

Increasing Self-efficacy Beliefs in Middle School Students

Using Quantum Learning Techniques

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Abstract

This study was conducted to determine the effects of Quantum Learning techniques on self-efficacy on the middle school learner. Subjects for the study were selected from a rural middle school in North Georgia Mountains and an alternative school within the same county. The Perceived Competency Functioning Inventory (PCFI) was administered as pretest and a posttest. Quantum Learning Teaching Techniques were then implemented in both the typical middle school and alternative school classrooms. The results indicate that Quantum Learning Teaching techniques increase self-efficacy in the middle school learner.

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Chapter I

The Problem

Introduction

Many students are resistant to academics because they do not believe they have the ability to succeed no matter how much effort they exert (Morgolis & McCabe, 2004, p. 241). Middle school students, in particular, are in transition from childhood to adolescence. During this time of transition, it is important for students to develop a strong sense of self-efficacy in order to be successful. It is for these reasons that educators should understand self-efficacy and the effect that it has on student performance. According to Albert Bandura (1994) "self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (p. 3). In other words, self-efficacy is a person's belief in his or her ability to succeed in a particular situation. If a student's self-efficacy can be increased, his or her resistance to academics may be decreased.

Self-efficacy can be measured, and it has been determined that individuals with higher rates of self-efficacy are more successful. Some studies suggest that students who have higher self-efficacy scores are more successful in academics, are less likely to use drugs and alcohol, participate in illegal activities, have sexual relations outside of long-term relationships, and have higher career aspirations (Schunk & Meece 1987).

“Strategic interventions are required to keep young people who are disadvantaged because of poverty, cultural obstacles, or linguistic barriers from dropping out of school. Recent studies showing a relationship between a student's belief structure and behavior suggest that self-efficacy beliefs may be an important focus for intervention” (Brown, 1999 ¶ 3). Bandura reports that “students whose sense of self-efficacy was raised set higher

aspirations for themselves, showed greater strategic flexibility in the search for solutions, achieved higher intellectual performance, and were more accurate in evaluating the quality of their performance than were students of equal cognitive ability who were led to believe they lacked such capabilities” (Bandura, 1997, p. 215).

Middle school students with a strong self-efficacy:

- View challenging problems as tasks to be mastered
- Develop deeper interest in the activities in which they participate
- Form a stronger sense of commitment to their interests and activities
- Recover quickly from set-backs and disappointments

Middle School students with poor self-efficacy:

- Avoid challenging tasks
- Believe that difficult tasks and situations are beyond their capabilities
- Focus on personal failings and negative outcomes
- Quickly lose confidence in personal abilities (Bandura, 1995)

This study is being conducted because research indicates that increasing a student’s self-efficacy improves student performance. The researchers are studying the effects of Quantum Learning techniques on self-efficacy scores of students in an alternative middle school setting, as well as, students in a middle school general education classroom.

The research community is located in North Georgia Mountains about one hour north of Atlanta. It has experienced little change until the 1990’s. The populations within this formerly small community are starting to feel the effects of urban sprawl. Areas of industrial growth and transient populations are beginning to force the traditional life style into a mode of growth and development. As a result, the schools are dealing with the problem of properly

preparing their students for an ever-changing world.

In general, the community is rapidly changing from an agriculturally based community to a suburb. The older population consists of established families with extended relations throughout the community. People who are new to the area are slowly replacing these families. The population in the community was 9,429 citizens in 1999 and “the 2006 census estimate recorded a population of 20,643 residents” (about Dawson County, 2008).

In the county the population was spread out with 25.10% under the age of 18, 7.60% from 18 to 24, 32.50% from 25 to 44, 25.50% from 45 to 64, and 9.30% who were 65 years of age or older. The median income for a household in the county was \$47,486, and the median income for a family was \$52,320. The per capita income for the county was \$22,520. About 5.80% of families and 7.60% of the population were below the poverty line, including 8.90% of those under age 18 and 8.60% of those age 65 or over (about Dawson County, 2008 ¶ 3).

The growth and changes in life style are having many affects on the school system as a whole.

Prior to this period, the system consisted of one elementary school with a middle and high school connected as one building. Student populations rarely increased over the building capacity. This fact changed immensely with the growth of Atlanta. The school system now consists of three elementary schools, one middle school with a population of 777 (a new one is opening in the fall of 2008), one high school, and one alternative school with a population of 52, sixteen of which were middle school students at the time of this study.

From this description, the system is a traditional North Georgia town that is experiencing unbelievable growth in size and appearance. New populations and new values

are quickly replacing the traditional community ways. As a result, the school system has modified to adapt to these changes. Students in this particular system are able to learn in a safe environment with a staff that truly encourages academic achievement and scholastic success.

Problem Statement

Middle school students often become increasingly resistant to academics, have maturity issues, display anxiety and suffer the effects of peer pressure. Studies indicate that those with higher levels of self-efficacy perform better than those with lower levels. Therefore, Quantum Teaching techniques will be implemented in an attempt to increase student's self-efficacy, so they will improve their academic performance.

Purpose of the Study

The purpose of the study is to see if Quantum Learning techniques increase self-efficacy in a group of sixth and seventh grade middle school students in the regular school and alternative school settings.

Research Question

Do Quantum Learning techniques increase self-efficacy in middle school students?

Hypothesis

Sixth and seventh grade middle school students in regular and alternative school classrooms who experience Quantum Learning techniques will score higher on the Perceived Competency Functioning Inventory (PCFI) than sixth and seventh grade students who do not experience Quantum Teaching techniques.

Limitations of the Study

Amount of time allotted for implementation of program may be a limitation. Further limitations could be students entering or exiting the alternative school, though this limitation should be minor. Another could be only one individual on the team is allowed to administer the PCFI. An additional limitation is that the post PCFI was administered immediately after the Georgia Criterion Reference Test (CRCT) scores were given to the participants.

Definitions of Terms

PCFI	Perceived Competence Functioning Inventory-test that measure self-efficacy.
Self-efficacy	Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave.
CRCT	Criterion Referenced Competency Test measures student achievement.
Motivational Competencies	Measures the persons' belief in their ability to feel assertive, work toward personal goals, cope without using alcohol or drugs, the ability to manage boundaries, and a person's motivation and resiliency.
Cognitive Competencies	Assess a persons' belief in their ability to manage their internal experiences and while engaging in healthy, productive thought processes.
Affective Competencies	Measures a persons' belief in their ability to be self-accepting and experience satisfaction with their life.

Relational Competencies	Measures a persons' belief in their ability to function in relationships through trusting others, feeling secure, and having satisfying relationships with family and others.
General Level functioning (GLF)	Is the aggregate score of all the scales. It is used to assess the overall impact of a program.

Chapter II

Review of the Literature

“Turning Points identify the middle school learner as a wondrous group. Eager to learn, full of energy, curious, ready for adventure, sociable, disarmingly honest, and ready to solve the problems of the world – this group of students can be a delight and a challenge for teachers to motivate, hold their attention, and channel their enthusiasm and energy into real learning” (Turning Points, 1999, p. 8). Middle school learners are highly sensitive to criticism of their personal shortcomings and failure, and are easily offended. They also need to feel frequent success, desire attention and seek quick positive feedback for achievements. “Adolescents are ready and willing to work and achieve when they know that people care about them, that what they’re learning matters, and that they possess the skills necessary to meet a given challenge” (Daniels, 2005, p. 52).

It is fair to say that adolescence, the period of transition spanning the gap between the end of childhood and the beginning of adulthood, is a developmental phase of incredible complexity. Biological developments, including readily observable changes in physicality, are accompanied by equally striking, if less immediately visible, cognitive, and psychosocial developments. This period requires substantial adaptation to meet a vast array of social developmental challenges. Adolescents find themselves having to adopt new social roles and responsibilities, often while being thrust into social contexts foreign to previous experience (Petersen, 1998).

The cognitive growth of the young adolescents can differ widely in each individual. Generally, the transition from concrete thinking to abstract is taking place during these years. This process is paced differently with each learner and moves in spurts as the student is

exposed to different experiences. A student might grasp a concept in language arts while in math the student cannot figure out what is going on in the lesson. Students also experience the joy of exploring personal interests and sharing these pursuits. These interests also vary widely between individuals. Presenting challenging and engaging activities are often what makes a middle school learner a joy to teach. They love activity in the classroom setting even though controlling their enthusiasm is often an obstacle any teacher would find overwhelming. This activity is often mixed with a desire to interact with peers during the learning activity and this interaction is another challenging aspect of the young adolescent learner. “Middle school learners are ready to work and achieve when they know that people care about them, that what they’re learning matters, and that they possess the skills necessary to meet a given challenge” (Daniels, 2005, p. 52).

Who am I? How do I fit in? What does everyone think about me?

These questions are constantly running through young adolescents’ heads as they experiment with their new independence and develop strong relationships with their peers—all the while avoiding embarrassment and self-exposure at any cost. It is no wonder, then, that social and emotional concerns often block out academic issues. The young adolescent’s primary lens is that of social interaction: finding one’s place in the social context. This is the lens through which much learning occurs in early adolescence. As the world of young adolescents expands and they begin to develop their own beliefs, attitudes, and values, the media, adults outside the family, and peers influence their decisions more and more. These conflicting influences often

contribute to intense feelings of vulnerability, confusion, rebelliousness, and insecurity. As young adolescents, strive to figure out how the world works and what their role in it is, sometimes they experiment with attention-getting behaviors. Learning how people respond to their actions, both positive and negative, is a challenging part of growing up. (Turning Points, 1999, p. 11)

The social characteristics of the learner are intense as they experience the need to belong and be accepted by their peers while finding their own place in the world.

For many, social pressure increases with the addition of new friends and the hormonal changes that naturally occur. As these individuals develop this new independence, they become more aware of the larger world and more critical of those different from them. While at the same time, they are trying to find their own identity. They are also trying to find a sense of belonging within a group. Teachers can provide opportunities for the social interaction necessary to navigate this phase of life, both with peers and adults. Young people can be positively influenced at this time as they are deeply affected by those around them (Gable, Hester & Manning, 2003).

One area in which adolescents experience a substantial amount of anxiety has to do with body-related concerns. “Given the prominent role that the physical self plays in the current cultural ethos, it is not surprising that the rapid physical changes they experience--and their acute self-consciousness about these changes--cause many adolescents to feel uncertain, insecure, and anxious about their bodies. Observations concerning a steady decline in body

satisfaction (especially with reference to the upper thigh, buttocks, and stomach) among adolescent girls are typical” (Davies & Furnham, 1986, p. 282).

Typically, girls mature one and a half to two years earlier than boys, but these ranges vary widely. All young adolescents want to do is blend in and look like everyone else. While some adolescents move with grace and ease, others clump around with feet two sizes too big and limbs that they cannot coordinate. Males have a particularly hard time with the development of their vocal chords, sometimes squawking like a chicken, or sounding like a little girl while their best friend might have a deepened resonating male voice. (Turning Points, 1999)

“Parents and teachers are often amazed by the transformation these adolescents experience between eleven and fourteen, the middle school years. Middle school learners have the “desire” to be both adults and child like, at the same time with traits such as mood shifts, short attention span, clumsiness and defiance in making transitions” (Perlstein, 2003, p. 37).

During this period, teachers need to particularly be aware of the emotional vulnerability of these individuals. Mildner, Montgomery, Shin, Spreight and Vera (2004) report that adolescents are more vulnerable to peer teasing and/or rejection for "telling on" their peers, and girls report higher levels of social self-efficacy (e.g., in situations that might involve interpersonal conflict and/or peer pressure). Middle school students become more socially aware of the repercussions of their interpersonal relationships. Their social emotional, physical, cognitive and sense of self all change tremendously. Personal belief systems are also developed during this time.

“Self-efficacy is one’s self judgments of personal capabilities to initiate and successfully perform specified tasks at designated levels, expend greater effort and persevere in the face of adversity” (Bandura, 1994, p. 71). In other words, self-efficacy is a person’s belief in his or her ability to succeed in a particular situation. Bandura described these beliefs as determinates of how people think, behave, and feel. His research indicates that self-efficacy can have an impact on everything from psychological states to behavior to motivation.

These beliefs provide the foundation for human motivation, well-being, and personal accomplishment. Unless people believe that their actions can produce the outcomes they desire, they have little incentive to act or to persevere in the face of difficulties. For this reason, how people behave can often be better predicted by the beliefs they hold about their capabilities than by what they are actually capable of accomplishing, therefore these self-efficacy perceptions help determine what individuals do with the knowledge and skills they have (Pajares, 2006).

Self-efficacy is created in an individual early in life, but is continually developed throughout life stages. Bandura (1994) suggests that there are four ways that individuals develop positive self-efficacy; mastery experiences, peer modeling, social persuasion, and somatic and emotional states. Mastery experiences are those obstacles in which an individual achieves success through a sustained effort; they give the individual the sense that they have what is necessary to succeed. Peer modeling is particularly important in the middle school learner; this method raises the individual belief that they have the ability to succeed in a similar manner. Social persuasion is when individuals are persuaded verbally that they have the capabilities to perform tasks. When this happens, they are more likely to put forth a

greater effort and sustain that effort for a longer period. An individual's emotional state can change their self-efficacy, a positive mood enhances self-efficacy, and of course, a negative mood diminishes it. Enhancing one's mood toward the positive will greatly increase their positive self-efficacy beliefs.

Nate Regier (2007) suggests that people raise their self-efficacy by setting realistic achievable goals; SMART GOALS: Specific, Measurable, Achievable, Relevant, and Trackable. These goals should be completed in baby steps - small skills that build upon one another. Teachers should provide positive, unambiguous feedback that praises outcomes rather than personal attributes and specifically relates to student effort. Build on the small successes, and find successes outside of the educational environment that relate and can transfer confidence.

Students typically self-regulate by determining what capabilities they have with regard to a given task and in effect compare those capabilities against a set of standards they maintain for themselves. Students who believe that they can achieve a high grade in mathematics course may persist in their efforts to achieve the grade. Conversely, low self-efficacy pertaining to a given task may inhibit one's effort and persistence (Bouffard-Bouchard, 1989).

Peer and adult modeling is the second most influential source for increasing self-efficacy beliefs. Vicarious capability occurs by observing others and vicariously experiencing what they do. According to Bandura (1986), if we had to experience everything we learn, we would not have adequate time and opportunity to learn very much. Regier (2007) modeling, mentoring, peer pressure, and attitudes are critical in the development of one's self-efficacy. The more similar to the model you perceive yourself; the more

success/failure will impact your self-efficacy. Regier also stresses that behaviors observed speak louder than words. Desired behaviors in others need to be recognized. Similarities need to be acknowledged rather than differences, and activities should be set up so that desired competencies will stand out. In other words, make things easier rather than harder.

“Everyone has heard the phrases, practice what you preach, actions speak louder than words, and walk the walk and talk the talk, these are all examples of modeling behaviors” (DePorter, Reardon and Singer-Nourie, 1999, p. 38). DePorter et al, (1999), states students are always looking for ways to not buy in: holes in our stories, contradictions, a mismatch of our words, and actions. The more we model the more they buy in and start matching us. Modeling is a powerful way to build rapport, increase self-efficacy, and relate to others.

Verbal encouragement from others helps people overcome self-doubt; instead, they focus on giving their best effort to the task. Social persuasion is the social messages we receive from others. In his *Capabilities and Perceived Competencies Functioning Inventory Training Manual*, Nate Regier (2007) states, “negative persuasion defeats self-efficacy and is easier to do than raising self-efficacy through positive persuasion.” To increase self-efficacy in individuals he further states that individuals need to create the belief in one’s own capabilities and that success is attainable. He also reinforces the fact that children as well as adults are not fooled by empty praise. Individuals, who are trying to raise self-efficacy in others, need to develop rituals and model authenticity as well as teaching this behavior. When criticism occurs, teachers should use this teachable moment to guide a discussion of the harmful effects of criticism, hidden agendas, and enlist the group in creating positive tenets. Most importantly, individuals need to create the power of “I BELIEVE IN YOU” (p.26).

“Research suggests that teachers can strengthen self-efficacy by linking new work to recent successes, teaching the needed learning strategies, reinforcing effort and persistence, stressing peer modeling, and helping students to identify or create personal goals” (Morgolis & McCabe, 2004, p. 241). The following strategies are suggested for helping students improve self-efficacy:

- Act more as a resource person than a judge.
- Focus more on learning processes than on outcomes.
- React to errors as natural and useful parts of the learning process rather than as evidence of failure.
- Stress effort over ability and personal standards over normative standards when giving feedback (Brophy, 1998).

Self-efficacy can be measured and evaluated. Bandura first began studying self-efficacy in the late 1970's in the clinical setting. It was not until the 1980's that researchers started to investigate the relevance of self-efficacy to education. Now there are numerous instruments available to measure self-efficacy levels and interpret what they mean, though few are empirically validated (Reiger, 2007). The Perceived Competence of Functioning Inventory (PCFI) was developed in 1994 and reliability and validity were assessed from 1994 to 2000 (Hays and Williams, 2000, p. 3). Another common instrument for measuring self-efficacy is Bookover's Self-Concept of Ability scale.

According to Hays and Williams (2000) the PCFI was designed to assess, the client's perceived ability to function in five areas associated with mental health adjustment: self-esteem, coping, quality of life, and roles. In 2004, the PCFI was redesigned to measure Bandura's three processes of change and a relational domain was added. There are four

subscales each containing four questions. The subscales are: Cognitive-healthy thinking, Motivational-healthy acting, Affective-healthy feeling, and Relational-healthy relating (Regier, 2007).

Individuals with high self-efficacy have some attributes quite different from those with low self-efficacy. High self-efficacy individuals set high goal challenges and are committed to their completion. They focus on opportunities and always expect favorable outcomes. Obstacles are just stepping-stones in their paths; they persevere and use them for continued self-development. These individuals are emotionally stable, level headed and excellent problem solvers. Individuals with low self-efficacy tend to display traits on the opposite side of the spectrum (Regier, 2007).

Individual learning processes are complex phenomena; Quantum Teaching acknowledges this effort and orchestrates the environment for maximum learning potential. “Quantum Teaching recognizes a teachers intention, or belief about students abilities and motivation, and these beliefs speak loud and clear to students” (DePorter, Reardon, & Singer-Nourie, 1999, p. 19). Students will get your intention faster than anything else you teach.

In a study completed by Quantum Teaching, Quantum researchers, “worked with several groups of teachers working with high and low grouping of students. The teachers when engaged with the higher ability grouping used more humor, smiled more, acted more maturely, used more complex vocabulary and engaged in a more personal and conversational level. When these same teachers were engaged with the lower ability grouping, they used basic vocabulary and immature syntax, smiled less and treated the students on a more authoritarian level” (DePorter, Reardon, & Singer-Nourie, 1999, p. 20).

In their book, *Education on the Edge of Possibilities*, Renate N. Caine and Geoffery Caine state,

Teachers' belief in and about human potential and in the ability of all children to learn and achieve are critical. These aspects of the teachers' mental models have a profound impact on the learning climate and learner state of mind that teachers create. Teachers need to understand that students' feelings and attitudes will be involved and will profoundly influence student learning (Caine and Caine, 1977, p. 124).

Teachers need to get in touch with their students emotions to get them learning faster and make the learning more meaningful and permanent. "The key to this emotional buy in is putting fun into learning, creating a relationship, and removing all threats from the learning environment. Teachers should want the learning atmosphere to run like a new car on all cylinders with students performing in the range of Higher Order Thinking Skills (HOTS)" ((DePorter, Reardon, & Singer-Nourie, 1999, p. 23).

Creating emotional engagement requires teachers to develop rapport with their students. "Teachers who have positive self-efficacy create mastery experiences for their students, emphasize their positive qualities, and empower students to have an internal locus of control" (Regier, 2007, p.18). When rapport is developed students will accept you for what you say and teachers can achieve higher results.

With few exceptions students want to belong. "When teachers create a sense of belonging in their classrooms they speed up both their teaching and student learning as well as increasing student self-efficacy" (Quantum Learning Network, 2006, p. 2.09). "When students have this sense of belonging a magical thing occurs, you can hold them accountable for what they say and do. But also remember they have the right to expect the same from

you” (DePorter, Reardon, & Singer-Nourie, 1999, p. 26). When we treat students respectfully, honestly and supportively we can talk to them about what matters most; this is a privilege, so be respectful, as we do so with those we love.

“Internal dialogue serves as a monitor of our values and our beliefs, and exerts an extreme influence over our experience of the world at any given moment” (DePorter, Reardon, & Singer-Nourie, 1999, p. 27). When this little voice is speaking in your student’s head you need to be asking: Is it interrupting or supporting the learning of my student? “Teachers can help develop positive self-efficacy, and make these little voices speak supporting statements by using positive affirmations” (DePorter, Reardon, & Singer-Nourie, 1999, p. 28).

In Gordon Wells’ study of children learning language, he notes:

If children are to make the transition confidently and easily, it is important that they experience the new environment of school as an exciting and challenging one, in which the majority of their endeavors are successful and where they are given individual recognition for who they are and what they can do... Children who feel, or are made to feel unaccepted and incompetent may be slow to recover their self-confidence and, as a result, their ability to benefit from the enlarged opportunities for learning that school provides may be diminished or even, in extreme cases, irrevocably damaged (Wells, 1986, p. 68).

To create lifelong learners, as teachers we need to acknowledge every effort. As learners we never learn unless we fail first or fail forwards. Taking new risks, persevering maintaining a positive attitude, and knowing failure is part of the learning process are all

things teachers need to acknowledge in students, to help develop their self-efficacy (Regier, 2007).

“When giving praise, link the praise specifically to the effort or the task”(Regier, 2007, p. 22). “Use powerful concrete adjectives to describe what the individual did well, helping the student zero in , so they can do it again (DePorter, Reardon, & Singer-Nourie, 1999, p. 30). Teachers need to create celebrations surrounding their praise, when praise becomes a form of a celebration students take more ownership in their learning it becomes more intrinsic, their self efficacy increases, and education becomes something more than grades (Quantum Learning Network, 2006, p. 506).

In the sports arena, every time a goal or touch down is made, the crowd cheers and the player is congratulated by his team mates for doing a great thing - a celebration occurs. When a baby first learns to walk, or uses the bathroom for the first time their parents cheer and celebrate the child’s success - another form of celebration. Why, when children go to school, do we stop celebrating the small steps of accomplishment? “Teachers most often move on to the next step of learning creating no impetus for us to perform the task again. Celebrations create the desire for learners to perform the desired tasks again and to continue to learn new tasks “(DePorter, etal., 1999, p. 31). Celebrations develop rapport, creating higher self-efficacy and life-long learners.

Another Quantum Learning technique to that helps to encourage learning is the use of music in the classroom. Music can energize, relax or get the student’s creative thoughts flowing. As students enter the classroom an energetic, up beat, popular song from the 60’s, 70’s or 80’s playing on the boom box sets the tone for the day. Using the same song as a “come in song” establishes the routine and develops the needed rapport between students and

teacher (DePorter, 2001). “Music sets the mood, changes states, supports the learning environment as well as develops rapport” (Quantum Learning Network, 2006). When using music to start the day or class, students are “hooked”, and invited into the world that is created in that classroom just for them.

Cassone, (1991) states “that when we use the power of the arts –music, drama, visual arts, dance and movement, and students actually perform the material to some extent, we create a very deep understanding of the material within the student thus they will have a solid base for retaining the information”.

Deporter, et al. (1999) indicates that when students connect with teachers learning is greatly accelerated. When increasing self-efficacy, as indicated by Regier (2007), students become individuals who persevere, expect positive outcomes, are stable, level headed, excellent problem solvers, and life long learners. During a time of life when adolescents are experiencing many changes cognitively, physically, and social/emotionally self-efficacy should be strengthened and developed making adolescence a joyful rather than painful time of life.

In summary, middle school students are a unique group. They are going through one of the greatest periods of transition that they will ever experience. The research indicates that they are impressionable and that adults and peers have a significant impact on their development. If teachers can implement positive teaching methods, such as Quantum Learning techniques, in their classrooms, students may be influenced and develop a stronger sense of self-efficacy. In increasing student’s self-efficacy, they will benefit in every aspect of life.

Chapter III

Methodology

Subject Selection and Description

This study was conducted in a two rural schools located in North Georgia Mountains as this community continues to grow the alternative school population of Middle School students continues to increase. The Middle School where the second part of study was conducted has recently split into two middle schools at the beginning of the 2008-09 school year.

Alternative school students for the study were selected by placement in the alternative middle school for discipline and or credit recovery. The mainstream middle school students were selected randomly from the student population and teacher willingness to perform the Quantum Learning techniques in the classroom. The control group was students attending summer school for failing the CRCT test and no interventions were used with this group.

The study groups were given the PCFI prior to any interventions. A trained PCFI administrator gave the pre PCFI to both groups of students. After the initial screening, both classes were instructed on the dance moves for the Cha Cha Slide, and the types of positive peer recognition in the form of Power Whooshes. One student was trained to be the data collector for the number of Power Whooshes given each period.

Procedures for Data Collection

After the initial administration of the PCFI, teachers began each class with the dance The Cha Cha Slide. All students were required to participate for this three to five minute dance routine daily. The Cha Cha slide is a 2008 popular teen line dance. During class, teachers gave power whooshes to students who volunteered for answers, received great grades, or had

made progress in the classroom. A power whoosh is three claps and two-handed high five to the student receiving the whoosh with a verbal whoosh sound following the high fives.

Teachers attempted to give at least five whooshes to varying students throughout the period.

This procedure was performed daily for forty-five days in both the alternative school and middle school classrooms.

Data Analysis

The PCFI was administered for data at the end of forty-five days to determine if the two Quantum Learning techniques were beneficial to the students studied the data was reviewed by comparing pre and post PCFI scores.

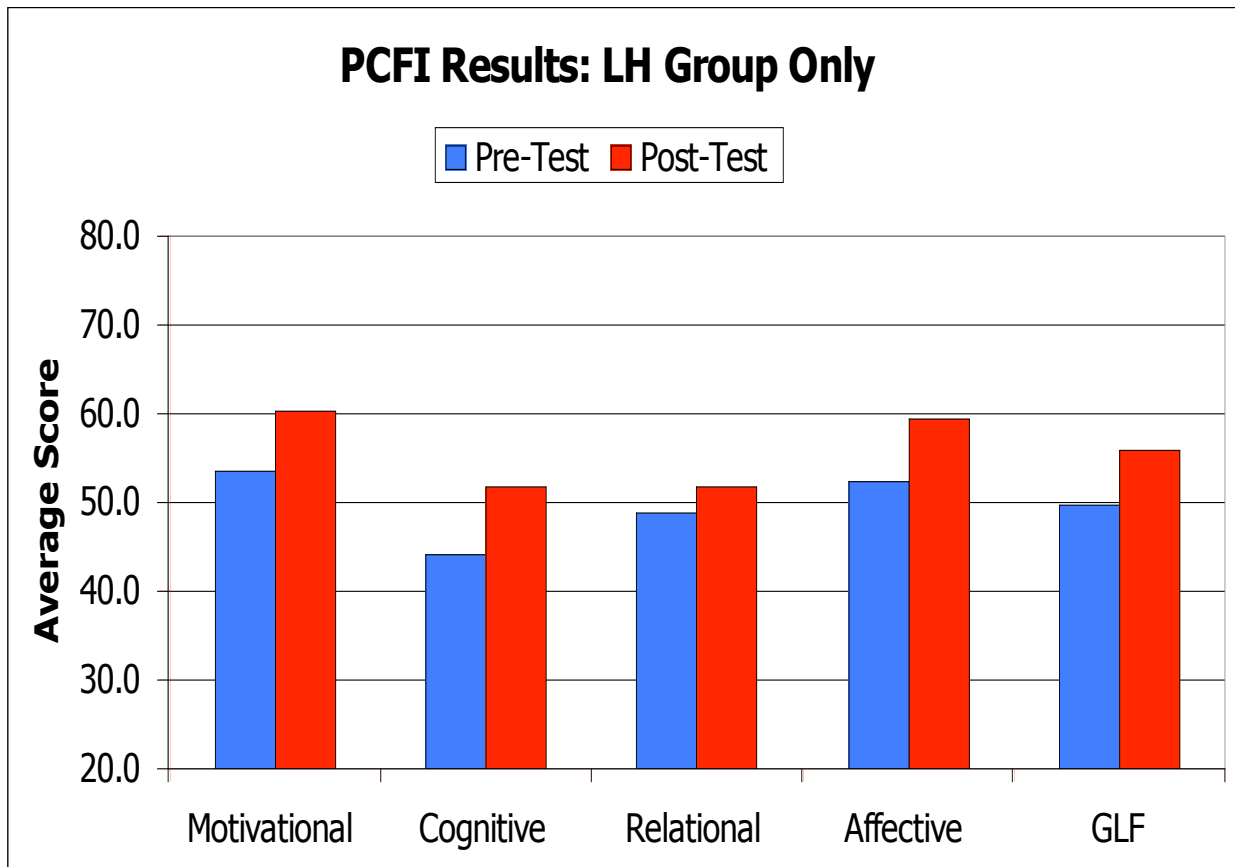
Chapter IV

Results

Findings

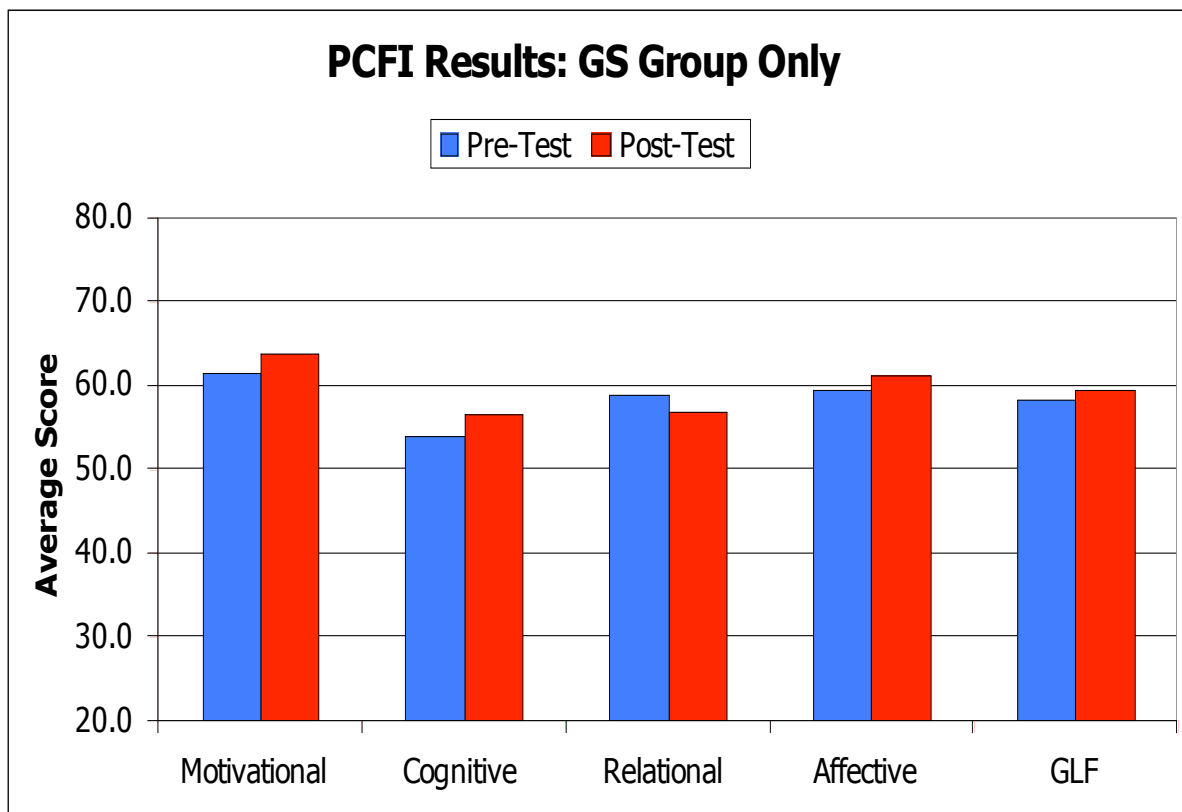
The first graph is students in the classroom in the alternative school setting these students were part of the study group. Their scores indicate they had clinically significant change in motivational skills at 0.59 and cognitive skills 0.51 after receiving the Quantum Learning techniques. They also had educationally significant change in affective skills with a score of 0.46 and an overall change score that was educationally significant with a score of 0.48.

	N	Pre-Test	Post-Test	Change Score	Stan. Dev.	Effect Size
Motivational	16	53.50	60.25	6.75	11.52	0.59
Cognitive	16	44.25	51.75	7.50	14.71	0.51
Relational	16	48.75	51.75	3.00	16.68	0.18
Affective	16	52.50	59.50	7.00	15.38	0.46
GLF	16	49.75	55.81	6.06	12.74	0.48



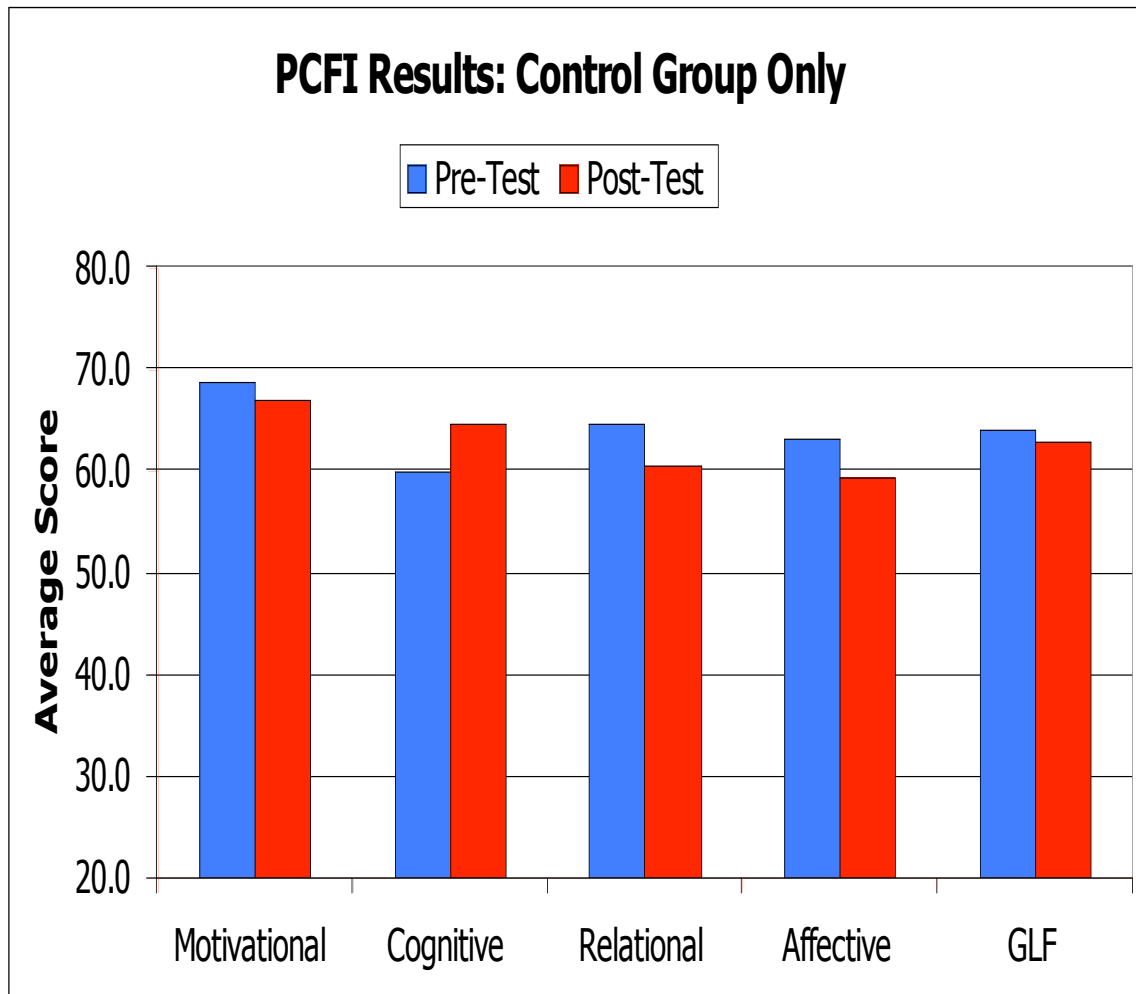
The second group of scores consisted of a typical sixth grade middle school science class. These student's scores suggest a small effect size change, with motivational skills being a 0.19 and cognitive skills a 0.22. There was no significant change in the other areas.

	N	Pre-Test	Post-Test	Change Score	Stan. Dev.	Effect Size
Motivational	24	61.50	63.67	2.17	11.55	0.19
Cognitive	24	53.83	56.67	2.83	13.10	0.22
Relational	24	58.83	56.83	-2.00	12.16	-0.16
Affective	24	59.33	61.17	1.83	13.53	0.14
GLF	24	58.38	59.58	1.21	10.04	0.12



The control group was students who had failed the CRCT and were attending summer school. Their scores fell in the areas of relational skills at -0.37, effective skills at -0.36 and motivational skills -0.23 with GLS -0.18. These students did increase significantly in the area of cognitive skills with a score of 0.47.

	N	Pre-Test	Post-Test	Change Score	Stan. Dev.	Effect Size
Motivational	13	68.62	67.08	-1.54	6.63	-0.23
Cognitive	13	60.00	64.62	4.62	9.72	0.47
Relational	13	64.62	60.62	-4.00	10.81	-0.37
Affective	13	63.08	59.38	-3.69	10.26	-0.36
GLF	13	64.08	62.92	-1.15	6.54	-0.18



Discussion

The results indicate that Quantum Learning techniques does have a positive effect on student self-efficacy. These results indicate that the teacher initially trained in Quantum Learning techniques had higher results in increasing self-efficacy among her students. This change factor could be that more than the two studied techniques were also in play in the classroom. Whereas, the teacher in the typical middle school only had the bare minimum of Quantum Learning training and was only using the two studied techniques in the classroom. It should be also noted, that the control group did increase their self-efficacy in their cognitive level, which is the intention of the summer school program.

These results indicate that Quantum Learning techniques increase self-efficacy in middle school learners as shown by the study data; therefore, supporting the original hypothesis.

The alternative school will continue to use the techniques in their classroom because the evidence shows the methods to work. We will also be presenting staff development in Quantum Learning techniques to other teachers on staff to continue the process of increasing all students at the alternative schools self-efficacy. The results of this study indicate that Quantum Learning techniques increase student self-efficacy and the research points to the fact that increasing a student's self-efficacy greater academic achievement.

Future Implications

Future research should allow for teachers involved in the study to be fully trained in Quantum Learning techniques. The study should also be conducted across varying grade levels within the middle school population as well as elementary and high school students.

Conclusion

Quantum Learning techniques make the classroom an enjoyable place for students and the teacher. This teaching style creates an environment that raises the self-efficacy of the middle school learner and research indicates this will increase student achievement. Students become active participant in the classroom by rewarding and praising each other for jobs well done. The opening activity of dancing allows the children to move and get some of the excess energy from sitting out of their system prior to the beginning of instruction. All these techniques combined have shown a positive effect on the middle school learner.

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Appendices

Appendix A
Human Subjects forms

Appendix B
Perceived Competency Functioning Inventory Pretest
Perceived Competency Functioning Inventory Posttest

Appendix A

Human Subject Forms

Appendix B

Perceived Competency Functioning Inventory Pretest

Perceived Competency Functioning Inventory Posttest