1990). However, the idea of what a relationship is in most cases seems to follow some very specific guidelines. “First, that relationship development is characterized by progressive movement along a track, that for analytic purposes has certain recognizable landmarks or staging posts, and secondly that progress is more or less linear” (Duck, 1990).

One measureable dimension of a relationship is the idea of space. In the case of education, this can refer to both personal space and environmental space. For humans, space can define who we are and makes us feel unique (Carter, 1998). In the classroom this may be apparent in various aspects. Most of us have experienced the teacher who uses desk or podium as a shield against their students, thus limiting communication, and

giving students the feeling of discomfort in approaching. Teachers indicate their acceptance or rejection of a student by the distance they put between themselves and their students, and have the freedom and the power to determine that distance, whereas, in a typical classroom, students do not. “Relationship stagnation” occurs when teachers are so threatened by relationships with their students that they use any way to distance themselves from students that they do not like (Miller, 2005).

As one would expect, teachers tend to get closer to those students that they like (Miller, 1988). But students also have the power to use space. They frequently indicate their willingness to interact and participate with the teacher just by sitting in different areas of the room. Some choose to sit in the back as far away from the teacher as possible, while others choose to be right under the teacher’s nose. In a traditional classroom set up, teachers tend to relate more with those students that are closer to the front and ignore those in the back part of the room. This holds true whether students have the opportunity to choose their own seating or not (Sommer, 1969). The use of space is also apparent when a student approaches a teacher to ask a question. Some students will walk right up to the teacher and stand very closely, making direct eye contact, while some students keep as far away as possible, and rarely make eye contact. (Whitlock, 2007). Space can also refer to the physical setup of the classroom. Miller (1988), has suggested that “even the way the room is set up can have a tremendous effect on how students feel and react towards their teacher”.

Obviously, when exposed to different circumstances we feel differently about sharing our space with those around us, and we tend to increase or decrease the distance according to the relationship we share with another individual. When our space is

‘invaded’ by someone we distrust or do not know, we can actually display physical signs of distress, such as a rise in heart rate (Carter, 1998). Basically, the more you like someone, the closer you tend to stand to them. Space even plays a role in how we carry on a conversation with another person (Carter, 1998). In other words, when we speak with another person we have a tendency to dictate the amount of space between us and the other person depending on the relationships we share. In 1988, Miller spoke of four distinct proximal zones which are quoted below:

1. Intimate- This zone is reserved for close relationships, sharing, protecting ,and comforting. Space tends to be less than 12 inches.
2. Personal- Informal conversations between friends occur in this 1.5 to 4 foot zone.
3. Social- An extended distance of 4 to 12 feet is generally acceptable for interactions between strangers, business acquaintance and teachers with students.
4. Public- Between 12 and 25 feet is the distance used for such one way communication as exhibited by lecturers.

These zones play a large part in non verbal communication as well.

In spoken language, how something is said is often more important than what is being said. Characteristics such as the tone of voice can indicate the type of relationship being shared between individuals (Duck, 1986). Different emotions are exhibited by speech rate, frequency of certain word usage, pitch, and loudness. “Those who talk faster are usually viewed as competent, well-informed, confident and dominant. Likewise increased volume is usually associated with aggression or anger” (De Gelder

& Vroomen, 2000). Increased pitch can show both excitement or extreme stress (Carter, 1998). In many cases, the same words or phrases can have totally different meanings depending on the way the words are spoken. Fortunately, humans have developed the ability to pick up small nuances in the way things are said, and interpret what is meant (Miller, 2005).

Although it would seem that speech is the major form of communication, humans actually use 'body language' to express attitudes towards themselves and others more than 50% of the time (Miller, 1988). What an individual intends creates a chain reaction of events. The intent affects how their body reacts which then affects how they will behave and this results in what message will be sent (Duck, 1990). Since body language is visual it tends to be easier to interpret than regular speech. In some cases this makes it a better method of communication, especially when speed is essential (Miller, 1988). Experienced classroom teachers can determine if students understand or do not understand information being presented in a lesson by the body posture of the students. Furthermore, students can sense confidence or frustration in the way a teacher sits, stands, or moves around the room (Miller, 1988). The manner in which a teacher positions themselves toward a particular student can indicate a general like or dislike of that student. In general, the more directly oriented a teacher is toward a student the more that student is liked by the teacher (Duck, 1990).

Following our use of words and general body language, is our use of facial expressions, an important source of communicating our feelings. Children respond to facial expression beginning at birth and continually improve their ability to recognize another individual's mood as they grow (Carter, 1998). Facial expressions may be

genuine, but, they can also be faked. The human brain can produce many expressions that are faked but the fake expressions are not quite the same as those that are authentic. This is because facial muscles are not chemically controlled by the brain and, therefore, do not move in the same way as when they are genuine. This small differences in the movement of the muscles are then interpreted by the receiver as true or false (Carter, 1998) and that interpretation ability improves as an individual matures (Papa & Bonanno, 2008). Take for example, a simple smile. A true smile can make individuals feel good. Smiling creates a positive social atmosphere that in turn makes people feel safe (Papa & Bonanno, 2008). Consistent and continual positive interaction between individuals helps create an “ongoing sense of self-worth and efficacy, and a stable sense of self, promoting better mental and physical health” (Papa & Bonanno, 2008). On the other hand, a fake smile can elicit a feeling of unworthiness, alienation and even suspicion between individuals (Carter, 1998).

The eyes are the predominant feature of the face and unique because they are the “only organ that can send or receive a communicated message” (Miller, 1988). Eye contact communicates in a number of ways. It can indicate either an interest, or liking of another, or be interpreted as a threat. Eye contact can also be withheld when indicating a lack of interest or response to another individual (Duck, 1986). In general, both teachers and students use eye contact as a prevalent means of communication. Although the way in which eye contact is used can vary from culture to culture, there are some common aspects. Teachers relate approval, disapproval, supportiveness, or indifference by the type of eye contact that is used (Miller, 1988). Teachers tend to look at a student for longer periods of time when they are interested in what that student

has to say. Therefore, when a teacher makes prolonged eye contact with some students, and not with others, it can be interpreted as bias or favoritism (Miller, 1988).

Students also use eye contact to communicate interest or boredom in what the teacher is saying (Carter, 1998). They also tend to use eye contact when they do not understand a concept or simply wish not to participate. Many times when asked a difficult question, students will immediately look down at their desks to avoid eye contact with the teacher, relaying the message of not wanting to answer the question (Miller, 1988).

Creating Communities

Our communication style, both spoken and physical, is determined by the way we feel about other individuals. Generally we tend to like those individuals that share the same attitudes and interests as we do. As humans, we are constantly comparing ourselves to our peers to see if we “fit in”. This need for acceptance is one of the basic needs of all individuals (Festinger, 1954) and is what creates a community. Humans are instinctually driven to form and maintain at least some lasting relationships. Evidence supports the idea that many people develop a wide range of behavior and psychological problems when denied that sense of belonging (Baumeister & Leary, 1995).

Baumeister & Leary (1995) state that to satisfy this innate drive requires two basic ideas. First, “that there needs to frequent positive interactions with other individual and secondly,” these interactions need to occur in a stable environment with the framework of concern for each other.” These types of interactions can be difficult to accomplish in middle and high school when students are moving from class to class, spending only

short periods of time with one teacher or another. This makes it difficult to form the type of atmosphere needed for a positive community.

Essential to forming this school culture are school policies and politics that frequently prove to be road blocks between teachers and students, or students and students. Instead of establishing a safe, “I belong”, environment, students tend to feel isolated, and frequently alienated, which makes successful classroom experience difficult. (Pianta, 1999). Skinner & Belmont, (1993), surveyed elementary students to discover which individual characteristics they perceived as being the most important to account for the way they felt about their teachers. They found that teachers' interest in students' outside of classroom time had the most powerful impact on children's perceptions of the teacher. “These findings indicate that teachers' liking for students is communicated to children and has pervasive effects on the way in which students experience their interactions with teachers”(Skinner & Belmont, 1993). The student's perceived interest from the teacher determined the extent to which children felt that satisfied with the school environment. This related not only to classroom successes but also to individual student's self determination (Skinner and Belmont, 1993).

When needs are being met, people are more likely to involve themselves in the community. Communities offer members a sense of belonging, giving the feeling of being a piece of the whole. In communities, individuals feel that they will be cared for and supported. Studies have also indicated that individuals belonging to stable and supportive communities show less stress and for the most part are healthier (Osterman, 2000). One reason why students are so susceptible to outside influences is the overwhelming need to be part of a larger social network (Whitlock, 2007).

In fact, social living plays a extremely important role in the development of our brain (Cohen, 1981).

Social living, however, must include some type of authority. The psychological effect of authority also has an effect on the social relationship. Each individual is oriented to the idea of authority in one of several ways and their behavior toward authority figures is influenced by the category under which they fall (Weitman, 1962) .

There are four basic categories:

- (a) Allo-authoritarian individuals (e g , hermits, recluses) whose predominant orientation toward authority is avoidance.
- (b) Pro-authoritarian individuals (e.g. leaders, politicians) who are overly concerned with authority and obedience to it,
- (c) Anti-authoritarian individuals (e.g., chronic oppositionists, perennial rebels, "troublemakers," and many criminals) who are overly concerned with authority and resistance to said authority, and
- (d) Non-authoritarians, those individuals who have no special authority problems (Weitman, 1962).

The authority in the classroom itself also plays a very important role in the type of relationships displayed, and is established by both the actions of teachers and students. Authority does not mean “ possessing coercive powers, enforceable through top-down sanctions, or equivalent to discipline leading to, (in cases where good relationships do not exist), the possibility of teacher abuse” (Pace, & Hemmings, 2006). Pace and Hemmings,(2006) divide authority into 5 basic categories and define each in the following manner:

1. Classroom authority in its truest form depends on teachers' legitimacy, students' consent, and a moral order consisting of shared purposes, values, and norms.
2. Authority is multiple in its forms and types and the ways in which it is interpreted.
3. Authority is enacted through dynamic negotiations between teachers and students that often involve overt or subtle conflict.
4. Authority is situated in various areas--such as curricula and classroom discourse--and is shaped by multiple interacting influences, including varying perspectives on educational purposes, values, and norms; school ethos and policy; teachers' knowledge; institutional features of schooling; and historical context.
5. Authority is essential for classroom life, students' achievement, teachers' work, and democracy (Pace & Hemmings 2006)

Cultural Aspects

With the dramatic shift in the cultural diversity found in today's public schools, it is essential that teachers address the different cultural aspects of their students. Multicultural education embraces the idea that all students should have an equal opportunity to learn and grow in the school setting. This means more than just ethnic culture, but should include socio-economic culture and, gay culture, as well. (Banks &

Banks, 2010). It is difficult to form a good relationship with a student without accepting and respecting their cultural heritage (Ladson-Billings, 1994). This can be difficult to accomplish in a science classroom when many science teachers see science as a non-culturally related subject. However, there are new ideas in science that give a greater role to cultural views. Kenneth Tobin (2005) states that “the structure of a field such as a science classroom is dynamic and consists of individual human ideas, material, and symbolic resources related to all cultures” (Tobin, Elmesky & Seiler, 2005). Culturally sensitive teachers know that culture is directly related to the way in which their students learn. When teachers are given the responsibility of teaching students from diverse backgrounds, their attitudes must reflect an appreciation of just who that student is culturally, linguistically, and socially (Ladson-Billings, 1994).

Rowhea Elmesky (2005), states that the majority of students are being taught by teachers with whom they cannot build working relationships because of the teacher’s inability to embrace cultural diversity. What we need are teachers who are able to develop a sense of their students’ cultural beliefs and accept the differences. Teachers need to see this as being an important resource for building social capital (Tobin, Elmesky & Seiler, 2005).

When teachers look out into their classrooms, what do they see? Those teachers who claim to “not see color” are actually doing a disservice to their students (Schofield, 2010), and will be less likely to form the type of relationships with those students that lead to academic success. Learning about and accepting cultural differences allows for more meaningful science education by meeting the different needs of

different students. If teachers don't see the cultural differences in their students then they don't see the true student (Ladson-Billings, 1994).

What is a Good Relationship?

What qualities make up a good relationship? A good relationship is different for different people, depending on who they are and what their values are. Generally though, a good relationship is one in which those involved respect and appreciate each other. Carl Rogers (1980) suggests certain questions we should ask ourselves which can help determine our ability to relate well and form good relationships with others:

1. Am I a person learning the skills of interpersonal relationships?

The person who thinks he knows it all may not be very understanding of the rest of us "mere mortals."

2. Can the other person see me as trustworthy, dependable, and consistent? This means listening, keeping confidences wisely and being available when needed.

3. Can I let myself experience positive attitudes toward this other person-attitudes of warmth, caring, liking, interest and respect? A person who can communicate a feeling of warmth has mastered a major communication skill.

4. Can I respect my own feelings and my own needs while respecting another's?

5. Am I secure enough within myself to permit the other person's separateness? Can I permit him/her to be what they

are—honest or deceitful, infantile or adult, despairing or overconfident? Can I give the other person the freedom to be? Or do I feel that he/she should follow my advice, remain somehow dependent upon me, or mold himself/herself after me?

6. Can I let myself enter fully into the world of the other person's feelings and personal meanings, seeing these as he sees them? Can I step into his private world so completely, that I lose all desire to evaluate or judge it?

Answering these questions honestly, is a strong indicator of what type of relationships one forms with those individuals that surround them. It helps speak to how much one cares (Rogers, 1980).

According to Nel Noddings, (1992), “a caring relationship is, in its most basic form, a connection or encounter between two human beings, one being the carer, and one being the recipient of that care. In order for relationships to be properly called caring, both parties must contribute to it in characteristic ways” (Noddings, 1992). Therefore, teachers have a dual role. One is to create positive relationships in which they are the “carers.” Secondly they must establish in their students the capacity to care for others. (Noddings, 2005).

There are other major qualities that are found in a caring relationship. One of those is respect. Showing respect for one another entails listening, accepting, and valuing each other's opinions in a non-judgmental way. However, respect is something that is earned and it is necessary to give respect in order to receive respect (Frei, &

Shaver, 2002). Gone are the days where teachers were simply respected as the authority of the classroom or respected because they were the elder. Teachers must earn the respect of their students, just as the students have to earn the respect of the teacher.

Another important aspect of a good relationship is trust. Larzelere and Huston (1980) state “trust is generally defined as a belief by a person in the integrity of another individual.” Trust increases security in a relationship and creates an atmosphere free from “defensiveness and inhibitions” (Larzelere & Huston, 1980). Individuals in communities, even those composed of a single classroom, must show trust in one another. Without trust, a community cannot survive (Rotter, 1967). Interpersonal trust is defined by Rotter (1967), as “an expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon.” In most classroom settings the transfer of information is produced through verbal and written form and an individual must trust the information being presented in order to have successful learning take place (Rotter, 1967). However, it is not just the content knowledge that is being relayed that must be trusted. Students must trust in their teachers on a more personal level to actually have a successful community.

Of course, in order to have trust, a relationship must have honesty. Honesty means communicating openly and truthfully, admitting mistakes when wrong, acknowledging and accepting responsibility for one's self. Pianta emphasizes that truth does not always enhance. When individuals are careless with the way things are said and by being perfectly frank they may hurt feelings, which could hinder cooperation. Furthermore being perfectly frank with those around us might cause resentment, which could hinder the formation of a stable relationship (Pianta, 1999).

It would seem then that good relationships are really based on four major characteristics: caring, respect, honesty and trust on both the part of the teacher and the student. How does the attainment of these characteristics relate to academic success?

Good Student/Teacher Relationships in the Science Classroom

Parker Palmer (1998), states, “ In every class I teach, my ability to connect with my students, and to connect them with the subject, depends less on the methods I use than on the degree to which I know and trust my selfhood—and am willing to make it available and vulnerable in the service of learning.” Major (2009), cites several ways that teachers can create a cycle of success in their classrooms. Making known to the student exactly what is expected from them, revealing what it takes to be successful, explaining the traits of those that are successful, and convincing students to exert effort by constantly challenging them and ensuring that every student has a chance at success. I feel that the emotional connection with a student should be included in that list.

In general, the framework and competencies required for elementary and secondary teaching are quite different. Elementary teaching is characterized by "physical and professional closeness which creates greater emotional intensity," while secondary teaching is characterized by "greater professional and physical distance," leading secondary teachers to treat emotions as "intrusions in the classroom" (Marston, Brunetti, & Courtney, 2005). This framework can be especially true for science classrooms since the idea of emotion tends to play no role in scientific facts.

Early in their school careers, students establish their own habits and patterns of how they accomplish specific tasks. These can be difficult to change as the child

progresses from grade to grade (Perry & Weinstein, 1998). “It is therefore, important to instill in the earliest years of their school careers certain school- related skills, and patterns of engagement that will develop the foundation of successful academic goals” (Pianta, 1999). Most children begin school with a positive attitude and are enthusiastic about learning and participating in classroom activities (Pianta, 1999 ; Perry & Weinstein, 1998). Unfortunately, this enthusiasm doesn’t seem to last. As the grade level increases, students’ connections to teachers become more distant. Thus, for teachers to achieve their goals it is imperative to create connections. These connections determine the quality of student’s relationship with their teacher, which then directly contribute to student motivation and therefore to academic outcomes (Patrick, Mantzicopoulos, Samarapungavan, & French, 2008)

The classroom becomes the community with the teacher in the role of the authority. When surveyed, the characteristics that students often expressed as important in their teachers were written positive feedback, one-on-one assistance, approachability, and showing interest in their students both inside and outside the classroom. These characteristics help create the sense of belonging and contribute to the student’s overall feeling of success (Montalvo, et.al 2001). In short, “if students and teachers take pleasure in forming relationships and interacting on a more personal level, the classroom will be viewed by the student as a ‘positive’ atmosphere” (Legault, 2005). This could be especially important in a science classroom, where the atmosphere tends to be more fact driven with little time devoted to emotional needs (DeBoer, 1991). In addition, science teachers also must deal with one aspect of the classroom that other teachers do not face, the laboratory setting and laboratory safety

If science teachers want to be happy and want their students to perform better in the classroom and in the laboratory, it is very important that they help their students feel welcome, and give them the sense of belonging that is considered such a basic human need (Parish & Parish, 2005). This can be a difficult task when the focus in the classroom is on completing labs in the most efficient manner possible. Time constraints frequently force the science teacher to conduct the class without time for social interaction, often times resulting in students viewing the science teacher as unapproachable (Thurman & Schrodt, 2006).

Students tend to feel unhappy when their teachers do not effectively communicate what Parish and Parish (2005) refer to as the four C's: care, concern, considerateness, and compassion. In this case, students are unlikely to care for *how much* their teachers know, until they know that their teachers *genuinely care* for them (Parish & Parish, 2005). Using coercion, which can at times be effective, actually makes learning more difficult, and generates a general dislike for the instructor. “Students tend to grant (or refuse to grant) power to their instructors as a function of their perceptions that their instructors care about them” (Thurman & Schrodt, 2006). The rapport between a student and a teacher is a key element in fostering a student’s self-esteem, confidence level, identification and engagement in the classroom. Students in classrooms with teachers they like and trust are more likely to take education seriously when compared with students in classrooms where the teacher is simply the authority figure (Thurman & Schrodt, 2006).

In 1970, in order to decrease the achievement gap between socio-economic factors and race, a teacher professional development program was developed referred to as Teacher Expectations and Student Achievement (TESA). Brophy and Good (1970), suggested that “teachers may differentiate their behavior toward students based on their expectations, and that students may respond to teachers' behavioral cues and alter their self-concept and achievement motivation to conform to teachers' expectations.” They were able to show correlation between the teacher’s perception and the students’ success rates. The program involved observing a teacher during a regular class period and using a “score sheet” to record how the teacher responded to certain characteristics that their students possessed. These characteristics included physical attractiveness, gender, socioeconomic status, race, and use of standard English (Cecil, 1988).

In addition to the TESA study, other studies have attempted to show a connection between teacher behavior and student academic success. In a study conducted by Good (1987), it was concluded that the following behaviors are used more often with perceived low achieving students:

“giving general, insincere praise; providing less frequent and less informative feedback; requiring less effort; more frequently interrupting student speech; paying less attention to the student; offering fewer opportunities to respond in class; reducing wait time; giving more criticism; making less eye contact; giving fewer smiles; having fewer public and more private interactions; monitoring and structuring activities more closely; making less use of student ideas; providing fewer cues to improve responses; rewarding more incorrect

answers or inappropriate behavior; and assigning seats further from the teacher” (Good , 1987).

Good’s (1987) study indicated that students thrive academically when they want to and feel capable of doing so. If they lack either desire or confidence, they will not be successful (Kyriakides, 2005). Since feeling competent is an important source of motivation, it is important that educators help students feel capable of learning. The science classroom is somewhat unique in instilling confidence because students have the chance to excel in either the academic side of the courses or the more hands-on side of the courses, or both. This gives the science teacher the opportunity to promote and encourage students with different learning styles. “Learners who perceive their teachers as supporting and fuelling their autonomy and competence are more likely to develop intrinsic motivation at school” (Pianta, 1999).

Caring classroom environments also result in a less stressful situation both for the student and the teacher. Many students have subject phobias claiming that they are not good at the subject making them somewhat apprehensive before the course even begins. Chronic stress levels have actually been shown to destroy many of the neurons that are directly related to memory and learning by elevating cortisol levels in the brain (Slywester, 1994). Even short-term stress can hinder a student’s ability to distinguish between what is significant and what is not significant. Determining what is significant is a crucial skill when learning science. Therefore, it is important to create classrooms that are as stress free as possible because stressful situations actually lower an individual’s ability to learn (Slywester, 1994).

Endorphins can reduce stress and create a feeling of euphoria and well-being and develop students who feel good about themselves. Positive interactions with teachers, in general, have been shown to increase these endorphin levels in the brain, which then increase the individual's ability to reason and problem-solve (Slywester, 1994), which are also crucial skills for the budding scientist. But what individual characteristics lead students to view a classroom as a positive, caring atmosphere? The answers vary but there do seem to be some common themes. The teachers whom students felt were most successful in producing these types of classrooms were reported to have: “ (1) gone out of their way to help, (2) provided positive, confidence-building feedback, (3) were organized with a clear purpose for presenting material, (4) done unnecessary things to be nice, (5) respected and trusted students (6) were willing to share personal details about themselves, and (7) were genuinely interested in student's lives outside the classroom” (Montalvo, 2001). Furthermore, students were especially concerned with things like enthusiasm, high-energy levels, positive attitudes, organization, and passions for the subject matter (Catt & Miller, 2007).

The beginning of good rapport starts with good communication skills. Teachers can create either positive or negative verbal environments. This environmental perception by the student depends on certain components of the verbal environment created by the teacher. These components include “how much is said, how it is said, to whom they speak, and how well they listen” (Nevins & Manning, 2002). Students stated that in some cases the sheer enthusiasm of the teacher for their discipline created a positive environment, leading to more interest in the topic. Teacher enthusiasm was characterized by students as intense vocal tones, significant eye contact, positive facial

expressions, and continual movement around the classroom to assist individuals in a one-on-one manner (Worley, Titsworth, Worley, & Coment-De Vito 2007). Some teachers have more difficulty expressing these characteristics. Since many concepts in science tend to be rather abstract, trying to explain the meaning of difficult concepts can sometimes lead to frustration on the part of the teacher, which could lead to a harsh vocal delivery, in turn leading to an interpretation of anger by that of the students.

Although verbal communication is indeed an important aspect of the teacher-student relationship, it also requires a great deal of non-verbal communication. The type of relationship shared between any two people is actually conveyed 55 percent with kinesthetic expression (facial expression and body movement), 38 percent with tone of voice but only 7 percent with words (Kurkul, 1972). The perception of these aspects of communication is fundamental to a good teaching atmosphere, both from teacher to student, and student to teacher.

“Perhaps, students who had a better ability to accurately judge and interpret the meaning of nonverbal cues had a better interaction with their teacher, and thus also perceived their teachers’ teaching on the factor of rapport as more effective...These findings...suggested that teachers with greater nonverbal sensitivity may be more able to use the appropriate amount of nonverbal behaviors for each student, making them more effective teachers.” (Kurkul, 1972).

When asked about their perception of the effect of how their teachers communicated with them, students in a large inner-city high school stated that their own

attitude toward the subject matter was directly related to the teacher's nonverbal communication rather than what was actually said (McCroskey, Richmond, & Bennett 2006). They went on to point out that good teachers responded to questions in such a way that they verbally and nonverbally communicate interest in students' comments. In addition teachers can prevent their students' feelings of embarrassment, or alienation by refraining from the use of negative nonverbal clues such as a frown or by making sure to maintain eye contact (Thurman & Schrod, 2006). If the typical responses from the teacher result in facial expressions that are interpreted by students as being "condescending", and/or body language that implies disapproval or even disgust, the resentment of the student results in a lack of participation and therefore decreased academic success. In addition, it was reported in personal student interviews that lack of direct eye contact from the teacher leaves students feeling as if they were insignificant (Thurman & Scholdt, 2006). "If perceived confirmation behaviors communicate to students that they are endorsed, recognized, and acknowledged as valuable individuals, then it stands to reason that students who are confirmed would be more likely to respond to an instructor's attempt to influence them" (Thurman & Scholdt, 2006). When teachers exhibit verbal messages that conflict with nonverbal messages, nonverbal clues seem to outweigh the verbal and students become confused by the mixed messages. These mixed messages can affect their attitudes and learning (Miller, 2005).

Students want to have confidence that their instructors believe in them. They need to be reassured that the teacher has their (the student's) best interest in mind and that the teacher intends to be there every step of the way. One effective method in

communicating this to students comes from simply assuming the best of our students. If our students are confident of the positive attitude of the teacher, they work harder and behave better (Rubin, R. 2004). Students need to trust that their teachers believe in them.

Classroom Management

What is classroom management? According to Emmer and Stough, (2001), “classroom management are actions taken by the teacher to establish order, engage students, or get their cooperation.” Without good classroom management teachers will not be able to positively communicate with their students. Just as students need to have different instructional techniques for their learning styles, there should be different techniques to handle behavior problems that may arise. Teachers that lack the ability for positive communication are unable to get their plan across to their students, and will have difficulty in earning student trust (Catt, 2007). Raymond Wlodkowski (1983), did extensive observations of student behavior. He was looking at students’ time in and out of their seat, and the types and severity of student disruptions. In particular, he researched a strategy called "Two-by-Ten." In this method, teachers focus on one of their most difficult students. Teachers then have a personal conversation with the student about anything the student is interested in for 2 minutes, 10 days in a row, thus building a more personal relationship with the student. He found an 85-percent improvement in that one student's behavior, as well as an improvement in the overall classroom behavior.

“Early educational processes such as attention, interpretation of emotions, appropriate behaviors, and selection of appropriate responses are all influenced by the

interactions with adults, and obviously in the elementary school setting teachers would have a large impact” (Pianta, 1999). Teachers can have a great deal of control over a student’s emotional welfare, as a child’s self-esteem and confidence can be greatly affected by the type of communication the teacher displays. Here is where teachers have the ability to empower students to have confidence in their own academic ability or create students that lack the self-esteem necessary to succeed (Pianta,1999). “ If that secure base is not there, the child will struggle more with the cognitive process, therefore, the quality of that learning process is directly related to the quality of the relationship with the adult” (Pianta, 1999). Having a good trusting relationship with one’s teacher helps satisfy the need for fitting in at school and therefore, helps development of the student’s intrinsic motivation leading to increased achievement (Mantzicopoulos, Samarapungavan & French, 2008).

Making an effort to get to know each student at the very beginning of each school year is a vital aspect of forming a positive relationship with students (Babkie, 2006). Babkie (2006) suggests finding out as much as possible about students lives outside of school which can help start things out smoothly and help relieve a great deal of the stress that is common as the school year begins. This leads to a pleasant classroom atmosphere and therefore, makes classroom management a breeze. Handley (2002), also states that a teacher’s success is directly related to what type of personal connection they establish with their students at the very beginning. The extent to which a teacher is invested in building good relationships with their students translates into a willingness on the student’s part to cooperate with the teacher (Mendler & Curwin (1999)

It seems the saying “Action speaks louder than words” or in the classroom setting, at least *as* loudly as words rings true. Furthermore, it seems the role of the teacher has a much greater impact on students than they themselves might realize. A teacher’s actions can determine whether the student feels accepted, safe, and valued or discouraged and insecure. Actions can determine if the students feels that they “fit in” as part of a community and therefore can determine if they will be motivated to give back to that community in the way of academic engagement and success, or whether they will choose to rebel in such a way as to be disruptive in the classroom and a detriment to themselves. It would seem then that having a good relationship between student and teacher is certainly a critical aspect in a successful classroom. Forming good relationships between teachers and students is a complicated process; one that encompasses many variables. Space, body language and other non-verbal communication, a sense of community, culture, respect, trust, and honesty are all extremely important factors to consider. It takes cooperation from both teacher and students to create the type of relationship that leads to a warm, welcoming, atmosphere and provide a sense of community.

Good Relationships and NCLB

The most current ‘buzz word’ in school reform initiatives is the No Child Left Behind (NCLB) Act of 2002, intended to increase accountability for K-12 schools across the nation (Smith, 2008). The goal of the NCLB mandate is to increase the rigor in schools and prepare students for various types of post secondary education (Fletcher, 2006). This has created the frenzy of more and more testing, which states are using to determine “student promotion and placement, teacher salary, school accreditation,

district funding, and graduation opportunity” (Fletcher, 2006). NCLB requires that students be proficient in core academic classes, in some cases resulting in teachers spending the majority of the time on the concepts that will be assessed on the standardized tests, resulting in neglect or de-emphasizing areas that are not tested (Mantel, 2005). This leaves little, if any, time to create those types of relationships that help foster student success especially with the constraints in high schools of limited class time. Currently, in the school district where this study was conducted, classes are 108 minutes long every other day, and 55 minutes long on Friday. That is 271 minutes or 4.5 hours weekly that teachers are in contact with individual students.

Along with NCLB came the mandate for highly qualified teachers, but what makes a highly qualified teacher? NCLB policy requires that all core academic teachers have at least a bachelor's degree along with a teaching license and certification for the subject areas that they teach (Department of Education, 2004). What about those individuals who possess those qualities but who do not know how to relate to students? Should there be a mandate for highly qualified teachers to have some type of educational background in how to create the type of relationship with their students that fosters his or her ability to succeed? If all we need is more rigor then why are the statistics still so grim? According to the US Department of Education (2010) only 18 percent of 12th graders are proficient in science.

Unfortunately, many teachers feel frustrated that the certification requirements are placed solely in the hands of those not directly involved in the classroom. Teachers and students rarely have opportunities to participate in decisions about educational requirements because so-called experts (policymakers, business leaders, and others)

have taken control of educational policy. To a great extent, the experts have taken away the teacher's voice so that, instead of listening to what teachers have to say about the educational system, the general public mostly hears the call for more testing and greater accountability from teachers (Smyth, 2008).

The history of science education over the past 200 years has shown a cyclic pattern. It seems that those responsible for determining what is needed in meaningful science curriculum waffle between factually based curricula, and that of an active participation. Students need to feel safe in order to freely engage and actively participate in the classroom (Pianta, 1999). Currently there seems to be little relationship between the high stakes testing of the typical American schools and the demands of real life science and technology (Darling-Hammond, 2006). The study of science should, above all, have direct application to the way the world currently operates (Kinnaman, 1998). Students need to complete science courses with the feeling that what they learned is applicable to their future.

Science Teacher Professional Development

Many of today's science educators believe that high quality professional development plays a crucial role in the teacher's ability to increase student achievement (Borko, 2004). Barth (1991) has suggested one area that needs improving in our public schools is the quality of the relationships teachers have with their students. Taking these two factors in combination, it seems that professional development in the area of interpersonal relationships in primary and secondary education should be implemented. "Schools that do not attend to interpersonal factors face an increased risk of weak

academic performance and students without the confidence or motivation to achieve” (Arhar & Kromrey, 1993).

The National Staff Development Council (NSDC) states that “effective staff development will prepare educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement” (NSDC, 2001). It seems effective teacher education is even more impossible than teaching itself when looking at all the responsibilities that teachers currently have and all the training necessary to meet those responsibilities (Darling-Hammond, 2006).

But what makes professional development effective, and how do we put it into practice in the classroom? Should it include educational opportunities for teachers to better understand and form the types of relationships that could further student motivation and success? Is it possible for an individual teacher to learn skills necessary to form relationships with his/or her students. According to Carl Rogers (1980), it is. He suggests that there are 4 basic principles involved in learning interpersonal relationship skills, which are:

1. Become aware of the need for such a skill.
2. Learn and practice behaviors involved in the skill.
3. Receive feedback on how well one is doing on the skill.
4. Slowly but surely integrate the new behavior into daily relationships.

Professional development for science teachers is becoming more directed toward student learning, and currently topics such as content and pedagogical content knowledge are taking the greater role in professional development for science teachers

(Loucks-Horsley, 2003). Supovitz & Turner (2000), specifically state that high quality science teacher professional development “must focus on subject-matter knowledge and deepen teachers’ content skills.” In light of this opinion of professional development the current model is lacking especially in the area of math and science (Penuel, Fishman, Yamaguchi, & Gallagher, 2007). There seems to be a lack of professional development for science teachers that strictly focuses on the foundation of interpersonal relationships with students.

Summary of chapter 2

The literature review covered a number of aspects that deal with teacher/student relationships. It defines the term relationships and discusses both its physical and psychological characteristics. It begins by discussing physical characteristics of good relationships with others, such as proximity to others, body language, and vocal tone. It also discusses the importance of being part of a community and of “fitting in.” Here it also discusses how authority in the social setting plays an important role in the hierarchy of relationships between its members. The next section in this literature review refers to the qualities needed in order to establish good relationships which included 4 major themes: caring, trust, respect, and honesty. Next the literature review covers the importance of good relationships in the science classroom due to the safety issues of laboratory work and the TESA program. Then information about the importance of verbal versus non-verbal communication is analyzed. The importance of good relationships effect on classroom management was then discussed. Finally, the idea of lack of professional development dealing with forming teacher/student relationships is addressed.

Chapter 3: Methodology

Introduction to Chapter 3

This study used qualitative inquiry, focusing on 5 high school science teachers in a small urban high school. It analyzed their role as educators with an emphasis on their perceived view of the relationships with their students and how that related to the workings of their classrooms. As described by Pole and Morrison (2003), it moved from detailed descriptions gathered in the interview process to the trends that were present in the data that was collected. It was my intention to provide a comprehensive description of this group of science teachers' perception of the relationships that they have with their students and how those relationships affect their classrooms. Furthermore, it explored how these teachers felt about education courses and/or professional development to help strengthen the ability to form these types of relationships. It was not designed to portray "an objective scientific analysis of the data, but rather a realistic view of teachers' everyday lives with their students" (Pole & Morrison 2003). Data was gathered from individual interviews, classroom observations and group discussions by the teachers. As with the work done by Mawhinney (2010), in her study where teachers were discussing issues at lunch, I conducted this study with an informal approach, simply two colleagues discussing a classroom issue.

Purpose of the Study

The purpose of this study was to determine how a group of 5 science teachers in a select small high school community perceive the effect that student/teacher interactive relationships play in their classrooms. It attempted to provide insight to the following research questions:

- How do science teachers in a select high school community view the role of interpersonal teacher/student relationships in their classrooms and how that might impact their students?
- How do science teachers in a select high school community believe they establish successful interpersonal relationships with their students?
- What do science teachers in a select high school community believe are some of the outcomes of those relationships?
- What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

Significance of the Study

According to Linda Darling-Hammond and John Brasford, (2005), when asked about 'what is the most important aspect of teaching', say that it is classroom management. This is especially true for science teachers who must deal with issues of safety as well as learning. Darling-Hammond and Brasford (2005), state that part of classroom management is the development of good relationships with the students and creating classroom communities. They go on to point out that it is also one of the most

ignored. If it is such an important part of teaching then why don't teacher education programs do a better job of providing teachers with skills needed to accomplish the task?

I have come in contact with many science teachers who view their own content knowledge and the ability to communicate that knowledge as being the primary characteristic of a good science teacher. What priority do these teachers give to the teacher/student relationship? Brophy & Alleman, (1998), Sergiovanni (1998), Marks (2000) and Pianta (1999) have shown that a strong classroom community and strong relationships with teachers decreases behavioral problems and therefore increases the learning opportunities. This in turn helps create students with more motivation and more self esteem.

What if knowing the importance of strong teacher/student relationships with students and forming those relationships produced science teachers who were even more effective in their classrooms? Knowing how experienced science teachers perceive the role of classroom relationships with their students could not only produce overall better classroom management but lead to more professional development in the area of interpersonal relationship development skills.

Our children's educational needs should be the major goal of society today. It is, therefore, critical to find why students drop out of school, or become disengaged, and give up on learning. If we don't find answers to the "whys" we are doing our children a disservice and failing in our responsibility to prepare our students to face the future. More research is needed in areas of various types of relationship dynamics, such as

different genders, different cultures, etc. to look for ways to improve our system and encourage students to want to learn and feel good about learning.

At this time there seems to be a lack of research examining the science teacher's perception toward student relationships, how they feel they established those relationships, what types of educational assistance they could use to help establish those relationships and what general effect strong relationships had on school climate. This study sought to address these questions.

School Demographics

The school where I conducted the research for this study is one of the smaller high schools with a student population of around 1200 students. It is located approximately in the middle of a city that consists of approximately 800,000 people and is an urban based school. The student population is approximately 70% Hispanic, 15% Anglo, 10% Native American, with the final 5% being composed of a number of different ethnic groups. There is a mixed socio-economic population, ranging from upper middle class, to extreme poverty, and even homelessness, with 53% of the students being on free and reduced lunch. The graduation rate is around 50%.

Procedure

Science teachers at a small public high school in a large educational district (which will be referred to simply as HS) were asked to participate in the study. Teachers agreeing to participate were given two copies of the contract mentioned in the sample section. They were asked to sign two copies of the contract, one of which was stored in a locked safe, and kept a copy for their records. An initial interview location and time

was scheduled and the first interview was conducted with each of the teachers participating in the study. The interview was conducted in the teacher's classroom which was a location of convenience for the participating teacher. I asked if teachers would allow me to record the interview. They all agreed and audio tapes were made and transcribed. In addition to the tape, I kept field notes of the interview and recorded information such as body language, facial expressions, and my own interpretations of what was being stated as the interview proceeded. Primary interview questions or discussion topics included, but were not limited to the following:

1. Tell me about a typical day in your classroom with your students.
2. Can you describe how you see the role of a teacher/student relationship on student success in your classroom?
3. Describe an example of a good student/teacher relationship?
4. Describe a specific time when you felt that your interpersonal relationship with a student helped them to be successful in your classroom. Describe a time when it wasn't helpful.

Along with the interview questions, the teachers were asked to rank 10 characteristics associated with successful teachers. Two of the characteristics, forming good relationships with students, and content knowledge, were chosen to determine if these teachers ranked relationships above content knowledge. The remaining characteristics were chosen at random (see Appendix 3).

Information gathered from the interviews and the ranking of the 10 teacher characteristics was then analyzed and additional questions were formed. A second interview was then scheduled to address additional questions. All answers were then

analyzed for trends in perceptions and ideas. The transcribed interviews were returned to the participating teacher for their approval on what was stated in the interviews. Anything that they were uncomfortable with was removed or reworded.

The next component of the procedure was conducting observations of the select group of teachers in his/her classroom. This was designed to be no more intrusive than having an administrator observe the teacher for the annual review, or having a student teacher observe their mentor teacher. I took notes on as much as possible as I observed, including what was said, where the teacher was in the room at any one time, and what I perceived as the interactions taking place. These notes were then compared to the interview information. Following the observations, time was scheduled to meet with the teacher where I gave feedback on what I observed and asked them to provide any clarifications they wanted to add. The feedback included how many times they approached various students, vocal tone, how well they made eye contact, if they touched a student, and if they seemed to neglect certain students.

A third component of the procedure was conducting and recording group discussions. These involved having the 5 teachers from the research group discuss some of the issues brought up in the interview process. The group of teachers met twice and were audio-taped. This provided an opportunity for the teachers to both reflect on and engage in an exchange of information about their perceptions of the classroom and their interactions with students.

Focus Group Questions:

1. If you were talking to other teachers about students, what might you say?
2. If you had a student teacher or were advising a novice teacher, what would you say

- about forming strong relationships with their students?
3. In your opinion, what does a teacher need to know in order to form good relationships with their students?
 4. Did you have any college courses or professional development that helped you develop the skills needed to form strong relationships?

(For a list of all questions used in this study see Appendix 1 and 2).

As the final step of the procedure for this study, I asked the teachers to reflect on the process that we had gone through in the study. These reflections were intended to evaluate how the teachers felt about the process and to determine if they were able to implement any of the material that we had discussed.

I kept a field journal as I participated in my work. My role was that of a participant observer embedded in this community. The record of my ideas and thoughts provided an additional source of data. In addition, to my own thoughts and ideas, I made notes during interviews that dealt with facial expressions, body language and other nuances that occurred as the participant talked with me.

The components of the procedure provided multiple sources of data which were then analyzed. There were personal interviews, observations of and reflections from participants, two group discussions of participants, the field journal recordings, and my own personal reflections.

Sample Teachers

Teacher participants were comprised of a convenience sample of five science teachers from a small public high school in a southwestern urban school district. This school was chosen for its smaller enrollment. The study involved interviewing and

observing the classrooms of 5 science teachers. Group discussions among these same teachers were also included in the research study. Each teacher was asked to sign a statement of permission, stating the purpose of the study, the questions involved in the study, observation time involved, the approximate time line of the study, and clearly stating that they are free to drop out of the study at any time. Since I am the chairman of the department of the group of teachers that I was working with, I assured them that they should not feel pressured to be part of the study, as it had no bearing on our professional relationship. One person from the science department choice not to participate.

Ethical Considerations

There was minimal risk to the teachers' physical well being because they were simply interviewed and observed in their classroom. Emotionally, the teachers were asked questions about their classes which could have resulted in some anxiety. However, it is common practice for teachers to reflect on their classroom processes and to be observed in their classrooms. Fictitious names were used and I am the only one who has access to any type of identification of the participants. Both myself and Dr. Watkins had access to the collected data, however, Dr. Watkins at no time had access to any names. All recorded and written information gathered from the interviews will be kept in a locked safe for seven years and then destroyed.

Analysis

The analysis began with transcribing the interviews, and from the information given I read and reread the data to establish any patterns that might be present. I listened to the tapes several times and recorded any new impressions that I had that varied from

the impressions I made during the actual interviews or in my field journal. Once patterns were established they were coded. By coding I mean I identified initial themes within the interview notes, and/or transcribed interviews that directly related to my research questions. Statements made by the individual participants were then sorted into the theme categories. Relevant data from each interview was color coded to identify its place in a particular theme. These themes were then narrowed to more specific themes in the data collected, which were then re-color coded. As more data was collected, more themes emerged and new theme categories were developed. The new collected information was once again re-categorized. The coded information was transferred to specific computer files that were categorized for each of the themes being utilized. Categories were added until all relevant data was coded into its individual theme. The categories of the themes present were then analyzed to find relationships that might exist between sub-categories. These categories were counted to identify the data that was mentioned more frequently to discover if there was any theme or themes that seemed more important than others. All coded information was then organized into a meaningful sequence of ideas.

Observational data was compared to the information gathered in the interview process. The observational data was analyzed for any conflicting data between what the individual stated in the interview and their actual practice in the classroom. The observations of different individuals were also analyzed to discover any common trends between teachers. Data collected from the observations was also coded by theme. When applicable, it was added to the themes already created with the interview process.

Group discussions were reviewed several times and focused on what the individuals said about their classroom practice when discussing issues with their colleagues. Again the information collected was sorted into themes and compared to the themes from the interviews and the observations,

Trustworthiness

Trustworthiness in qualitative research refers to making certain that the inquiry's findings are "worth paying attention to" (Lincoln & Guba, 1985). Lincoln and Guba (1985), list 4 major areas of trustworthiness: credibility, transferability, dependability, and confirmability. Johnson (1997), describes 13 criteria for determining the trustworthiness of a qualitative research study. This study uses a combination of both viewpoints.

Credibility of the study involved the quality of the researcher's interpretation of the data collected. Johnson (1997), calls this the "researcher as a detective". In other words, does the researcher reliably understand what the participant is actually saying? In this study the experience I possess with the culture involved helps assure that the interpretation of data was reliable and plausible. Understanding the day to day workings of the classroom, and being familiar with the specific language and terms used in the professions gives me an advantage for believable interpretation of the results. I also used the exact wording of the participant as much as possible.

Johnson (1997, refers to extended fieldwork as being an important part of trustworthiness. This is also known as prolonged engagement. In the case of this study, the time frame in which it was conducted was 6 months. In addition, since I was interviewing colleagues, exposure to their work and opinions was on-going.

Member checking was also utilized in this study. All interviews were transcribed and then presented to the interviewed individuals. They were asked to read the interview and confirm that what was written was indeed what they intended and to offer any feedback or more precise language to clarify their ideas. They were also asked to sign the documents showing that they agreed with the information that was transcribed.

I consulted with Dr. Kathryn Watkins on various aspects of my research. Dr. Watkins has a PhD in education and is a professor at the University of New Mexico, as well as the chairperson of my committee. Consultations with Dr. Watkins included advice on interpretation of the data and organization of the study. I relied on Dr. Watkins expertise to help guide me through the process of coding the information. Any changes made to my interpretation of data due to insight received from Dr. Watkins was noted.

Pattern matching was also included in the study. As I conducted my research I assessed the data by looking at any common patterns or language shared by the participants. I then generated new questions based on those patterns which were used during the second group discussion. Once again I looked for patterns or trends that might be occurring in the data. This process was to provide the credibility, which was a measure of how well my findings were supported by the data that was collected.

Triangulation is a technique that shows validation of the study by using multiple data sources. Analyses of multiple data sources increases the credibility of the results and provides a cross reference method for checking data (Johnson, 1997). This study compared multiple data sources such as information gathered from the field notes, interviews, observations, and group discussions.

Transferability is the degree to which the findings of this inquiry can apply or transfer beyond the bounds of the project. The results reported here could be a believable representation of the views of other science teachers in similar settings although generalization is not intended.

Summary of Chapter 3

In summary, this chapter discussed the ways in which the study was conducted. This included data gathered from observations, interviews and group discussions. It covers how the material was analyzed and then coded into individual themes. In addition, this chapter discusses other aspects of the study such as the sample used, the school demographics, the ethical considerations, and the trustworthiness of the work.

Chapter 4: Teacher Profiles and Discussions

Introduction to chapter 4

The major objective of this study was to discover how a group of science teachers in a small urban high school perceived the importance of having good relationships with their students. Furthermore, it attempted to analyze how these same teachers perceived the effect of these relationships on the success of the student in their classroom. It attempted to answer 4 main questions:

- How do science teachers in a select high school community view the role of interpersonal teacher/student relationships in their classrooms and how that might impact their students?
- How do science teachers in a select high school community believe they establish successful interpersonal relationships with their students?
- What do science teachers in a select high school community believe are some of the outcomes of those relationships?
- What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

The information from the personal interviews and the observations is presented in the following section. The observation of each teacher was conducted during a class period with a block schedule (period lasting 108 minutes). During these observations I paid particularly close attention to characteristics such as body language, eye contact, and proximity to individual students. I tracked the teacher's movements around the room, making notes as to how he or she addressed the students he or she was

talking with, whether eye contact was made, how close the teacher stood to the student, the facial expressions of both the student and the teacher, and whether there was any actual physical contact. When possible, I also noted the tone of voice the teacher used when talking with the student. Following the observations each participating teacher was interviewed using these questions:

1. Tell me about a typical day in your classroom with your students.
2. Can you describe how you see the role of a student/teacher interpersonal relationship on student successes in your classroom?
3. Describe an example of a good student/teacher relationship?
4. Describe a specific time when you felt that your interaction with a student helped them to be successful in your classroom. Describe a time when it wasn't helpful.

The next section of each of the profiles relays the results of how each of these 5 teachers viewed the ranking of 10 aspects of good teaching techniques (see Appendix 3 for the characteristics used for this part of the study). These qualities were selected from a survey that I produced and use with my students, to see what they feel are the most important qualities they want in a teacher. Number 1 is the highest and most valued quality, where 10 is the least valued among that particular set of qualities. This section of the research was designed to see where science teachers ranked the teacher/student relationship in their own perception of good teaching qualities. The final section of each teacher profile section relates both a successful and an unsuccessful vignette about an experience with a student that the teacher experienced.

Grace

Grace is 30 years old and has been teaching for about 5 years. She is a 1st level teacher. Her first year of teaching was in Canada, which is where she is from and she is currently teaching chemistry to sophomores. In addition, presently Grace is working toward a master's degree in Teaching Chemistry. Grace is white. She is married, but does not have children at this time. Grace has spent time doing humanitarian work in Haiti and has considered returning there to teach.

As I walk up to Grace's classroom she is standing right outside her door saying hello as her students come in to class. "I like to greet them at the door and take attendance as they walk in." As the bell rings she moves to the front of the room and calmly asks them to be seated. She is smiling, relaxed, and appears to have everyone's attention. "Let's start with our daily connections" she says.

The class apparently knows exactly what they should do and immediately the whole room is quiet. Later I ask her to explain what connections are. She explains.

"*Connections* is a protocol developed by the forum for educational reform. It is basically a time period of about 7 minutes when anyone can speak about whatever is on their minds. It is not a time for students to talk to each other, but they get a chance to stand up and address the class and tell them something that is on their mind or something that they have been thinking about. Many times the athletes in my class will stand up and announce a game that is coming up, where it is, and where the other students can be to support them. I have had other students stand up and tell us that they found a penny on the way to class. It is kind of an open forum. I stand up, I tell them that I have had a crazy dream about my chemistry classes. And sometimes no one

wants to speak, and so we just sit and have that silence and it is a chance for them to shut down from what they have been doing and pay attention to what we are going to be doing.”

After ‘connections’ is over, Grace puts a question on the board that relates to information that they have already covered and asks the students to write down the answer. She walks around the room and asks “who has the answer” to the question. No one answers. “OK, I am going to give a hint.” Grace gives a hint to the answer and calmly waits about a minute, then asks again if anyone has the answer. This time several hands go up. Before she has one of the students answer the question, she moves around the room and checks to see if everyone has at least attempted to answer the question. She then calls on a student that did not have his hand up, but has clearly worked the problem. The student states the answer and Grace replies, “Good job”.

Grace then moves back to the front of the room and starts to discuss the work that is to be accomplished that period. Her eyes track the entire class as she gives the instructions, making direct eye contact with many of the students as she speaks. She is very animated and uses her hands a lot as she speaks. She explains her expectations about what she wants covered in that class period, and then tells the students to begin work. The class is currently working on a problem based learning assignment that she has designed. The assignment deals with the chemistry of sports drinks. Everyone gets started. All the students appear to be engaged and seem enthusiastic about what they are doing.

As the students work, Grace walks around the room, talking with the students, explaining when they have questions, guiding their progress,

demonstrating the technique needed to complete the work, and making sure that everyone is staying on task. She speaks softly and is smiling. One student raises her hand and says she has a question about a part of the project. Grace goes to the student's desk and crouches down so that she is eye level with the student. She is approximately 30 centimeters away from the student and is making direct eye contact with her. The student shows no sign of being uncomfortable or stressed at the contact, and enthusiastically asks her question. When I explain to Grace what I had witnessed with this student, she states

“During a lab or an activity I will go directly to their desk, I will either crouch down or sit in a chair so that they are eye level and I try to keep my conversation kind of neutral so I'll ask them “what are you doing’ or “what do you think this problem is about”, kind of leading them to direct the conversation. I try not to put words in their mouths.”

I ask Grace how she sees this behavior as adding to her student's success.

“I think it is important for them to sort of make the connection and to be the bearer of the information. So just because they heard me say it at the front of the class or they read it on their assignments, I want to see them start repeating it to me. That's what I am trying to draw out of them is can they show that they have taken in the information. And that's a good way for me to check to see if they are understanding.”

As the class progresses it is obvious that the students feel comfortable with Grace and have no problem with approaching her to ask questions. She continually smiles through the whole period and even though it is a rather large class, she manages

to approach every student at least once during the block period, smiling and occasionally laughing when students joke with her.

At the end of the class period, Grace asks the class to clean up their area and then return to their desks and be seated. She addresses them as “Ladies and Gentlemen.” She then discusses with the class what they accomplished for that day and talks about what they will be doing the next time they meet as a class. The bell rings and Grace opens the door for the students, tells them good-bye and to have a nice evening.

Later I spoke with Grace about the class period. I asked her what she felt a good relationship with a student meant.

“I think a good student/teacher relationship is that every day is a fresh start especially with kids that struggle with behavior, and regular teen age moodiness. I think it is very important that every day I give them the benefit of the doubt despite failing their last test or “spassing” up the last class. I really try to keep that in mind. At first students are not accustomed to that from their teachers, but they do appreciate that. It gives them room to mature without having to drag all their baggage throughout the whole year. Yes, I see growth by doing that.”

I then asked her what how she felt that she established good relationships with her students.

“I approach the students on many different levels. I try to check in with them as they come in, and greeting them by name and asking any small thing about them, things like “how was your game last night”, or “I see you are wearing a pretty color today,” that sort of thing. That’s sort

of as they come in. In the classroom, for instance, if I am teaching a lesson and I am standing at the front of the class, I will make a point of making individual eye contact with different students. I might kind of nod to them, or I might point to their head if they are wearing a hat, or move my shoulders back, to tell them to sit up. I will walk around the room and maybe stand directly beside them or whisper something just to them.”

From the information I gathered as I watched Grace in her classroom, it seemed that she really made an effort to treat her students with respect and tried to make them feel as if they were an important part of the class. When they spoke to her, she made direct eye contact and genuinely seemed to listen to what they had to say. According to the earlier mentioned literature this is one of the major reasons why the students felt comfortable in approaching her (Pianta 1999, Duck 1990, Whitlock 2007, Miller, 1988). Even when it was clear that the student was having a difficult time with a specific part of the project, Grace did not criticize his or her work, but instead simply offered gentle suggestions of what they might try to be more successful. The only time she raised her voice was when she was trying to get everyone’s attention.

I asked Grace to give an example of a time when she had to work with a student one on one and how she approached that situation.

“I had a student stay after class yesterday. She asked for some extra help on an assignment and it was solving proportions, which was something that she had done in her math class, and something that we

had done in here, and I had modeled it one way in here. And I said “Let’s do it the way your math teacher does ” and so we did it the way her math teacher did and then we kind of came up with something that made sense which was sort of a hybrid of what she had learned in this class and something she knew already. She was kind of the one who developed it. I just kind of supported it. She was willing to come in and spend some extra time, and I was willing to see it her way, and together we found something that worked for her. She felt great. She felt jubilant and excited. She felt smart. I think mainly she just really appreciated that I listened to her and didn’t treat her badly because she didn’t understand.”

The next question that I had for Grace was to explain a time when she felt having a good relationship with a student helped them be successful.

“I am thinking of one student that I actually had two years in a row and this student had I would call it anger issues. His mom was supporting the family on her own and she was the only disciplinarian plus everything else, so he kind of had a negative relationship with women in his life. And he would just blow up if he were confronted or challenged or anything like that, and so the first year I worked on my relationship with him. He would need time for like a time out, so I would pull him out and we would talk and he would be ready to go on. What started out as like a time out turned in to a coaching session, like “I see

you are real mad. Do you need some time?” and he would say yes, and I would give him that time. So it evolved over that one year. And then I met him the second year and his mom came in with him and he said ‘yeah I want to do well, and I can do well for you. He had some of the same issues but he had improved a lot. He seemed like he could be successful in my class, and he sort of hit the ground running the second year. I see him in the school, he has a lot of charisma, I really think that he could be a business major, a really great salesman. I see that in him and I’ve told him that. He is going to CNM . I would say that definitely my relationship with him matured and I think I helped him deal with some of that anger and find some outlets for managing his anger.”

Along the same lines would you say there was a time when you were unable to make the connection needed to have a good relationship and the correlation with the success of that student?

“Yes, I had a student who was doing poorly. I gave him some extra time. He did better and then for some reason the last week said “I don’t really care about this” and stopped all the work and was very difficult to relate to. I never could quite understand this student, and unfortunately he ended up failing my class. Despite my trying he did not want to and he just didn’t like me and I could never get him to tell me exactly why. At times he would say “OH it’s not you”, and at other times he would be angry and just not engaged and I just don’t know why.”

Finally, I asked Grace if she had anything that she wanted to add to what she had already told me.

“Not really. I just think that starting fresh each day is really important.”.

For the final part of the interview process, I ask teachers to rank 10 qualities of teaching techniques. One is perceived as the most important quality, with 10 being the least important. The following are the results from Grace’s interview.

Grace’s Teacher Survey Results

“ I put classroom experience as 10. I don’t have a lot of classroom experience and I think that I am doing OK. So that is why I gave it a ten. I still think that it is important and it really does help, but I have seen lots of people with little classroom experience and they do fine. Up from 10 to 9, I put humor. If that is your personality, then fabulous, but it doesn’t have to be. For 8 I put good communication skills, well that’s a pretty important one. I think that is just a given. You should be able to communicate well. 7 is flexibility, I ranked it a little higher, but there are things that I think are more important. I ranked consistency above flexibility because flexibility can get to be too much and become a weakness rather than a strength, so I thought better to be more consistent than flexible. I think that students respond to that a little better. 5 is tolerance, so I think that this is like my top 5 out of the 10, so I value that and I think especially with high school students that’s more important than any other grade level because they are trying to accept who they are

and their life choices are starting to show up in their personality.

Discipline, I ranked that one pretty high. I guess consistency and discipline can be seen as the same thing. In my mind discipline is being consistent, following through, and doing that with flexibility.

(Laughing). Yeah, it is keeping your class under control so that everything else can happen. Number 3 I put high expectations, I am newer to teaching and I am always astounded that the expectations that I set, well, students respond to them. I know that I have been in a couple of professional development sessions where they interview students and students were asked what would they like, the thing I've heard, is that they want to be challenged. So even though students might complain about a lot of homework or work in class, they don't like homework and they don't like work, but they do want to do challenging stuff. They want to learn things that they think are important. That doesn't necessarily have to be accompanied with a lot more homework or more busy work, so I just think that is an important distinction to make. So high expectations are cool and when I set them kids jump. Strong content knowledge is next, so when I think strong content knowledge, for some reason good communication skills sort of comes into the same thing for me. I would stress the strong content knowledge part over the communication, I just figure if you know your content then you will communicate it clearly and in a way that students will understand. So that is strong content knowledge. I might write this differently, I might

call this able to translate strong content knowledge into understandable terms or make analogies that help you students understand. That is really what I am getting at when I choose that one. And then 1, I choose good relationships with students because I know that will carry you through the worst lesson, if you make a mistake or a lab doesn't turn out. If the students know that you are making, or doing your best to teach them, then they will be much more forgiving, which will make a bad class and OK class.

Grace is a young teacher but she is already doing great things in her classroom as apparent during the classroom observations. Grace's personality is that of a quiet, calm, caring, forgiving individual, not unlike that of a mother. Her ranking of the importance of student relationships as the most important characteristic is not unexpected. In addition, to educating her students, Grace is there to take care of her students. When Nel Noddings (1992) speaks of the carer I believe that she means individuals like Grace. She shows genuine pride when she speaks of one of her student's success.

She feels that content knowledge is also a very important characteristic but feels that it should be stated as an ability to transmit that content to her students, therefore, connecting good communication skills with that content knowledge. She tends to be more of a constructivist, referring to her students as the bearers of their own information turning their questions back on them. The statement in her interview, that a fresh start each day was important to maintaining good student relationships, makes it evident that

she does not dwell on the negative and expects no less from her student. However, she feels that this trait is looked upon as unusual by the students.

Grace is a well organized individual, who also has a structured approach to teaching. She is very consistent in her classroom routine and speaks of too much flexibility as sometimes becoming a weakness instead of a strength. I believe this structure is one of the characteristics that help her students feel safe in her classroom.

Max

“I like to begin the day with something that will get the students focused on science, so I try to have something in place for them as soon as the bell rings. It could be something totally off-topic, just general science information, so they get their minds set that we’re going to be doing science that day. Or we could use it as an opportunity to do something really fancy with a projector and a computer and kind of tie in something we don’t normally do during the day.”

Max walks to the front of the room and gives directions noting the question he has written on the board. He then walks to the back of the room and watches to see if all students are working on the question. One student raises a hand and Max walks over to the student, and leans over the desk, his hands are in his pocket and his head is tilted toward the student with the appearance of giving that student his full attention. Max walks back to the front of the class and states that they should try to finish up in ten minutes. He then sits down at his desk and records the attendance in the computer. After a few minutes, once attendance is complete, Max walks back to the front of the room. Another student raises their hand and Max walks over and leans down with both arms on the table, looking at the student directly, once again giving the student his full attention. He positions himself approximately 70 centimeters away from the student but maintains an angle that allows him to make direct eye contact with the student. After he answers the questions, he returns to moving around the room.

After the 10 minutes Max asks if everyone is done. “Does anyone need more time.” Several students raise their hand. “Ok, take your time. I want you to do a good

job.” While the students are finishing their work, he takes the time to pass back papers. He is relaxed and moves easily among his students.

Max is a white male. He is a veteran teacher and has been teaching more than 30 years. He has an easy going presence which appears to make students comfortable and at ease. He has been at the same school for many of those years. Max has a Master’s in Education and is a level 3 teacher. He is not married. He currently teaches Biology to 9th grade students, and Integrated Science to a mixed-level class. Max also teaches P.E. I am observing his 9th grade biology class.

I ask Max to tell me about a typical day in his science classes.

“So, I start with a bell ringer like I already mentioned. Then I like to do all of the discussion that I might have to do with the class and that could be in the form of a group discussion, it could be a power point, it could be reviewing on whiteboards, it’s just making sure we’re getting our information taken care of. I also like to break it up halfway through the periods with some sort of activity because I think that the kids need a break. The periods are too long, so as far as the breaks go I like to have something where they’re active. They can move around, they can draw, they have to go do a little lab and get materials for the lab. Finally, I like to wrap up the day closing out by emphasizing what we did; what was the content that we really wanted them to take with them on the way out. So I ask students leading questions and try to have them in their own way wrap up what they learned during the content of the day. So that’s essentially a normal day, and it could vary; there could be some days

where I might have a DVD, I'm not a real DVD type teacher, but if I have something that really relates to what we're talking about, I will use a DVD. But time is so limited I don't do that too often"

As students finish up the opening task, Max walks around the room, hands in his pockets, looking over students' shoulders to check if they have finished. Then he moves back to the front of the room. "Ok, I want eyeballs up front. Does anyone have any questions about the bell ringer?" Max calls on a student to give their answer and the student answers correctly. "Good work," states Max. "Does anyone else want to share their answer?" He calls on two other students and then wraps up the activity.

Max then asks students to take out a piece of paper. He prepares them to take notes on the power point that he will be presenting. "You know that students at this age have so much trouble taking good notes that I like to have them practice. Sometimes I give them tips on just how to take notes and then we practice a little." The power point deals with separating things into categories and living versus non living. Max stops often to ask students for examples of things in their everyday lives. "If I asked you to divide the class into two large categories, how would you do that?" One student states that they could divide it by boys and girls. I hear Max reply, "Great, that would be a really good way to do it" he tells that student. He makes a point of calling on students from different parts of the room. After he has gotten feedback from several students, he states, "Wow, you guys are coming up with some really great ideas."

The lesson continues and Max asks the class how they would divide the large groups into smaller groups. He uses a funny voice to describe going from a large group down to smaller and smaller groups. Students giggle. At this time a security guard walks in and interrupts the class for a moment. Max takes this in stride and when he is finished with the guard he simply continues on with what he was saying as if there had been no interruption.

After he has finished with the power point he passes out an assignment that deals with what the class had just been talking about. He states that they will need colored pencils to do the assignment and suggests those that don't have them should get up and go get some from the front of the room. The students settle in on the assignment and seem at ease and engaged in what they are doing. While they work, Max walks around the class room answering questions, and just talking with his students.

I pose the question to Max about how he views the relevance of good relationships with his students.

“ I think a good relationship is that students know, number one, that I'm in charge of the classroom. Number two, I'm fair, and number three, I'm willing to listen to them and talk to them about whatever. If they don't understand that I'm the person in charge of the classroom, everything else just falls apart. But being in charge doesn't mean that you have an iron fist, either. I'm the one that draws everybody together and I need their attention if we're going to be learning something new. So they have to understand that the teacher's role is to lead the class. But

then they also have to be able to feel comfortable enough to talk to me if I'm outside before class, at lunch, how you doing, so that's why I say personalization is very important. I'm not saying be their friend, I don't want to be their friend. I look like their grandfather, so I can't be their friend. More like a mentor, someone they can look up to. But I need to be organized I need to have lessons in place, I need to make sure they get the content, but it also means that I need to listen to them and they ought to be willing to talk to me about the game last night, if they need lunch money, if they're having problems or need to go to the nurse.

I then ask, "How do you think that you establish good relationships with your students?"

"I think any time that I go to an activity that they're involved in (and that can be a sport activity and they see me there) I've seen that make a difference. I think also just taking time to go out and walk around the halls at lunch. I've seen kids talking about having trouble with rides after school, and my offering them money for the bus. There's a lot of little ways but the immediate answer for me would be to go to their activities. Let them know that I'm there and rooting them on, and that's really changed kids a lot of times. It's turned them around because they see that I'm interested. So that would be my immediate answer."

At the end of the class period, Max asks all the students for their attention. His voice goes up slightly in volume as he gets everyone to look up front. He patiently waits until he feels that everyone is listening. "Let's

talk about what we learned today.” He wraps up the information that was covered during that period. As the bell rings, he says good-by to the class.

After the class is over, I ask Max about what he feels other people see when they enter his classroom.

“ I think if you came into my class you would see that I am always trying to talk with kids. Even if, the teaching is done, and the kids are working , I’m moving around in class, and I’m trying to keep communication going, trying to keep an eye on kids, make sure they are OK, are they focused, are they not, if not why, what’s going on. The other thing you might see (laughing) is how unorganized I am. My classroom is a mess and that is something I’ve always had difficulty with, is keeping organized. But I would hope that if someone came into my classroom, they would say, WOW, this guy moves around, he talks to kids, he really enjoys being around the students. That’s the number one thing I would hope.”

Max’s Teacher Survey Results

During the interview, I ask Max is “On a scale of 1-10 where he would rate each of the classroom management characteristics and what did he see as being the most important quality you need to be an effective teacher.” Max answers

“First of all you could give a blank list everyday and the numbers would be in different order. The reason I did this, I know number one is you have to have the content knowledge, so that was first for me. If you don’t know what you are teaching, if you don’t have a

good understanding of what is expected of the kids. Number 2, there is no way you are going to teach it to kids if you don't have discipline in the classroom, and again it is not an iron fist, it is just that you have control. Three is the fairness and consistency. Four is tolerance. Not everybody is going to have a good day every day. That includes teachers, that includes kids and I think that you have to have some buffer zones, not be willing to jump on kids every second that they are doing something wrong, but provide guidance. Next, is communication skills. The reason I put good communication skills next is not only is that important for the way you talk to kids but, body language, you know, making the kids feel comfortable in the classroom; the tone of voice. Six is high expectations. That is one I had trouble with. I think that could be number one all day long too. It is just hard trying to figure out where to place all of these, so high expectations could have been earlier on the list. Flexibility could have been earlier also. We show up to work some days, and there is a fire drill. What do you do? You have got to be flexible. But in my realm of things, I think that is something that you could work in. Eight, would be good relationships with students. I found that in several areas, like with good communication skills, I think in discipline, in consistency, I think those are building good relationships with students also. I really do. So, I kind of saw that in some of the earlier characteristics. And then humor. Humor I work in anyway. So for me it is not a big deal. I think for everything else in place, humor is

probably one that could be number 10. I think humor in classroom experience could be low, because those are things that you build on. I think the other characteristics are much more important. I think humor is good, but is it really necessary to have a good education?

I finally ask Max to share a story of when he had a student that he felt he had had a great affect on by forming a good relationship, and a situation where he had not been successful.

“I remember this one girl that always sat in the back of the room. When we would read aloud she would never want to read, but when I could get her to read she did a really good job. So one day I went over to her and I whispered to her that I thought she was a really good reader and that I was proud of the way she had read aloud even though she didn’t want to. Her face just beamed and from then on she would always volunteer. I saw her years later and she told me, “ Mr. B, I will never forget what you told me about my reading. It really made a difference for me”

“But I know that you can’t win them all. Teaching as long as I have, of course, there have always been those relationships. And who knows, I don’t know the reason why. It could be because of me being a man... I’ve had this situation where students have been abused by their fathers, and me being a man, they didn’t want me anywhere near them, in their space. So I’ve tried to be real careful. I’ve been able to earn their trust. Now do they feel comfortable with me, maybe like they would with a

normal person or a normal student? Probably not, but I've had to earn their trust and let them know that, hey, I sincerely care about your performance in my class. And there's other students, the students that I haven't been able to figure out what's going on. I couldn't crack the code unfortunately, I don't know what's bothering them or what's going on and talking to people, trying to find out I just couldn't get enough information. Sure, I've had many students that it's just too bad; I haven't been able to do anything for them."

Max is an easy going individual. He doesn't like to waste time and starts his class immediately after the bell rings. Max expects his students to see him as the authority but also wants them to know that he is fair. He makes the comment that he doesn't see being in charge as wielding an iron fist. Pace, & Hemmings, (2006), support Max's interpretation when they describe authority as not "possessing coercive powers, enforceable through top-down sanctions, or equivalent to discipline leading to, (in cases where good relationships do not exist), the possibility of teacher abuse" .

Max tends to react to his class as if he was the coach and they were his team. He praises his students often during a class period, telling them when they have done a good job. Max states that it is not his intent to be his student's friend, but sees himself as more of a grandfather. However, he does want those that observe his class to know that he talks with his students about other things than just science content.

Max places content knowledge as the most important teaching characteristic. Even though Max doesn't place relationships with students very high on the list of

teacher characteristics, he seems to work very hard to establish them, leading me to believe that he values it more than he originally stated.

Robert

Robert is one of the few Hispanic male teachers at our school. Although 67% of our students are Hispanic, our Hispanic teachers only make up a small percentage, and our male Hispanic teachers are few. Robert is a 1st level teacher and has only been in the classroom for five years. He has also been an athletic coach. Robert is married and has 4 children of his own. He states that having kids helps him have a better perspective of the students in his classroom.

As I sit in the back of Robert's classroom, students come in the door, laughing and smiling. Many of them "high five" Robert and voice greetings to him like "how's it going Mr. "M". Robert is smiling and greeting the kids as they walk in. They seem to genuinely be happy to come to his class. The whole atmosphere seems to be relaxed and cheerful.

The bell rings and students quickly find their way to their seats. "Is everyone having a good day" he asks. He makes eye contact with several of the students across the room. He is relaxed and confident as he speaks, His hands are clasped in front of him and his voice is cheerful. The students answer back, some in the affirmative, some in the negative. "OK, I have two things to tell you. One is no talking and two is that I am going to hit you with a little quiz." The students all groan "The quiz is to see if you have been studying like you're supposed to and just how much you remember from last time." Robert passes out the quiz. He jokes around with various students as he moves around the room as much as he can, passing out quizzes to everyone. Unfortunately, the set up in Robert's room is not very conducive to moving around much. The room is small, and

he has 38 students in this class. After the quizzes are passed out, he explains that he is going to let them use their notes for one minute only when he tells them they can.

“Ready, Set, Go” The students start working on the quiz. Robert is standing at the front of the room with his hands clasped in front of him. His face is relaxed, not really smiling, but not frowning either.

Robert uses humor a great deal in his classroom. He laughs like a mad scientist as he tells the students that they only have about 10 more minutes to finish the quiz. He then immediately says “OK, times up”. The students all seem to panic, and then he says “just kidding”. The students then continue to work. Robert watches the time and then tells them to stop and put their pencils down. “Everyone that wants to can now get out your notes. You have one minute. “Go.” After one minute he tells them to stop and turn in their papers. “I bet you didn’t realize how short a minute really was” he says.

I ask Robert about what a typical day is like in his classroom.

“A typical day. I’m not sure that there are too many typical days. They seem like they are all different, in the sense that I am not always sure of my plans every day. A typical day I would say they come in and I hit them with an oral whip so to speak, or as in today, a quiz. I ask them questions about information we covered in the previous class, just to see if they have been studying. That allows me to see who has been studying, and who hasn’t been studying and it also gives them an idea of whether they need to pick up the pace or if I need to pick up the pace in terms of what I’m doing. It works both ways. I would say that is probably about the first 10 minutes of class. After the first part of the day

it is on to either continuing with the topic we were on, or a review or a lab or something like that. Then once we do that I try to change things throughout the class, so that they are not just sitting down the whole time, but they are moving around. And then at the end of the class, I bring them all together and we touch base on what we covered for that day. Also to kind of let them know what is coming up down the line so, they have an idea, if there is a test, or if there is a lab coming up, so just to try to help them be successful.”

After the quiz, Robert asks the students questions about the lab that they did the day before. “In regards to the chromatography lab that we did yesterday, can anyone tell me what made the colors move to different locations on the paper?” Several students raise their hands to answer and he calls on each in turn, pointing out what is really good about their answers, and what might not be so good. He pulls two students up to the front of the room to help him demonstrate a point that he wants to get across about a concept that he wants them to understand from the lab the day before. He then continues with a discussion after the demonstration to see if the students understand what he is trying to get across. He continues to joke around and talks to the students in a pleasant tone of voice, with his hands moving constantly. He is relaxed and is smiling.

Robert then explains what they will be doing next in class. It is a simple activity where they will work in groups. He gives specific instructions on how he wants things done, and then passes out the activity. As he passes out papers he asks the students, “Does anyone have any plans for the weekend? Anyone going to the balloon fiesta?”

Several students answer as he continues to pass out the activity. As students work he moves around the room to answer questions and help students when they need it. He typically stands just to the right of the person, and leans over the person's shoulder as he answers their questions. One student asks him a question that seems to be more personal, and Robert laughs and pats the student on the back. "When you have finished, go ahead and submit your papers to the basket in the back. Try to wrap it up so we can go on."

Once everyone seems to have finished he asked them to take out a piece of paper because they are going to practice writing a lab report. As he gives examples of writing each section of the lab report, the students put their information down. Most of the students have their heads bent over their work and are writing. Class is almost over and Robert tells the students if they can't finish writing down the examples they can use their phone to take a picture of what he has written on the board. As the bell rings, he states, "have a safe weekend, and don't do anything that you might regret." The students are laughing as they leave the room.

I go on to ask Robert to describe what he thinks a good relationship consists of.

"I think to where each one still knows their boundaries. Where they can still be themselves, they can be their individual person, as the teacher can, but there is the line where whenever the teacher is up in front talking, it is about the class then they need to know the boundary. This is the teacher time and this is when I am the student. This is where I need to pay attention and learn and listen to what the teacher is saying in that aspect. And then when it is not so formal and the teacher is not in front

of the class, then that is when you can ask the teacher questions about anything. That's kind of how I see it."

At the end of the discussion, I ask Robert to add any additional comments that he would like. He said

"I am trying to think about what some of the students have said at some of the assemblies and whatever they said about me. And from what I recall they said that I was caring and that I always expected the best out of them. That I am a kind of role model, and I think that comes down from the fact that I do expect the best of them but I always let them know that I am here for them. That my door is always open. That if they need something then I am here for them. That they can talk to me about whatever, and that I will listen to them without judging them. I am always trying to encourage them to be better and not to give up on themselves. And I think that's where it comes from, that I do care about them. On day one, I tell them that I have four kids of my own, but when they come into my classroom at the start of each school year, that I now have 170 kids. And I care about them equally and if they need me for anything that I am here for them, and that kind of transcends the whole school year. Yeah, I'm hard and yeah, I will be hard on them, it is because I am going at them as a parent, and that I want them to success, that I don't want them to fail and I think they get that throughout the school year. I think some teachers don't like the way that I teach in that regard. I don't think that they like the fact, I won't say befriend students,

but that I have too much of a relationship with them and I don't think that other teachers like that. I think a lot of them feel there should be a strict boundary between teachers and students which I feel I still have but because I have a better relationship, I think that some teachers don't like that.

Robert's Teacher Survey Results

I will start out with the first one, and that is having a strong content knowledge, and I think that is important in the whole relationship sort of thing, because if you know your information, then you can come at them from a lot of different ways. You can come at them from humorous stand point of it, or the theory side of it, but you can get that relationship built up and if you know your content, that makes everything else easier. So that is why I choose it as the first one. In the middle of the pack I put discipline, and I think that if you establish that right off the bat you shouldn't have to do a lot of that as you progress through the school year. When they come in, I am not too much of a stickler on them as far as bell work or things like that. I feel that that is not really wasted time, but time that is not really productive for them. I do attendance throughout the class. But once they come in and I go to the front of the class they should have an idea of what needs be done. If I am up there then it is time to wind down. That is why I put that in the middle. And let's see. 9, classroom experience. I put that at the bottom because it kind of goes along with number one, if you know your

content, then I don't think that you need a lot of experience. It comes with the personality. I think if you have the personality to be in front of the classroom and you know your information you shouldn't have to have too much classroom experience at all. Now, granted, as you progress, you know how to handle certain situations, just because you may have been in that predicament before. But I think classroom experience, like I said, is somewhere down the line.

I ask Robert for further clarification. Can you tell me where you put student relationships and why you put it where you put it?

Good student relationships I put at number 5, which is a little bit farther down the list. Not because I think that it is not important, but just because that is I think all teachers should have that anyway, and that's why I didn't mark it at the very top. I think that you should have some affinity for developing that rapport with students anyway. And the other one that I listed right above it, the good communication skills, I think you have to have that to have the good relationship with students. Content knowledge speaks for itself. And the high expectations that goes toward the relationship also. If you are expecting something out of these students they have to have that in their heads, so whenever you are coming at them with the humor aspect of it and try to make the class fun and engaging, they still know that you are holding them to a higher standard, you are holding them to that rigor and high expectations. But that is why I listed it further down the line, because there are other things

that you need to establish before you can develop that rapport with your students. Kind of like with your own family and your kids, they have to know where the line is and what you expect of them before you can have that good relationship where they know what is expected of them.

I ask Robert if he would share a student success story and then one where he wasn't so successful.

“Yeah, there has been numerous times, and sometimes it is not immediate. I have had students that have come back to me just in the 5 years that I have been teaching, and they have said thank you for listening to me, thank you for helping me out. I didn't understand what you were saying at the time, or I had an idea, but I didn't really understand it until I was x number of years down the line. I have students come to me know that are still here and tell me you know what you said, what you told me before, it means something to me now. Now that I see something from your perspective and not just from a freshman or a sophomore's point of view. You know I kind of understand what you are saying. And that is what I tell my class now, I say something like, it might not mean anything to you now, but in 2 years, or 7 years, or even 10 years, it is going to come to you like, I know what he was talking about. Like I say, I have had students who have emailed me or even on my face book, have said “hey thank you for believing in me. It means something now. I have had some instances where I have tried to “crack the nut” if you will to kind of let them know that there is adult that is there to try to help them out, by engaging them in a

conversation about their life, or about school, and things like that. And I think one of the reasons why it didn't work is that you can't get to know everyone. You can know a little bit but if you don't have a lot of time to do that it is hard to get that person engaged if, and this is a big if I think, if they have never really had anyone to believe in them. Because they are scared, they are scared to trust in someone. And if you don't have a lot of time to help them out, what we have them about 5 hours a week, if you don't have a lot more time than that, then there are students who are not willing to let you in, or have never had that person to help them, then it is hard to get in and hard to engage them to have that second part of the relationship.”

Robert is humorous and uses this ability to gain the student's attention. He really enjoys being with his students and judging by the observation of his classroom, the students really enjoy being with him. Even though he likes to joke around, he does expect his students to get serious when he asks them to. He gives his students opportunities to share things from their lives and he shares from his own life. In this way he makes himself vulnerable to his students. This exchange really helps to build the feeling of community in his classroom. Robert makes an interesting comment during his interview. He states that some teachers don't approve of the type of relationship he forms with the students. He feels that some teachers have stricter boundaries and therefore, they think he should also. Robert doesn't have many years in the classroom and therefore, he doesn't have as much experience as many teachers but he doesn't see that as a handicap. Robert places content knowledge as his first teacher trait. He does

state that he feels having a good personality and knowing your information overcomes the lack of experience.

Lynn

Lynn is a 50 year old white female. She has been teaching 12 years and but has only been in our department for the past 3 years. She transferred to us from another school where she also taught 9th grade. Lynn is a 2nd level teacher and is and very recently she obtained an administrator's license. She is married with 2 children, and 2 grandchildren. At this time she is teaching biology and works with 9th grade students. She says she really enjoys working with the freshman, and doesn't understand why many teachers feel that is a punishment to be teaching them.

Lynn has a very outgoing personality and really enjoys "joking" around. She especially likes to joke with her students, and have them joke back with her, but she is very clear about when that is appropriate. She is standing at the door greeting students as they walk in when I arrive at her classroom. As soon as the bell rings, she goes to the front of the room, gets the class' attention and starts discussing what they have completed and what they have not completed on an eco-system project that they are currently working on. She then begins giving instructions about what she wants them to do during the class period. "Ok, remember with your project you need to have 6 organisms." Her hands are very animated as she speaks and she has a big smile on her face. She gives a specific set of instructions about which pieces of the project she wants done before the end of the period and tells them to get started.

I ask Lynn about her class and what a typical day would be like.

" Okay, students come in, and they pick up their folders that they keep in the classroom and we go over any assignments that they've had that they've needed to get finished or any assignments that they've taken

home or any assignments that we're going to go over in that day in class, and then we start working as soon as possible. I don't do a lot of bell-ringing work, we kind of get just right into the work.”

Lynn walks around the room as the students are working making comments on what they are doing. Lynn stands about 30 to 50 centimeters away from her students as she addresses them. She is very relaxed and the students seem very comfortable with what she is doing and saying. She smiles as she moves from group to group. Everyone is engaged in the project and seems to be having fun working on it. At one point, it gets very loud and Lynn raises her voice to speak over the noise and has a slight frown on her face. “It is getting too loud in here. I need everyone to take it down a notch.” The students get quieter and Lynn is immediately smiling again.

A student walks in the door late with a note. Lynn talks quietly with the student and then gives the student a hug. It seems obvious that the student is very comfortable with the hug because she hugs Lynn back, then goes to her group and starts working. Lynn continues to move around the room, her hands clasped in front of her body, making sure that she visits every group. She stops where one group is working and speaks to one particular student. She gently touches that student on the shoulder as she talks. She moves to another group when a student raises his hand for help. When she talks with the student she leans over the table so that she is as eye level and focuses her full attention on what the student is saying. She then nods her head and has a big smile on her face. The student smiles back, having apparently understood Lynn’s body language.

When we talk, I ask Lynn what she sees as the role of a good relationship with her students on their success in her classroom. She replies,

“I think it plays a huge role in my success with my students because I think my student's know that I care about them, they know that I care about them being successful, so that makes not only a good class period, a pleasant class period, but it also makes me feel more successful because I can get them to do their work and I can keep them engaged because of that relationship that I have with them.”

I go on to ask her what she thinks makes a good teacher/student relationship.

“Students and teachers interacting in a positive way, joking with each other, humor's always a good thing, but not sarcastic, not mean, not biting. Just kind of joking with the students, taking an interest in them as individuals, not just as students, and making them, giving them a reason to do the work. And not just here. To get them to do this because this is what you have to do, and to know why are we doing this, and letting them I guess just kind of be kids sometimes helps too. And you have to be willing to listen to each other.”

Finally, I ask Lynn if she has anything to add.

“ I smile, I think I smile a lot at them. I laugh at some of the stuff they say. I have a stern look, but they know it's not too stern. They know when I'm angry, which isn't very often, so I think a lot of time I try and smile at them, I try to make them feel comfortable, try to give them a

little, you know "get to work" and they kind of look at me and I kind of give them a little humorous look, you know I try to keep it disciplined but I also let them know that it's okay to have fun. I try to be a good role model”

As the bell rings, all the students go back to their desks and wait to be dismissed. This seems to be a regular occurrence because all the students seem to know exactly what to do. Lynn moves back to the front of the classroom and tells everyone that she is proud of all the work that they got done that period, and to have a great day. She then releases the students. As the students leave the room, Lynn stands by the door telling them good-bye.

Lynn’s Teacher Survey Results

“ I chose good relationship with students as number 1, because I think that if you don't have a good relationship with your students and they don't have a good relationship with you then you're going to have a heck of a time getting them to even work for you. So good relationship with students I chose as number 1. Number 2 high expectations, and that's just not letting them... trying not to let them sit there and not do anything. Keep expectations high, have them always try their best, keep telling them to try their best, don't let them do just half of the job, and again that goes back to relationships. I can tell a student you know what, you're messing up, you're not doing very well, and it's not a negative thing, well it is, but I mean it's not I'm dogging them, or I'm chewing them out, they take it as, hopefully they take it as, I'm going to try harder. Humor, of course, is

number 3 i flexibility is 4 because there's always something that happens that you're not prepared for. You need to have some good classroom management that's important, but if you have a good relationship with your students and you have high expectations, and you can work with your students, then discipline isn't that big a problem. Next would be consistency. I think the least for me was a strong content knowledge and classroom experience because you don't necessarily have to have those things to have a good classroom situation. You need to know your content knowledge, but I don't think that that's up there, and classroom experience, I started with absolutely no classroom experience and I had a fantastic first year.”

When I asked Lynn to share a success story she had had with a student, she commented

“I did have a student years ago that was failing; was just having a really hard time and wasn't coming to school you know. He came to me and wanted to go on a field trip because his girlfriend was going on the field trip and I told him no, he couldn't go on the field trip because he was failing my class. So he started to tell me what was going on with him in the class, what was going on with him, personally, the reason that he wasn't coming. I told him, if I sign this permission slip for you, and I make this deal with you, you will come to class every day, you will do the work, and you will pass my class, and he said yes he would, and he was there every day, he did the work, and he passed my class, so I think

it was just that whole thing of listening to him, finding out what was going on, and giving him the chance”

I then ask her to share a time when she wasn't successful.

“Yeah, I've probably had a couple of those. I've had very few students I can honestly say I've had about two or three students that, not that everybody likes me, but that we can have a somewhat of a relationship together. But there have been a couple of those students that I just don't have that connection with them. They don't like me, to be honest I don't particularly care for them, and there was just not that connection.”

Lynn placed good relationships with students as her number one characteristic in the survey. Lynn is a great deal like Robert. She uses a great deal of humor in her classroom. She states in the interview that she likes to laugh with her students and likes to see them smile. She also states that she thinks humor is important as long as it is not sarcastic or biting. Lynn “demands “attention in the way that she presents herself. Lynn talks with her hands. She appears confident, and in control of her environment. I believe in this respect, she makes her students feel safe. Her students listened and responded appropriately and respectfully to her questions.

Lynn has also worked in a larger school that was comprised of some hard core gang members but states that she did not personally have the behavior problems with these students that many of her fellow teachers complained about. Lynn comments that she believes that the cohesiveness of the staff makes an impact on how she deals with her students.

Karen

Karen is a white female who has been teaching for 15 years. She is in her late forties and is married with 2 children. Karen is a level 2 teacher and is currently teaching 9th grade biology. Karen states that she enjoys teaching 9th graders.

As the bell rings, Karen is sitting at her computer doing grade checks for those students that need them for some type of activity. The rest of the class comes in and finds their seat. Karen gets up from her computer and asks the students to sit down. She holds up a paper and asks “who didn’t get this paper yesterday?” Several students raise their hand and Karen walks over to hand them a paper. Then she moves back to the front of the room and holds up a different paper.”Take this one out everybody, we are going to go over the answers.” The class is muttering and there is shuffling of papers as the students find the sheet that she is holding. This process takes several minutes. “Ok, everybody, look at the food chain paper. Ladies in the back, either get quiet or come sit up front.” The two girls get quiet. Karen begins to go over the worksheet. The class is still making noise and she stops frequently to ask for quiet. As the review continues Karen walks over to one student and points to something on the paper. The student nods and Karen moves back to the front. The review takes about 10 minutes.

Next, Karen brings up something that was currently in the paper that dealt with level of mercury in local fish. For the next 10 to 15 minutes the class discusses this topic, how it relates to what they are studying, and how it actually affects their everyday lives. During this period of time, Karen remains at the front of the room.

Once the discussion has ended, Karen gets out another paper and starts to hand it out. As she passes the papers out, she gives the class instructions on what they need to

do. The class begins to work and Karen moves around the room checking to see who is on task and who is not. One student raises his hand for help. Karen leans over, one hand on her hip and the other hand hanging down at her side. She is approximately, 70 to 80 centimeters away from the student and is not making direct eye contact. After answering the question she moves back to her desk, sits down and asks the class if anyone else has a grade check they need filled out. Several students come forward to hand her the paper for her signature. They seem comfortable in doing this. Then she explains that she is going to be calling individual students up to discuss various class business matters. At one point, one of the students begins throwing small pieces of paper at the person behind him. Karen stops her discussion and asks this student to control his behavior or get moved to another location in the room. The student turns around in his seat to face the front and ceases the behavior. She is forced to stop several times during the discussion to correct various students' behavior.

Karen moves out from behind her desk and walks around the room. She checks several students' paper to see what they have completed. She moves to attend to students that have their hands up. She tends to lean over her students from the back with one hand either on her hip or behind her back and the other hand at her side. The position to the rear of the student makes it difficult to maintain good eye contact with her students. After answering a few questions, she asks the class if anyone has any more questions. No one raises their hand, so Karen goes back to her desk and begins sorting through papers and remains behind her desk for the rest of the period. Several times she reprimands student's whose behavior is out of line. As I watch the students in the

classroom, I see that many of them talking, laughing or walking around the room. They do not appear to be working on their assignment.

As we talk one on one, I ask Karen what a normal day is like for her in her classroom.

“Okay, well some days it's a warm up activity or a bell ringer, then it might be notes or lecture, and then we usually have an activity and then if there's time we will do another assignment related to what we are doing in class, I try to do a wrap up at the end to let them know what is expected to be turned in when and what we'll be covering the next class period.

Then I ask Karen, what she believes is a good teacher/student relationship

“I want students to respect the teacher but I also like the student to feel comfortable enough to come and talk to the teacher about issues problems or feel comfortable coming in and saying I don't get this I need help and getting help from the teacher, and knowing that I will listen. I also want them to feel comfortable enough in the classroom to answer questions within the class. But I think that the teacher is more of a mentor and is helping the student progress and not necessarily a discipline figure. I don't want to be their friend. I'd rather have them look at me as a mentor, because I want to help them but I don't necessarily want them to look at me as their friend. I want them to look at me like I'm a little higher up, that way they can see I have the expectations for them and I expect them to do certain things in class and not think that oh

this is my friend I don't have to. I would say look you are a student in my class and I have certain expectations that you still have to live up to, no matter how they view the relationship. Especially with the freshmen because they come in and they just seem sometimes so lost that we really try to mentor them and get them to have some success at high school so that by the time they are sophomores, at least they have an idea of what's expected of them and can hopefully go on from there.”

Would you like to add anything to what we have already discussed?

I try really hard to get to know them and to find out something about them so I can build that relationship. I really feel like I usually have good relationships with the majority of my kids and I feel like that's a thing that I really like about teaching, that I like kids still and I like getting to know them and I like to have that bond with them. This is our second year of doing blocks, so it's been a nice learning experience. I like the fact that we can do more, I like being able to do more labs with the kids that can last longer because I like seeing the hands on, I like actually doing something in class instead of them just trying to listen to me talk. I feel like that's one of the things that I'm working on and that is good that I do want them to be active in doing science and not just working on a paper. I'm trying hard to find things that we can do to make the class interesting.

Karen's Teacher Survey Results

“ I picked communication as the top because I think that the kids have to understand what it is I want from them in class and that goes

along with expectations but I feel like if you have good communication skills it takes care of a lot of the other problems in class. I think it helps to have a good knowledge content because then you're comfortable with what you're teaching and the kids know that and you know it just kind of flows as opposed to not knowing the content. Then you're going to be a little hesitant and they know that, they notice and they kind of hit you on it when you do. Discipline is a big issue. If you don't have any discipline then nothing's going to happen. Sometimes I think this is one of the grey areas that I really feel like if you've got discipline then a lot of good things can happen in the classroom. Consistency, I think the kids need to know you're going to be consistent that one day you're not going to be ...oh, yeah you can use your ipods today and then tomorrow I'll say no, they can't use ipods, that kind of back and forth thing. I think it confuses them on what they're expected to do in the classroom. A good relationship would be next. I think it just helps and to be honest it makes my job a lot more enjoyable when we have a good relationship and I enjoy having them coming into my class and dealing with them and talking with them and teaching them. It just makes it a lot more satisfying. High expectations, the kids need to know and you want to tell them this is what I expect and then hopefully we'll hit that high bar or at least try to get there Try to start it out at a higher level and hopefully we'll reach up to this or at least reach higher, go for something higher. Flexibility, I think all teachers have to be flexible because things change

all the time. You may end up with way more kids than you're used to, you may end up with the copier's being broken today and we have to come up with something totally different to do. Or something doesn't work right in the lab and you have to change everything up again.

Classroom experience, there's people I know that go in and they're great teachers and they haven't taught that many years so I don't know... I think it helps in some areas but I don't think it's really essential. I mean a lot of people come in with life experience that I think works just as well as classroom experience and having a sense of humor helps. I tease my kids sometimes in class, but they tease me back too, so it kind of goes both ways. I think it helps to keep it from being so tense,

Tolerance, I put last but I really feel like you have to be tolerant of everybody that comes in and they have to be tolerant of me. I mean all their teachers are different and I tell them that, that you have to learn to get along with whomever you have that's just the way it is the older you get. You may not like your boss but you still have to work with him. So I try to teach them that yeah, you really have to try to deal with everybody and not just think that you'll get to deal with your best friends in every situation.

Of the 5 teachers that were participants in this study, it is my opinion that Karen was the least involved with her students. Although Karen sees having a relationship with her students as being important, she doesn't have the same cohesion with her students that I saw with the other teachers. Where the other teachers spent almost all of

their time out among the class during the period, Karen spent a great deal of time behind her desk. Furthermore, she seemed to have more discipline problems as compared to the other teachers in the study. She frequently reprimanded students for their behavior. When answering questions of the individual students at their desk Karen almost always stood behind the students and therefore, was unable to make the eye contact with the students that I had witnessed with the other teachers. She also tended to stand farther away from her students. I found it interesting that Karen tended to have more classroom management problems than the other teachers, with students that were not engaged, out of their seats, and talking when she was talking. Karen expressed the opinion that she felt the teacher should be more of a mentor for their students but that having a good relationship with her students made her job much easier and made the class periods more enjoyable. Although Karen expressed the opinion that having good relationships with her students was important, it did not seem that she was putting that into practice. Karen placed good communication skills and strong content knowledge as the most important characteristics of a good teacher.

Teacher Reflections

In the reflection piece of this process the teachers were asked if they felt they had gained any knowledge that could be used in their classrooms. The information that follows are excerpts from those reflections.

Grace:” What lovely discussions we all had! I think that two things that I took away from the group discussions were to discuss the future with students. I had done this on a one-to-one basis but I made an effort to do so more on a whole-class basis. Another point that resonated with me was to

relax and to let go of my own agenda a little bit more. That's something that I've done a lot more since my first year of teaching but I continue to need to remember to do so--particularly if I'm teaching content that's new to me. It's kind of like watching your feet while you walk. While it's a great way to ensure that you are stepping one foot in front of the other, sooner or later you are going to bump into something if you don't look around you.”

Robert: “In my five years of teaching I’ve been fortunate to have the opportunity to have worked with such knowledgeable colleagues. Rarely however, have we been able to sit and have such meaningful discussions centered around the topic of ‘relationships’ and the relevance it has on the educational process. The time we spent discussing common practices and ‘things’ that engage students where insightful and useful once I returned to the classroom. Most importantly however, these discussions provided me with another tool that will allow me to interact with students at another level and hopefully increase their desire to succeed.”

Lynn: “I would have to say that the group discussions were very beneficial to me because it is always great to hear other teachers' best practices. I was able to use the information from those meetings to better enhance my classroom. I realized just how important relationships are and that we as teachers approach teaching differently. I also realized that in speaking with the students about some of the stuff we discussed, the students themselves have very different relationships with their teachers. If students don't feel that they have a "closeness" with their teachers, they won't perform as well. I took

information away from the meetings which helped me to look at ways to increase how I interacted with students and enhance the quality of those interactions”.

Max: “I personally enjoyed and benefitted from the participation in your research project. I found the group discussions enriching and allowed us, as a group, to discuss how we interact with students. The interactions between the teachers in our group and our students provided all of us incite into a variety of systems we could initiate in our classes, behaviors we could monitor and be proactive with our students, and the commonality in most of our relationships with our students. Your research provided me with discussions and reflections that I could take back to my classroom, anytime, and use as tool for teaching and learning in the science classroom”.

Karen did not comment.

Summary of chapter 4

This section of the study discusses the data that was collected from the interviews and observations. It revealed some of the personal information about each teacher and explained a typical day in each of their classrooms. Furthermore, this section discusses what these teachers felt a good student teacher relationship entailed, and shared both a student success story, and a time when they were not successful along with some personal impressions of characteristics I witnessed during the observations and interviews. This section also relayed information about how these teachers ranked

various teacher characteristics. The final section was statements made by these teachers about how they felt the group discussions had benefited them.

Chapter 5: Analysis

Introduction

Researchers such as Marks (2002), Pianta (1999), and Connell (2004), have demonstrated that relationships between teachers and students are important. Inherently we might realize the importance of these relationships, but at the same time lack the skills to make it happen. Basically, theory doesn't always result in practical application. The current literature discusses the importance of physical attributes to a relationship such as body language, use of space, and tone of voice (Carter, 1998, Papa & Bonanno, 2008, Miller, 1988). In addition, experts provide information related to how belonging to communities, cultural aspects, and emotional investment help contribute to forming these relationships (Whitlock, 2007, Osterman, 2000). Several psychologists have provided us with theories of how people are influenced by others, and how important it is for individuals to feel as if they "belong" (Caldwell, 2008, Duck, 1990, Baumeister & Leary, 1995). Theorists even discuss what a good relationship actually consists of (Nodding, 1992, Larzelere and Huston 1980, Palmer, 1998) However, how do those educators that are currently in a classroom setting view the relevance of relationships with their students, specifically science educators and what do those same educators consider a good relationship? Furthermore, how do science educators take the information provided by the experts and put it into practice? This research study was intended to help fill those gaps.

This study attempted to answer 4 main questions.

- How do science teachers in a select high school community view the role of interactive relationships in their classrooms and how that might impact their students?
- How do science teachers in a select high school community believe they establish successful interactive relationships with their students?
- What do science teachers in a select high school community believe are some of the outcomes of those relationships?
- What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

1. How do science teachers in a select high school community view the role of interactive relationships in their classrooms and how that might impact their students?

Four of the 5 teachers interviewed spoke of the role of the relationships with students leading to the students actually doing the work that had been assigned. In today's classroom settings it is often times difficult to motivate students, therefore, the role of the relationship can result in a good motivational tactic. This idea relates back to the work of Major (2009), who discusses creating a cycle of success in the classrooms by convincing students to exert effort, constantly challenging them to do better. Karen talks about pushing the students to do better.

“I feel like the role of the relationship is for the teacher to be there to push them to do a better job. But for some of the students I feel like we're there just to try to get them started with the process because some of my students don't seem to have an idea on how to get things done and

get assignments turned in and to do well. But when I know my students it is easier for me to push them and have them accept that.”

Robert also suggests a motivational aspect when he says that he thinks the role of relationships is probably the number one key in getting students to do their work. “It is my heartfelt belief that students will work for you if they see that you are committed to their success. They don’t want to let you down.”

Lynn not only sees the role of the relationship as motivational but has an additional view when she talks about making the classroom a more pleasant place, not only for the students, but for her as well. The atmosphere in her classroom also tends to motivate her. She states

“I think it plays a huge role in my success with my students because I think my student's know that I care about them, they know that I care about them being successful, so that makes not only a good class period, a pleasant class period, but it also makes me feel more successful which makes me feel good about what I do because I can get them to do their work and I can keep them engaged because of that relationship that I have with them.”

Frequently, as educators we find that the situation outside the classroom is not always ideal for some of our students. In our school we have a large population of students that have very unstable home lives. Some have no home at all and tend to be transient, and many others live in poverty. Max sees the role of the relationship with the students as a way to relate to them and help them cope.

“The role of the relationship gets to the bottom line with teaching which is you have to be able to relate to kids, and so I think it’s the way you talk to kids, the way you interact with kids, it’s the way you assist kids that get them through the day. Sometimes, we are all they have. We’re all here to help them learn and to be successful but you first have to know them and know how to relate to them to get them to do the work for you.”

These teachers all had slightly different responses to the question of the role of the relationship in classroom, but it comes down to the idea that if you establish good relationships with students then they tend to do their work. When you have a good relationship with the student, the student doesn’t want to let you down as pointed out by Robert. This clearly states what I too believe is the role of the relationship. It encourages students to complete assignments and therefore, be more successful in the classroom. There have been instances in my practice where I have had other teachers ask me how I get students to complete their work in my classroom when they can’t seem to get that same student to complete their assignments. I explain that establishing this strong trusting relationship with that student resulted in more cooperation from the student. I believe in what Robert said when he stated that when students see that you care about them then they will more readily work for you.

In addition, Lynn points out that the role of a good relationship can also translate into classes that are more pleasant. The pleasant atmosphere provides two distinct advantages. First, it can create the atmosphere of caring that Nel Noddings (1990) speaks of as being important for students to learn. Second, it produces a less stressful

situation. As Slywester (1994) points out even short-term stress can hinder a student's ability to distinguish between what is significant and what is not significant.

Determining what is significant is a crucial skill when learning science due to the immense amount of data that must be considered when coming to a scientific conclusion. Therefore, it is important to create classrooms that are as stress free as possible because stressful situations actually lower an individual's ability to learn (Slywester, 1994).

2. How do science teachers in a select high school community believe they establish successful interactive relationships with their students?

The teachers interviewed felt that the establishment of good relationships was a process that took time to develop. This tends to be especially true in the high school setting where students spend a limited amount of time in each individual class making it difficult to have the type of interactions that help establish the type of relationship needed.

The most common theme among the teachers was the idea of becoming involved with your students and their interests both inside and outside the classroom. Max comments "just getting involved with what they like to do such as going to their games, or their plays or concerts. It really makes a difference to the kids when you show up for those things." Robert agreed saying "just let them know that you are available for them if they need you. Supporting them outside the classroom, like going to games, stuff like that."

Each of the teachers interviewed felt that letting students know that they (the teachers), had an interest in them (the students), as individuals in a community was a major factor in creating positive relationships with students. In addition, it was suggested that teachers should make an effort to go to outside activities in which the students are participating. Skinner and Belmont (1993), point out that a student's perception of interest from the teacher helps create a feeling of worth for that student.

Another point that was made by the teachers was that creating good relationships required respecting their students. "It is interacting with my students in a positive way, joking with each other, taking an interest in them as individuals, not just as students. Respecting them, letting them, I guess, just kind of be kids sometimes helps too" says Lynn. Robert adds "talk with them in a respectful way and let them know that you believe they are capable." Respect is a powerful component of a good relationship and Grace adds that to show that respect the need for talking with them in a respectful, polite manner is also an important factor. Frei, & Shaver (2002), refer to respect as a two way street, and in order to gain respect from your students, you must also show your respect for them. In some cases showing respect is a matter of just letting the students be themselves. Setting a good example for your students was also mentioned.

With the current added responsibilities for teachers, finding time outside of the regular school day to attend school functions is difficult to accomplish. However, according to the teachers in this study it is an important part of establishing the type of relationships that can lead to students that are more cooperative and work harder in the

classroom. Several studies conducted have shown the importance of outside classroom activities as playing a major role in the development of student self esteem and self confidence (Holland & Andre, 1987; Coleman, 1961, Slavin, 1980). Teachers that attend these outside activities acknowledge to students the importance that these activities play in the student's development and help create a different aspect to the already established relationship that they have with their students. Murray (2009) discusses how having a number of varying aspects of a relationship with a teacher can create more well-adjusted and higher functioning students, especially for the students that are considered at risk. He goes on to discuss how this outside support leads to greater motivation to succeed academically (Murray, 2009).

3. What do science teachers in a select high school community believe are some of the outcomes of those relationships?

The major theme that arose from the interviews and discussions regarding question 3 was changing how the student regarded the work in the classroom. It was directly stated that one of the outcome of creating positive relationships was that the student were more likely to complete their assignments which created more success for them in the classroom.

Another interesting observation was that those teachers who seemed to have the better relationships also seemed to have classrooms where students were cooperative, respectful and engaged in what was happening in the classroom. Emmer and Stough, (2001) define the term "classroom management" as actions taken by the teacher to establish order, engage students, or get their cooperation". It would seem then that having a good relationship with students can also result in better classroom

management. This concept also relates to how students see the teacher as an authority figure, and if they allow teacher to direct their actions but the teachers agreed that it had to start immediately. Pace and Hemmings (2006), discuss the role of authority in the classroom saying “Classroom authority in its truest form depends on teachers' legitimacy, students' consent, and a moral order consisting of shared purposes, values, and norm.” Grace comments that relating to students starts from day one and how she relates to them changes how they relate to her. “They work harder and act better,” says Grace.

Those students who like and feel comfortable with their teachers, are much more likely to cooperate in the classroom. Murray (2009) suggests that the better the relationship between the teacher and the student, the less aggression the student has toward the classroom situation and therefore, the more relaxed and well behaved they are when relating to the individual teacher. Pianta (1999) suggests if students don't feel secure in an environment then, in some cases, they will act out, which then hinders the learning process.

4. What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

Professional development is a very important part of a teacher's life. Borko (2004) states that most educational reformists and educational researchers believe that continued learning opportunities for teachers in the form of professional development enhances a teacher's performance in the classroom. Training in turn increases the performance of the students (Borko, 2004). As an educator, I have been involved in

countless types of professional development courses. However, I have never received -
*+any type of education course, either in a college classroom or a professional
development course, on forming good relationships with students. When asked if they
had received any type of professional development, all participants stated that they had
not had any formal educational background in methods of developing good student
relationships. Karen remarked that she had some professional development that
touched on the importance of good relationships with students but that there had been
no work to develop any type of strategy to accomplish that. Max added that a book that
was presently being used by the professional learning groups in the school, also touched
upon some ideas of forming good relationships, such as standing outside the door
greeting students. However, the book was not focused on forming student relationships
and only mentioned it in one chapter. Each of the teachers related what their experience
had been with professional development, acknowledging the lack of any specific
instruction in forming good relationships with students. Robert comments, “No, I have
never had it in any kind of professional development. I don’t think that once you are in
the profession the district deems it as something that is important.” With the current
data we have on forming good relationships it is interesting that he would feel that our
district would not deem it as important.

The next idea that was presented was whether the participating teachers felt that
professional development would indeed have helped them in forming good relationships
with their students. Battey and Franke (2008) refer to professional development as
“taking on new ways of talking, relating, and acting in relation to students.” These

teachers agreed that the ability to form good relationships had to first be innate, but that strategies and ideas could be presented that would supply a beginning teacher with skills they could use to form these relationships. Grace commented that even simple tips could have helped her deal with her beginning years as a teacher. She states, “I know that this is going to sound pretty obvious, but it would have been really helpful if someone had just told me to talk to the kids outside the classroom. Like, say hi to them in the hall, or smile at them.” Max simply said that he wished someone had just told him to relax and enjoy being with his students.

During one of the focus group sessions, a discussion arose of how these science teachers would develop a professional development model to help all teachers improve their relationships with their students. Giving tips, role playing, time to discuss strategies already in place, and modeling for novice teachers were all suggested as techniques that could be used. The following tips and strategies that could be used in creating better relationships with students that came from the observations, interviews and group discussions and could be used to develop a professional development class or college level course.

- Learn about your student’s life outside the classroom.
- Talk with students outside the classroom
- Attend activities that your students are involved in.
- Be conscious of your body language when you address the class and individual students.
- Make an effort to establish eye contact with you student when you talk with them one on one (but be aware of the student’s cultural beliefs).

- Give your full attention to a student when a student talks to you.
- Be aware of student body language.
- Be aware of your vocal tone and pitch
- Talk to your students about things outside the classroom.
- Laugh with your students.
- Form relationships with your co-workers.
- Discuss with co-workers different ways to handle situations with your students
- Let co-workers help to settle disputes with students.
- Allow a small portion of class time to talk with your students.

It was felt by the participants that these points could be used to develop a professional development model to deal specifically with creating strong relationships with students. These ideas could then be organized into individual lessons that could be presented in either a professional development model or a college level course.

This study began with 4 major questions. Additional questions arose as the group discussions proceeded. The information from the group discussions produced several major themes with additional themes taken from the interview and observations. Comments by the participants, personal observations made by the author and previous research were used to support the themes that arose from the analysis of the data. In several cases the participants in the group discussion strayed from the original topic being discussed. The following section discusses the themes that were revealed.

Time constraints

During the discussions the concept of time constraints surfaced frequently. All the teachers involved with this study felt that time was an issue. Currently, a modified block set up is schedule being used for the district in which the study was conducted. This means that odd numbered classes, (1st, 3rd, 7th) meet on Monday and Wednesday for 108 minutes. The even numbered classes meet on Tuesday and Thursday for 108 minutes. All classes meet on Friday for 55 minutes, and 5th period meets every day for 55 minutes. Since the standards that need to be covered are extensive this schedule leaves little time for a teacher to interact with students. Since teachers felt that the establishment of a good relationship was a process that took time to develop, Robert states, “ It is a process, you know like ‘how’s your day going’. It starts to develop over time until it gets to the point where they offer that information,” The other teachers agreed. Unfortunately, with the schedule that is in place it is very difficult to find the time to interact with students without taking time away from covering content.

Another time constraint was centered around the opportunity of getting together with each other to discuss different strategies that could be used and techniques that had worked for other teachers. In the reflections piece of this study the teachers all reveal how they felt that the time we had for discussions about relationships was insightful and they felt that they took away something that they could use in their classrooms. This is one area in which having time allotted for professional development could give all teachers this opportunity.

Relationships with Each Other

During the first group discussion, the participants strayed from the topic of relationships with the students to relationships with each other. When I asked in the second discussion why they introduced that into our conversation during the first discussion, they stated that they believed having good relationships with each other was critical to forming the good relationships with their students. For instance Grace feels that in an inclusion setting when there are two teachers in a classroom, if the teachers are butting heads so to speak, the students will sense that and manipulate it to their most chaotic advantage. All five of the participating teachers felt that possessing strong relationships with other department members created several benefits such as the chance to talk to teachers that have had students in past classes and discover their opinion about strengths and weaknesses of the student and motivation techniques that have worked for a student. Robert added, “Another benefit occurs when students can witness the positive role that we all have together the communicating, teasing, getting along with each other, the friendship, then I think it puts them at ease. It makes them feel more comfortable in the classroom setting.”

As the discussion continued they all agreed that having fellow teachers to discuss ideas of how to deal with specific problems with particular students was very helpful. One participant acknowledged that at times she had asked a fellow teacher in department to actually act as a mediator for a disagreement she might have with a student. When asked why she did that, she replied, “I want the students to see that I am trying to be fair. If they know that I am fair, they tend to open up to me, and be honest.” Students that feel as if they have been treated unfairly are much more likely to

exhibit behaviors such as anger, and hostility and will be less likely to cooperate with the teacher in the future (Patsalides, 2010). Her desire to be fair to her students helps create a feeling of community in her classroom, but also creates the feeling of community with her fellow teachers.

The willingness to compromise and listen to other people's opinions requires teachers to be somewhat vulnerable to one another. However, this willingness creates better teachers. Teachers that collaborate with each other, are more successful, more productive, and more likely to be recognized as experts (Hitchcock, Bland, Hekelman, & Blumenthal, 1995).

Generally, teaching is an isolated profession, at least isolated from other adults. With the current emphasis on the creation of professional learning communities, collaboration is more readily available to every teacher. These groups allow teachers to discuss common students which help them to get to know their students, both factually as in what might be happening in their lives, and subjectively in the eyes of other teachers. This knowledge can then help individual teachers to form better relationships with their students.

Forming Communities

To satisfy the innate drive to form communities requires two basic ideas. First, "that there needs to frequent positive interactions with other individuals and secondly," these interactions need to occur in a stable environment with the framework of concern for each other" (Baumeister & Leary, 1995). The importance of forming classroom communities goes back to what was stated earlier by Pianta (1999), that students need to feel as if they "belong". The science teachers that I worked with had a

dedication to this endeavor as witnessed through the observations that were made during this study. They continually tried to form close, caring relationships with their students and to provide a consistent, safe atmosphere in their classrooms. They all agreed that this was an extremely important factor in student success as well as a benefit to classroom management. I posed the question to these teachers about how they felt they formed communities with their students. Lynn says that she has conversations with them about things outside of class. “Sometimes it is things that are going on around campus, and sometimes it might be things outside of school. You talk to them about things that are going on in the world and try to get them pulled in and try to get them to think about other things outside their own lives” Grace and Max both shared the idea of common respect between student and teacher. Grace also adds that when they are in your classroom you need to make them feel protected. Robert, Grace, and I allow class time for some socialization between the students, and ourselves and the students. Robert comments

“ The thing that I have used, and it does take time away from content, but every Monday or Tuesday, I do what is called a weekend update. I say “Ok, who would like to share what they did this weekend?” And they get time when the floor is theirs and they discuss what they did over the weekend. Sometimes it takes 10 minutes, and sometimes it takes 25 to 30 minutes. But they have the ability to share with each other what they did over the weekend. It does take time away, but it allows them that time to share if they want to, and it allows me to find out more about them and to have that connection.”

Lynn points out that it is also good to laugh together. She says “They now know I’m a nerd or whatever, and it is ok to come up and say something funny in front of me, because I’m just going to laugh. You know it just kind of eases that wall that is sometimes there.”

Next, I asked how they see these communities as playing a part in the everyday lives of their students. All of the teachers commented that in some cases the only community these students have is at school and therefore, it is very important to establish that link and to be something that is consistent in their lives. Lynn felt that forming these communities is also important for making the students feel like they are part of something and to have pride in that something. Lynn tells her students that they are not just freshmen anymore that they are the class of 2014. She believed that this one statement changed their attitude in her classroom. Max agreed with Lynn and adds that sometimes they just need something to be proud of and to show that pride, such as wearing their athletic uniforms. These teachers agreed that they think the overall goal is to make students think about the future, to think about what they want to do, and if we as a science department can make them feel important now, maybe that will improve their high school years, and then they will go on to college.

Evidence supports the idea that many animals, humans included, develop a wide range of behavior and psychological problems when denied that sense of belongingness (Baumeister & Leary, 1995). Gardner (1996) posited 10 attributes of a community: diversity, shared values, mutual obligation, effective communication, participation, reaffirmation, outside connections, vitality, adaptability, and maintenance. Although not all of these aspects were witnessed in all of the classrooms observed, four

of the teachers, Max, Grace, Robert, Lynn demonstrated the majority of these behaviors. With the negative influences that are constantly threatening our students, it is imperative that they feel connected to something. As brought out by these teachers, some of these students have no other connections except those that they get in the classroom.

Relationships in the Science Classroom

Are forming good relationships with students even more important for science teachers? It is critical in a science classroom to be able to trust your students. If you cannot trust your students, then you cannot allow them to do labs. If you cannot do labs, then you greatly reduce learning experiences for your students. It is easier to know how a student will behave in a lab situation if the teacher has a strong knowledge of the student and has developed a relationship that includes respect for the safety in the classroom. Since science teachers are responsible for the safety of all their students, it is critical that they make good judgment calls about who is performing those labs at any given time. Grace states that she feels it is even more important for science teachers because we have to deal with the uncertainty of labs and so many additional variables. Lynn adds that if she knows about a student's behavior, she can judge whether to let them do labs or not and who she can trust with the lab equipment. Max goes on to say that knowing his students helps him to decide who he can put toward the back of the room, because he knows which students need more supervision.

“In science classes and labs, it is the teacher's professional responsibility to ensure student safety by seeking out safety information that is independent of what is

found in the lab manual and making informed judgments”(Roy, 2009). This includes knowing the personalities and attitudes of the students that will be involved in performing the labs. In this particular situation science teachers are unique. They face the possibility of injury to students continually and must make educated judgment calls to ensure that all the students are safe (Roy, 2009).

. During the interviews and observations of the 5 teachers involved in this study several common behaviors were noted. The following information discusses the common themes uncovered. The first and most obvious theme dealt with physical characteristics of the teachers. The following characteristics were discussed below.

Eye contact

Four of the five teachers observed made an effort to make eye contact with the students as they worked with them one on one. As stated earlier eye contact shows interest in what the student is saying (Miller, 1988). These four teachers actually made a point of moving into a position to be at eye level with the student, such as squatting down or leaning over. This puts the teacher on an equal level with the student and helps to make the student more comfortable. “Towering” over the student can be intimidating for the student and prevent them from seeking help when they need it (Miller, 2005). Eye contact can also show that the teacher respects the student and values what they have to say (Duck, 1990). It appeared from the observations that I made, these teachers respected their students and made a point of showing the students that they were willing to come down to the student’s physical position in order to help them.

Body Language

As stated earlier, humans actually use 'body language' to express attitudes towards themselves and others more than 50% of the time (Miller, 1988). What an individual intends affects how their body reacts which then affects how they will behave and consequently, what message will be sent (Duck, 1990). There are several aspects that are related to body language. All the teachers participating appeared relaxed and comfortable in the environment. One of the teachers did show what appeared to be irritation at times by having a much more rigid posture, and forming fists with his or her hands at his or her sides.

Facial expressions tended to vary among each of the teachers, although for the majority of class period the expressions tended to be relaxed and neutral. Children respond to facial expression beginning at birth and continually improve their ability to recognize another individual's mood as they grow (Carter, 1998). Four of the five teachers smiled often but did not maintain a smile continually. Lynn and Grace were both very animated and used facial expressions to emphasize what they were discussing. Robert and Max also varied their facial expressions but were not as animated as Lynn or Grace. Although Karen did smile often, she also tended to clench her jaw and furrow her forehead frequently.

These participating teachers all had specific hand placement while moving around the room. Max tended to keep his hands in his pockets or clasped behind his back, while both Lynn and Robert kept their hands either hanging at their sides or clasped in front of them. Karen tended to keep her hands clasped behind her back but

often times made fists with her hands at her sides, while Grace mostly just let her hands hang at her sides.

Proximity and Contact

Teachers indicate their acceptance or rejection of a student by the distance they put between themselves and their students, and have the freedom and the power to determine that distance (Miller, 2004). Four of the five teachers in this study were consistently circulating around their room even when there were no students requesting their help. Movement throughout the class was charted throughout the observation and tabulated at the end of the period. Grace made over 50 student contacts (meaning she approached the student and asked or answered a question) in a single block period. She tended to stand approximately 50 centimeters away from the student she was talking with and was generally consistent from student to student. Grace did not make any physical contact.

Lynn made over 40 contacts with her students and managed to get to every table in classroom before the period was over. She also stood very close to her students, ranging from 40 to 50 centimeters and seemed consistent from student to student. On several occasions, Lynn would lightly touch a student on the arm or shoulder as she talked to them. She even hugged a female student that had initiated the contact.

When I observed Max, for part of the period he was conducting a power point presentation where he was stationed at the front of the room. During this part of the period he did not circulate or make any direct student contact. However, once that part of the period was complete, I charted his movements. He made 28 student contacts in the remaining class period and managed to visit every lab table at least once. Max

stood around 70 to 80 centimeters from his male students but tended to stand slightly farther away from his female students. He made no physical contact.

Robert had trouble circulating. His classroom is different from those of the other teachers in the study. It is very oddly shaped and with all the students in the room it was very crowded. He made a total of 18 student contacts mostly with those students on the outside edges of the rows. When he did approach the students his proximity was much like that of Max. He actually made several physical contacts; several “hi fives”, once touching a female student on the shoulder, and once patting a male student on the back.

Karen made 12 student contacts during the class period. She was not consistent with how far she stood from each student, standing relatively close to some students, while quite far away from others. Karen did not make any physical contact with any of the students during the period.

All these teachers were within what Miller (1998), refers to as the personal zone which ranges from 1.5 to 4 feet. That translates into approximately 30 to 120 centimeters. This is somewhat closer to the individual than the social zone which is the average distance for interactions between business associates or students and teachers. The teachers involved in this study stood closer to their students than what is considered an average distance.

Voice Quality

In spoken language, how it is said is more important than what is being said. Characteristics such as the tone of voice can indicate the type of relationship being shared between individuals (Duck, 1986). Different emotions are exhibited by speech

rate, frequency of certain word usage, pitch, and loudness. When observing these teachers, one aspect that was being witnessed was that of the vocal quality of the teachers.

Grace spoke very calmly and softly most of the time. Her voice did go up in volume when she was giving specific instructions, but not necessarily when she was just talking to the whole class. When addressing small groups, not only did the volume of her voice decrease, but the actual pitch of her voice went down. This seemed to be quite consistent as she went from talking to the classroom, to talking to small groups of students.

Lynn's voice was very cheerful. When she addressed the entire class her voice was loud and higher pitched. Like Grace, Lynn tended to lower both the volume and pitch of her voice when she spoke to a small group. When she wanted the attention of the entire class her voice took a more authoritative tone, but it was never harsh.

When speaking to the whole class, Max's vocal tone was calm and somewhat soothing. The pitch of his voice was considerably lower than either Grace or Lynn. Max used his voice to emphasize points he wanted to make and for creating humor. He would purposely raise his voice pitch and speak very high, or lower the pitch to get across different points he was trying to make. This would generate laughter among the students. The volume of his voice was consistent whether he was talking to the whole class or to small groups.

The next theme that seemed to arise from the data was that of the role of the teacher. These were divided into 3 basic sections being the teacher as the authority, the teacher as a mentor, and the teacher as a listener.

Teacher Roles

The Teacher as the Authority

It was evident in four out of five cases that the teacher was the authority figure in the classroom and clearly stated by three of the five teachers that were observed. Teachers as authority figures have certain expectations of their students one of which is obedience from their students. "Obedience is expected as long as the person wielding the authority does not overstep the traditions and boundaries associated with their role" (Elliot, 2009). As previously stated social living must include some type of authority. The psychological effect of authority also has an effect on the social relationship (Weitman, 1962). Max says "I think one issue of a good relationship is that students know, number one, I'm in charge of the classroom." Robert and Karen made similar statements during their interviews.

Although Grace and Lynn did not specifically mention it, they came across as the definite authorities of the classroom. When either of these teachers asked the students for some specific behavior, such as to be quiet, or sit down, the students responded with little, if any, hesitation. However, even though Karen stated that she wanted the students to know that she was in charge, it did not seem to always be the case. Several times while observing her classroom, the students seemed to be somewhat out of control and not really listening to what she had to say.

In general, students were willingly compliant, tended to be non-authoritarians, and had no particular issues with the teacher as the authority figure. This type of hierarchy is necessary to maintain good classroom management, which is important to

helping form good relationships (Pace, & Hemmings, 2006). If a teacher is too busy trying to control the class behavior, there is no time or energy left to try and get across the lessons, much less form close relationships with students.

The Teacher as a Mentor/Role Model

Four of the 5 teachers in this study expressed a desire to be thought of as a mentor or a role model by their students. They felt confident that displayed the characteristics be a good influence on the students in their classroom. Karen, Max, Lynn and Robert all express a desire to be the type of teacher that is thought of as a good mentor or role model. Only Grace does not specifically mention being a mentor or a role model.

Both Karen and Max speak of being mentors for their students. “In general, an effective mentoring relationship is characterized by mutual respect, trust, understanding, and empathy. Good mentors are able to share life experiences and wisdom, as well as technical expertise. They make an effort to know, accept, and respect the goals and interests of a student. Good mentors establish an environment in which the student's accomplishment is limited only by the extent of his or her own talent” (National Academy of Sciences, National Academy of Engineering, Institute of Medicine, 1997). In the interview with Karen she states “I think that the teacher is more of a mentor and is helping the student progress.” Max said it like this, “personalization is very important. I’m not saying be their friend, I don’t want to be their friend. I look like their grandfather, so I can’t be their friend. More like a mentor, someone they can look up to.”

Lynn and Robert discuss being good role models to their students. Role modeling is a process where adults generally model behaviors, beliefs, and character in a manner that will help children formulate their own behaviors, beliefs and character. Regardless of whether adults model good behaviors or bad behaviors, children will still learn from what they see. This is social learning theory and it plays a very large role in public schools (Bandura, 1986). Both Lynn and Robert work with students outside the classroom in other activities which provides them with the ability to work with some students more closely, giving them another opportunity to be good role models.

The Teacher as a Good Listener

Although listening is considered a major factor in normal conversation it is still not a subject that is generally taught. Yet being a good listener does take skill but it is a skill that can be learned and enhanced (Imhof, 1998). What makes a good listener? Beatty (1999) states that a good listener incorporates “good will, a willingness to take the time, the ability to focus and avoid distraction, some concern to understand, a working memory.”

The participants of this study all spoke of the willingness to listen to their students and expressed the desire to have their students feel comfortable in talking with them about every and all issues that concerned that student.

When discussing a student that she had worked with one on one Grace says I think mainly she just really appreciated that I listened to her and didn't treat her badly because she didn't understand.” Similarly Max comments on his idea of good relationships “it also means that I need to listen to them and they ought to be willing to talk to me about the game last night, if they need lunch

money, if they're having problems or need to go to the nurse." When I interviewed Lynn about talking with her students she stated "you have to be willing to listen to each other." Both Karen and Robert had similar comments.

When being observed, all 5 teachers allowed each student to completely finish their statements without interruption, while keeping their focus on that student. They patiently waited until the student had completed what they wanted to say before commenting on it. Grace in some cases actually repeated what the individual student had said to make sure that she had heard correctly.

The Teacher Reflections

One of the most interesting points that I felt came from this research was in the teacher reflection section. In the group discussions these teachers felt that having good relationships with students was an innate ability. It was stated at one point that it couldn't actually be taught, but that you could give tips to help new teachers.

Karen: "I don't necessarily think that you can teach somebody that"

Lynn: "You can model it."

Karen: "Yeah you could model it and you can tell them to be interested in kids, but I think that it comes down to chemistry".

Lynn: "I don't think that it is something you teach, it is just something you do."

Robert: "I think that it is innate. You have that ability to have that gift. I don't think you can press someone into that. You can model it, but it has to come from you, it has to be genuine from your personality and how you address the class. If you press it too hard, they are going to know that you are not genuine."

Even though they originally state that forming relationships cannot be taught, 4 of the 5 veteran teachers, who initially felt that they already had good relationships with their students, stated that they felt they came away with something they could use in their classrooms. It was my impression that these teachers were actually surprised that they were able to come away with ideas for further improving their relationships with their students. These types of group discussions among teachers could be one way of improving the current relationships between teachers and students.

Finding from the Teacher survey

The original intent of the teacher survey section of this study was to discover where these 5 teachers placed the importance of good relationships compared to where they placed content knowledge. The data here was not consistent. Three of the 5 participants choose content knowledge over student relationships as the most important quality, while two of the 5 participants choose relationships with students as the most important quality. Both of the male teachers in the study choose content knowledge, while 2 of the 3 female teachers choose the student relationships. All but one of the teachers did rank the quality of good relationships in the top half of the characteristics

Summary of chapter 5

The analysis of this section revealed several key themes from both the group discussion and from the observation and interview section of this study. The major themes from the group discussion section included, the relationship of focus members with each other, the aid of professional development, forming communities with students, and relationships in the science classroom. The themes developed in the

observation and interview section are using previous knowledge to start a class period, eye contact, body language, proximity and contact, and vocal quality. The second set of themes discussed were those of the teacher as the authority, the teacher as a mentor/role model and the teacher as a good listener

Chapter 6: Conclusion

Introduction to Chapter 6

One teacher outside the science department was having a number of students drop out of his class. Of those that had not dropped, many of them were failing. After observing the teacher, I noted that this person was actually a good teacher, using sound teaching techniques and presenting that material in an understandable manner. This is really a good teacher as far as the material and the presentation go, could it be that he just doesn't know how to relate to the kids? Could professional development help this teacher to understand the students more completely and could having a few strategies to guide that pursuit make that easier? In my opinion the answer to that question is yes. Many teachers enter the field feeling unprepared to handle the everyday situations that arise on a regular basis and might see creating relationships with their students as somewhat overwhelming. Even some seasoned teachers do a poor job of relating to their students. Having strategies that they can rely on might lessen their anxiety and help create a sense of community in their classrooms.

The data in this study might suggest that those in charge of creating curriculum for educational studies might consider a dedicated course in techniques for developing interpersonal skills as part of the requirements for a teaching license. Are college courses providing pre-service teachers with the adequate education they need to effectively create student relationships that lead to a better classroom community? Effective professional development can aid educators in learning strategies that will help them understand and appreciate all students. This then leads to more efficient classroom management (Jones, 1996). Garet, Porter, Desimone, Birman &

Yoon (2001) asked just over 1,000 math and science teachers what they felt made professional development effective in topics such as improvement in content knowledge, pedagogical strategies, alignment of curriculum and assessment. However, forming strong relationships with students was not one of the topics. Where is the teacher education opportunity in the ability to create and sustain the type of relationships with students that we already know is an imperative part of a successful classroom?

When reviewing the relevant studies and literature that has been conducted by the experts it seems apparent that having a good relationship with one's students has a positive effect on students. Observations and interviews from this study also show, at least in the case of these 5 teachers, that it can also play a positive role in classroom management. In the end it really seems that forming a good relationship with students is making yourself open and at times vulnerable to the students that you teach. Robert concludes by saying "I think that you have to let kids know that you are human, that you are vulnerable. There have been times when I have actually cried in class and I tell my students that it is because I care about them. At first they are rather taken aback, but then they say "wow, he really does care about us." Lynn states, "I think that putting yourself out there makes a difference. You have to be willing to put yourself in that position." Lynn confesses that she has also cried but that her students took that as a sign of caring.

Recommendations

It is recommended that this study be expanded to include science teachers from other schools in different settings, such as larger schools, rural schools, and charter schools. Since this study only concentrated on 5 science teachers in one school community much more data is needed. It would be interesting to determine the views of other science teachers on the relationships they form with students and how that might lead to the need for more education courses and professional development in the area of developing good relationships with students.

Summary of chapter 6

This study attempted to answer 4 major questions.

1. How do science teachers in a select high school community view the role of interactive relationships in their classrooms and how that might impact their students?
2. How do science teachers in a select high school community believe they establish successful interactive relationships with their students?
3. What do science teachers in a select high school community believe are some of the outcomes of those relationships?
4. What do science teachers suggest to increase the teacher's ability to form good relationships with their students?

Observations, interviews, and group discussions were conducted in order to gain insight into these questions. Information gathered in this study provided evidence that science teachers feel that it is especially important for them to form good relationships in

their classrooms, not only for the student academic success but for safety issues. These teachers felt that they established those relationships in a number of ways, which included talking with the students, talking with other teachers about the students, getting involved with the student's activities, and generally showing an interest in the student. In addition, teachers conveyed that they believed that those relationships helped their students be more successful in their classes, and created a classroom community with the teacher being the authority figure. This leads to better classroom management. Finally this study discusses possible professional development topics that could be used to help all teachers establish better relationships with their students.

Concluding Remarks

Forming close relationships and communities is the basis for socio- cultural literacy. Although many people associate literacy as reading and writing, in my opinion it is the learning required for an individual to gain the knowledge and skills needed to perform specific activities necessary for their own survival. It includes not only what is learned in a classroom, but more importantly the knowledge gained from everyday experiences. These everyday experiences come from interactions between the individual and those with whom he or she coexists. I believe that too many of our secondary public schools today still concentrate on a curricular model focusing on mastering content. In this type of system the teacher fills the role of information provider, attempting to cover material that has little or no meaning for the students. This model rarely requires its students to apply what they learn to any area of their life outside the classroom. Students take on the role of information receivers, memorizing

facts for the “test” and promptly forgetting those same facts. I suggest this does not require any meaningful student/teacher relationship.

It is disappointing to me that many of my colleagues have stated that having a close relationship with their students is unnecessary. I have heard over and over again, how a teacher is there to teach, not be their friend. How sad for them. I have found over the years one of the most rewarding parts of my job is getting to know my students. Knowing my student makes me a better teacher. Teachers need to work together to create a more caring atmospheres where students feel safe, both physically and emotionally. Forming close relationships can generate students who no longer dread going to school, but actually look forward to it.

Appendices

Appendix 1: Questions asked during the group discussion.

- If you had a student teacher or were advising a novice teacher, what would you say about the importance of a relationship with students?
- What, in your opinion, do you need to know in order to form good relationships with students?
- Do you think that is something that you could teach somebody, if you had a student teacher and they came to you and said “hey you have a great relationship with your students” How did you do that?”
- Would you say that in your educational background in going to school or the classes that you took, would you say that you had training in interpersonal communication? What do you think would have helped?
- How about any type of professional development since your education classes that dealt with relationships.
- So if you were asked to design a technique to use as a professional development for science teachers especially, to learn some of the relationship skills, what kinds of things would you include?
- If it was you who were going to go through this professional development, as a new teacher, what do you think would have helped you?
- Do you have any stories like that one that you feel comfortable in sharing?
- We have a unique situation here (at High School where study occurred), I think, because we are a smaller school and we do have a smaller staff and I think because of that we have the opportunity to work more with each other than some of the other

bigger schools. So what I would like to know is what do you feel like as a group we can do to support each other and help each other become better at having these good relationships?

- Is there a technique or an action that we could do as a small science community to help each other?
- I think here (High School where study took place), we have an advantage in that we are a smaller staff, and I want to know as what you feel like as a community, how can we improve what we are doing with each other to promote better student relationships?
- What do you think it is that makes us a community and how would you advise other departments, and schools to get to that point?
- How do you see the role of relationships with your co-workers as affecting the relationships to your students?
- How do you think a teacher forms a community with students?
- How do you see your classroom community as playing a role in your student's everyday lives?
- How do you see yourself, your "presence", affecting your students?
- Does anyone have any questions of your own that you would like to discuss?
- Do you see the advance in technology as hindering students' ability to form a community?
- Is there anything that anyone would like to add about anything that we have talked about?

Appendix 2: Questions asked during interviews.

- Tell me about a typical day in your classroom with your students.
- Can you describe how you see the role of a student/teacher interactive relationship on student successes in your classroom?
- Describe an example of a good student/teacher relationship?
- Describe a specific time when you felt that your interaction with a student helped them to
- be successful in your classroom. Describe a time when it wasn't helpful.
- Is there anything that you would like to add?

Appendix 3: Characteristics used for ranking process.

- Classroom Experience
- Consistency
- Discipline
- Flexibility
- Good Communication Skills
- Good Relationships with Students
- High Expectations
- Humor
- Strong Content Knowledge

References

- Arhar, J. M., & Kromrey, J. D. (1993). Interdisciplinary teaming in the middle level schools: Creating a sense of belonging for at-risk middle level students. Paper presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA
- Babkie, A. M. (2006). 20 ways to be proactive in managing classroom behavior. *Intervention in School and Clinic*, 41(3), 184-187.
- Bandura, A. (1986) Social foundations of thought and action: a social cognitive theory. Prentice-Hall, NJ.
- Banks J. (2010). Multicultural education: Issues and Perspectives, 7th edition. Banks, J. & Banks, C. (Ed.) John Wiley & Sons, Inc. Hoboken, N.J.
- Barth, R. (1991). Restructuring schools: Some questions for teachers and principals. *Phi Delta Kappan*, 73(2), 123–128.
- Batthey, D.& Franke, M. (2008). Transforming Identities: Understanding teachers across professional development and classroom practice. *Teacher Education Quarterly*. 35(3), 127-149.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
- Beatty, Joseph. (1999). Good listening. *Educational Theory*. 49(3).
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain.. *Educational Researcher*, 33(8), 3–15
- Brophy, J., & Good, T.(1970). Teachers' communication of differential expectations for children's classroom performance: Some behavioral data. *Journal of Educational Psychology*, 61, 365-374.
- Brophy J. & Alleman, J. (1998). Classroom management in a social studies learning community. *Social Education*, 62(1) : 56-58.
- Caldwell, P. F., & Sholtis, S. A. (2008). Developing an ethic of care in the classroom. *Kappa Delta Pi Record*, 44(2), 85-89
- Carter, R. (1998). Mapping the Mind. Los Angeles: University of California Press

- Catt, S., Miller, D. (2007). You are the key: communicate for learning effectiveness. *Education, 127*(3), 369-377.
- Cecil, N. L. (1988). Black dialect and academic success: A study of teacher expectations. *Reading Improvement, 25*(1), 34-38.
- Cohen, H. (1981). *Connections*. Ames: Iowa State University Press.
- Coleman, J.S. (1961). *The adolescent society*. New York. Free Press.
- Connell, A. (2004). *Relationships Matter: Linking Teacher Support to Student Engagement and Achievement*. Tenth Biennial Meeting of the Society for Research on Adolescence. Baltimore, Maryland.
- Darling-Hammond, Linda & Brasford, John, (2005), *Preparing Teachers for a Changing World: What Teachers Should Learn and Be*. Jossey-Bass A Wiley. San Francisco.
- Darling-Hammond, L. (2006). *Powerful Teacher Education*. San Francisco: Jossey-Bass.
- DeBoer, G. E. (1991). *A history of ideas in science education*. New York: Teachers College Press
- De Gelder, B., & Vroomen, J. (2000). The perception of emotion by ear and by eye. *Cognition & Emotion, 14*(3), 289-311.
- Duck, S. (1986). *Human Relationships. An Introduction to Social Psychology*. Beverly Hills: Sage Publications.
- Duck, S. (1990). Where do all the kisses go? Rapport, positivity, and relational-level analyses of interpersonal enmeshment. *Psychological Inquiry, 1*(4), 308.
- Elliot, J. (2009). The nature of teacher authority and teacher expertise. *Support for Learning, 24* (4).
- Elmetsky, E. and L. Stough (2001). Classroom management: a critical part of Educational psychology, with implications for teacher education. *Educational Psychologist 36* (2): 103-112
- Fallis, R. K. and Opotow, S. (2003). "Are students failing school or are schools failing students? Class cutting in high school." *Journal of Social Issues 59*(1): 103-119.

- Festinger, L. (1954). A theory of social comparison processes. *Human Relationships*, 7, 117-140.
- Fletcher, E. C. (2006). No Curriculum Left Behind: The Effects of the No Child Left Behind Legislation on Career and Technical Education. *Career & Technical Education Research*, 31(3), 157-174.
- Frei, J.R, and Shaver, P.R.(2002). Respect in close relationships. *Personal Relationships*, 9(2).
- Gardner, J. 1995–1996. Building community. *Community Education Journal* 23(1/2), 6–8.
- Garet, M., Porter, A., Desimone, L. Birman, B., & Yoon, K. (2001). What makes professional development effective: Results from a national sample of teachers. *American Educational Research*. 38(4), 915-945.
- Good, T. L. (1987). Two decades of research on teacher expectations: Findings and future directions. *Journal of Teacher Education*, 35, 32-47
- Handley, P. (2002). Every classroom teacher's dream. *Educational Leadership*, 59(5), 33-35.
- Hichcock, M., Bland, C., Hekelman, F., & Blumenthal, M. (1995). Professional networks; The influence of colleagues on the academic success of faculty. *Academic Medicine*, 70(12).
- Holland, A. & Andre, T. (1987). Participation in extracurricular activities in secondary school: What is known, what needs to be known. *Review of Educational Research*. 57(4), 437-466.
- Imhof, Margarete. (1998). What makes a good listener? Listening behavior in instructional settings. *International Journal of Listening*. 12(1) 81-106.
- Johnson R.B. (1997) Examining the validity structure of qualitative research. *Education*, 118(2): 282 –292.
- Jones, V. (1996). *Classroom management: Handbook of research on teacher education*. New York, NY: Simon & Schuster.
- Kiernan, B. J. (2008). Making a difference one student at a time. *Techniques: Connecting Education & Careers* 83(2): 7-8.

- Kinnaman, D. E. (1998). Sputnik revised. *Curriculum Administrator*, 33(7), 68.
- Kurkul, W. (1972). "Nonverbal communication in one-to-one music performance instruction," *Psychology of Music* 35(2), 327-362.
- Kyriakides, L. (2005). Drawing from teacher effectiveness research and research into teacher interpersonal behaviour to establish a teacher evaluation system: A study on the use of student ratings to evaluate teacher behaviour. *Journal of Classroom Interaction*, 40(2), 44-66
- Ladson-Billings, G. (1994). *The Dreamkeepers*. Jossey-Bass Publishing. San Francisco:
- Larzelere, R. E., & Huston, T. L. (1980). The dyadic trust scale: Toward understanding . interpersonal trust in close relationships. *Journal of Marriage and the Family*, 42, 595-604
- Legault, L., Green-Demers, I., & Pelletier, L. (2006). Why do high school students lack motivation in the classroom? Toward an understanding of academic a-motivation and the role of social support. *Journal of Educational Psychology*,. 98(3), 567-582
- Lincoln, Y. S. and Guba, E. G. (1985). *Naturalistic Inquiry* . Sage Publications, Inc. Beverly Hills
- Loucks-Horsley, S. (2003). *Designing professional development for teachers of science and mathematics*. Corwin Press Inc. Thousand Oaks, Ca
- Major, Marc R. (2009). Building a culture of achievement. *Education Digest; Apr2009*, Vol. 74 Issue 8, p24-28.
- Mantzicopoulos, P. Samarapungavan, A., & French, B. (2008). Patterns of young children's motivation for science and teacher-child relationships *The Journal of Experimental Education*, 2008, 76(2), 121-144
- Marks, H. M. (2002). Student engagement in instructional activity: Patterns in the elementary, middle, and high school years, *American Educational Research Association*. 37: 153-184.
- Marston, S. H., Brunetti, G. J., & Courtney, V. B. (2005). Elementary and high school teachers: Birds of a feather? *Education*, 125(3), 469-495.
- Mawhinney, Lynnette, (2010). Let's lunch and learn: Professional knowledge sharing in teachers' lounges and other congregational spaces. *Teaching and Teacher Education*. 26(4): 972-978.

- McCroskey, J. C., Richmond, V. P., & Bennett, V. E. (2006). The relationships of student end-of-class motivation with teacher communication behaviors and instructional outcomes. *Communication Education, 55*(4), 403-414.
- Mendler, A. N., & Curwin, R. L. (1999). *Discipline with dignity for challenging youth*. Bloomington, IN: National Education Service.
- Miller, P. W. (1988). *Non-Verbal Communication*. Washington D.C.: NEA Professional Library. National Education Association
- Miller, P. W. (2005). Body language in the classroom. *Connecting Education & Careers, 80*(8), 28-30
- Montalvo, G. P., Mansfield, E. A., & Miller, R. B. (2007). Liking or disliking the teacher: student motivation, engagement and achievement *Evaluation & Research in Education, 20*(3), 144-15
- Murray, Christopher. (2009). Parent and teacher relationships as predictors of school engagement and functioning among low-income urban youth. *Journal of Early Adolescence, 29* (3). 376-404.
- National Academy of Sciences, National Academy of Engineering & Institute of Medicine. (1997). *Adviser, Teacher, Role Model, Friend On being a mentor to students in science and engineering*. National Academy Press. Washington D.C.
- National Staff Development Council (NSDC). *NSDC's Standards for Staff Development* (2001). Retrieved May 2011 from <http://www.nsd.org/standards/index>.
- Nevins Stanulis, R., & Manning, B. H. (2002). The teacher's role in creating a positive verbal and nonverbal environment in the early childhood classroom. *Early Childhood Education Journal, 30*(1), 3-8.
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110
- Noddings, N. (1992). *The Challenge to Care in Schools*. New York, Teachers College Press.
- Noddings, N. (2005). *Happiness and Education*. New York: Cambridge University Press.
- Ostermann, K. (2000). "Nurturing the mind to improve learning: Teaching caring and student engagement" *Perspectives, practices, and prescriptions, 287-305*.

- Pace, J. L., & Hemmings, A. (2006). Understanding classroom authority as a social construction. In *Classroom authority: Theory, research, and practice* Lawrence Erlbaum Associates Publishers. Mahwah, NJ
- Palmer, P. J. (1998). *The Courage to Teach.*: Josey-Bass. San Fransisco
- Papa, A., & Bonanno, G. A. (2008). Smiling in the face of adversity: The interpersonal and intrapersonal functions of smiling. *Emotion*, 8(1), 1-12
- Parish, T. S., & Parish, J. G. (2005). Comparing students' classroom-related behaviors across grade levels and happiness levels. *International Journal of Reality Therapy*, 25(1), 24-25.
- Patsalides, L. (2010). *Classroom Climate: Fairness in the Classroom.* Byalinah Publishing. New York.
- Penuel,W., Fishman,B., Yamaghusi, R. & Gallagher. (2007). What makes professional development effective: Strategies that foster curriculum implementation. *American Educational Research*. 44(4), 921-958.
- Perlman, D. (2007). The best of times, the worst of times: The place of close relationships in psychology and our daily lives. *Canadian Psychology*, 48(1), 7-18.
- Perry, K. E., & Weinstein, R. S. (1998). The social context of early schooling and children's school adjustment. *Educational Psychologist*, 33, 177–194.
- Pianta, R. C. (1999). *Enhancing Relationships Between Students and Teachers.* Washington, D.C., American Psychological Association.
- Pole, C., and Morrison, M. (2003). *Ethnography for Education.* McGraw-Hill, New York
- Rogers, Carl. (1980). *A way of being.* Houghton Mifflin Company, Boston and New York.
- Rotter, J. B. (1967). A New Scale for the Measurement of Interpersonal Trust. *Journal of Personality*, 35, 651-665
- Roy, Kenneth.(2006). Liability of science educators for laboratory safety *National Science Teachers Association Position Statement.* Retrieved June 2011 <http://www.nsta.org>.
- Rubin, R. (2004). Building a comprehensive discipline system and strengthening school climate. *Reclaiming Children and Youth*, 13, 162-169.

- Schofield, J. (2010). *Multicultural education: Issues and Perspectives*, 7th edition.. Banks, J. & Banks, C. (Ed.) John Wiley & Sons, Inc. Chapter 11.
- Sergiovanni, T.J. (1994). Leadership as pedagogy, capital development and effectiveness. *International Journal of Leadership in Education*. 1(1) : 37-46.
- Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology*, 85(4), 571-581.
- Slavin, R.E. (1980). Cooperative learning in teams: State of the Art. *Educational Psychologist* 15, 93-111.
- Sylwester, Robert.(1994). How emotion affects learning. *Educational Leadership*, 52(2), 60-65.
- Smyth, T. S. (2008). Who Is No Child Left Behind Leaving Behind? *Clearing House*, 81(3), 133-137.
- Sommer, R. (1969). *Personal Space: The Behavioral Basic of Design*. Englewood Prentice-Hall .Cliffs, N.J.
- Supovitz, J. & Turner,H. (2000). The effects of professional development on science teaching practices and classroom culture. *Journal of Research in Science Teaching*, 37(9). 963-980.
- Stanard, R. P. (2003). " High school graduation rates in the United States: Implications for the counseling profession." *Journal of Counseling and Development* 81: 217–222. Sylwester, R. (1994). How emotions affect learning. *Educational Leadership*, 52(2), 60.
- Thurman, P., & Schrodt, P. (2006). Student perceptions of teacher power as a function of perceived teacher confirmation. *Communication Education*, 55(3), 265-279.
- Tobin, K., Elmesky, R. & Seiler, G. (2005). *Improving urban science education: New roles for teachers, students and researchers*. NY: Rowman & Littlefield.
- U.S. Department of Education (USDE). (1996). *Achieving the goals: Goal 4 teacher professional development*. Retrieved April 8, 2011, from <http://www.ed.gov/pubs/AchGoal4/mission.html>.
- U.S. Department of Education, (2010). *Statistics for 2009-2010 school year*. Retrieved. May 27, 2011 <http://www.nclb.gov/next/stats/index.html>

- Wang, M.C., Haertel, G.D., & Walberg, H.J. (1994). Educational resilience in inner-city America: Challenges and prospects. Erlbaum. Hillsdale, NJ.
- Weitman, M. (1962). More than one kind of authoritarian. *Journal of Personality*. Jun:30. 193-208
- Whitlock, J. (2007). The role of adults, public space, and power in adolescent community connectedness. *Journal of Community Psychology*, 35(4), 499-518.
- Wlodkowski, R. J. (1983), *Motivational Opportunities for Successful Learners*, Phoenix, AZ: Universal Dimensions.
- Worley, D., Titsworth, S., Worley, D. W., & Cornett-DeVito, M. (2007). Instructional communication competence: lessons learned from award-winning teachers. *Communication Studies*, 58(2), 207-222.