

Rowan University

Rowan Digital Works

Theses and Dissertations

8-16-2011

What happens when fourth graders use learning profiles to direct their learning?

Caley Spahn

Follow this and additional works at: <https://rdw.rowan.edu/etd>



Part of the [Elementary Education and Teaching Commons](#)

Let us know how access to this document benefits you - share your thoughts on our feedback form.

Recommended Citation

Spahn, Caley, "What happens when fourth graders use learning profiles to direct their learning?" (2011). *Theses and Dissertations*. 127.
<https://rdw.rowan.edu/etd/127>

This Thesis is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact LibraryTheses@rowan.edu.

**WHAT HAPPENS WHEN FOURTH GRADERS USE LEARNING PROFILES TO
DIRECT THEIR LEARNING?**

By
Caley Spahn

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Science in Teaching Degree
of
The Graduate School
at
Rowan University
2011
June 23, 2011

Thesis Chair: Marjorie E. Madden, Ph.D.

© 2011 Caley Dian Spahn

Acknowledgements

First and foremost, thank you to my mother and father for your unconditional love and support throughout my educational and extracurricular endeavors all my life. I am who I am because of you two. Thank you to my brother, for your inquisitiveness, insightfulness, and always keeping me thinking. Thank you to my sister- you motivate and inspire me more than you'll ever know. Thank you to Chris for your love, support, and open ears.

Thank you to Dr. Midge Madden, my thesis advisor and life coach. Whether we are in your office for hours talking about chapters of my thesis, climbing a volcano in Guatemala, or talking about our worldly travels, you never cease to challenge me. I am so glad our life crossed paths.

Abstract

Caley Spahn

WHAT HAPPENS WHEN FOURTH GRADERS USE LEARNING PROFILES TO
DIRECT THEIR LEARNING?

2010/2011

Marjorie E. Madden, Ph.D.
Master of Science in Teaching

The purpose of this study was to see what happened when elements of a learner-centered classroom were implemented in a 4th grade classroom in social studies. Qualitative sources of data collected included teacher research journal, focus group discussions, student interest surveys, student talk, and a self esteem scale. Data was analyzed, triangulated, and informed by Katherine Schultz's (2003) listening framework. The students determined how they were going to learn about government in social studies and then how they were going to show what they learned. They assumed control of their learning experience, guided by the teacher researcher. Findings suggested that self-instruction pedagogy increases students' control of their ability to learn. Also, when students are given choices on how to express their learning, they respond positively.

Table of Contents

Acknowledgements.....	ii
Abstract.....	iii
List of Tables.....	vii
List of Figures.....	viii
CHAPTER:	PAGE:
CHAPTER ONE.....	3
Story of the Question.....	3
Statement of Research Problem and Question.....	6
Purpose Statement.....	6
Significance of Research.....	6
Organization of Thesis.....	10
CHAPTER TWO.....	11
Learner-Centered: A Brief History and Definition.....	12
Learner-Centered Classrooms.....	14
Pieces of the Learner-Centered Design.....	17
Conclusions.....	28
CHAPTER THREE.....	30
The Research Paradigm.....	30
Procedures.....	31
Data Collection Methods.....	33
Data Analysis.....	36
Context of the Study.....	37

Table of Contents (continued)

Looking Ahead.....	39
CHAPTER FOUR.....	40
Student Response to Self Directed Learning.....	40
Student Response to Choice.....	45
Student Interest in Social Studies.....	54
Student Beliefs About Their Learning.....	55
Conclusions.....	59
CHAPTER FIVE.....	61
Summary of Findings.....	61
Conclusions.....	63
Limitations.....	64
Implications for the Field.....	66
Suggestions for Further Research.....	66
Closing Thoughts.....	67
List of References.....	68
Appendix A: Learner-Centered Principles.....	71
Appendix B: Participation Letter.....	72
Appendix C: Objective Worksheet.....	73
Appendix D: Rubric.....	74
Appendix E: Multiple Intelligence Test.....	75
Appendix F: Student Interest Survey.....	76
Appendix G: Self Esteem Scale.....	77

Appendix H: Focus Group Topic Questions.....79

List of Tables

“Do You Like Social Studies?”	55
“Do You Feel You have Learned from the Methods Teachers Use in Social Studies?”	56

List of Figures

Choice Board.....	50
Student Self Esteem Before and After Learner-Centered Study.....	58

Chapter I

Scope of the Study

Introduction

“Real learning gets to the heart of what it is to be human. We become able to re-create ourselves... ‘Survival learning’ or what is more often termed ‘adaptive learning’ is important – indeed it is necessary... to enhance our capacity to create’ (Smith, 2001, p. 14). In its most basic and intended form, education was designed for survival of the human race. In our first few years on this earth, most things are learned through observation, trial and error, or through communication with others around us. Beyond that, schooling is needed in order to expose more information and ideas to people. However, as we are babies making sense of our world, we do it in our own way, through inquiry, and on our own terms. Suddenly, when it comes to schooling, everyone is expected to learn at the same rate and express their learning in the same format. Students’ experiences, backgrounds, and learning styles are not always considered.

This is where education has the power to make or break a person. If we deny students a fair education, in a way in which their brain is able to understand, what will they become? Everyone can learn, or improve their cognitive ability, regardless of their language, culture, race, social economic status, or disability - they just do it in different ways (Mediated Learning Center). If students are taught in an individualized way, they will learn. Responding to students in their full humanity by respecting the way their unique minds are programmed is a way to nurture individuals and, therefore, advance society. I say ‘advance society’ because who knows what unique minds may create towards our future if we give them the freedom to learn without borders.

The most fundamental way of advocating for each child's fair educational journey is through the learner-centered classroom model because its design makes the learner the reason for all decisions and practices. Learner-centered can be defined as "an empirically informed philosophical perspective that begins with a focus on knowing and understanding each learner" from preschool through old age (McCombs, 1997, xii). In this study, the term learner-centered focuses on the learner's intellectual and learning needs in the classroom. This puts more focus on who each individual is in the classroom. Listening closely to know one's students, rather than having the class environment solely teacher-controlled, opens up an array of student stories, talents, abilities, and practices that otherwise would not be known in the classroom community. Placing listening at the center of teaching works against the notion that, "teachers talk and students listen, suggesting instead that teachers listen to teach and students talk to learn" (Shultz, 2003, p. 7). As students talk to learn, this takes on the form of student inquiry and student-centeredness.

A learner-centered classroom is different from the traditional style of teaching because the student is the inquirer, not the instructor. Schultz (2003) says, "Teachers believe they have to start with the answers rather than the questions and understand their primary role as telling [while] students perceive their role as passively absorbing information" (p. 8). When students engage and learn through inquiry, the material becomes more meaningful to them. Schultz's (2003) listening framework parallels the learner-centered definition (McCombs, 1997). This is because the learner-centered model incorporates Shultz's listening skills.

Story of the Question

As a teacher candidate sitting in a graduate class, one of the most awakening video clips I've ever seen was presented to me one day by my professor. It was a speech made by Sir Ken Robinson (2010) called *Changing Education Paradigms*. In this message, he spoke about how every country on the earth is reforming public education in one way or another for two reasons. The first reason is to educate children so they may know how to take their place in the 21st century economy. The second reason is so that children may embrace their cultural identities in order for the cultural values to last. The problem here is that it is trying to be done using a model designed in the Enlightenment era. It is based off of the intellectual model of the mind that declares there are two kinds of people: smart and not smart. However, this is not the case. In fact, there are now brilliant people who think they are not.

Robinson continues by exposing the surprising reality that the increase of standardized testing parallels the increase in Attention Deficit Hyperactive Disorder diagnoses. Students are becoming more regularly medicated to help them *focus* on the academic lessons in the classroom. What these anesthetic drugs are meant to do is shut one's aesthetic senses off so they are numb to outside distractions. He argues, however, that this is not what education is for. Education should be waking students up to what they have inside of themselves.

He described a study done recently on divergent thinking (which is the ability to see lots of possible answers to a question). They tested 1,500 kindergarteners and found 98% of them to be at a genius level of divergent thinking. In this longitudinal study, they tested the same students every five years and found this level deteriorating. Although this

study found that as people in the American educational system grow older, and/or become more “educated”, they actually think less expressively and divergently, it showed that we all start out with this great divergent thinking capacity (Land & Jarman, 2010).

That right there got me thinking. Humans are born with this great capacity for creativity and able to view one idea in a number of ways. How is it that a system that is supposed to educate and prepare us for the world can take that away from us? If education were to embrace the many types of thinkers that enter the classroom as kindergarteners, students may come out of the system more knowledgeable about their own skills and, therefore, more prepared to take on their responsibilities in the world. This is exactly what Robinson claimed countries for education reform are trying to do: prepare students for their place in the 21st century world economy and strengthen their cultural identities (2010).

Also, if students do not experience the freedom of expressing their views and opinions on issues in a classroom, how will they know how to contribute in a democratic society? Some people believe that children these days “are not being systematically prepared for their complex roles as citizens in our democracy” (Elias, 2009, p. 831). With students’ divergent brains being shut off and being trained to think in one way, they are not being prepared for the diverse roles the world calls for. Even George W. Bush at the White House Conference on Character and Community, on June 19, 2002, argued that, “education should prepare children for jobs... and for life” (Quoted in Spring, 2004, p. 3). The purpose of educating the youth is to teach them how to function in society, prepare them for the daily issues they will encounter in life, and to challenge them so

they may reach new goals and discoveries. Having a classroom centered around each student helps individualize the curriculum and instruction to better fit their future role.

After thinking about how something as simple as the way a lesson is structured could affect the big picture, I then assured myself that when I teach I will encourage and find ways for students to use whatever they have left of their divergent thinking capacities. This is where I began thinking of possibilities. How will I create a classroom environment that encourages and accepts all styles of individual thinking? How can a teacher foster the creativity of her students with curricular mandates and standardized testing? A classroom where the student's learning style, interest, ability, and background is the basis for instruction seemed like an optimal solution. This is where the term 'learner-centered' struck me as the perfect framework for instruction. It fosters student learning styles, interests, abilities, and backgrounds. McCombs's (1997) definition of learner-centered further supports this idea:

Learner-centered couples a focus on individual learners (their heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs) with a focus on learning (the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners). This dual focus then informs and drives educational decision making. The learner-centered perspective is a reflection of the twelve learner-centered psychological principles in the programs, practices, policies, and people that support learning for all (p. 9).

This definition and principle of learner-centered fosters all aspects of the how the individual learns in order to provide an optimal learning experience in the classroom. These are taken into account as students co-create the lessons with the teacher (McCombs, 1998). Since this paradigm seems to adopt the mindset that students need to be awakened to what is inside of them, I chose to focus on part of what establishes the learner-centered design. This includes teaching to the learner's unique learning style and having the student direct their learning.

Statement of Research Problem and Question

The research problem for this study will focus on the possibilities of a learner-centered classroom. The study will be implemented in a 4th grade classroom. It will be a student-directed unit of study using the students' learning styles. The learner-centered model will focus on student learning styles by assessing the students prior to the study to find their learning profile. Then, teacher will provide more choice and open ended projects so students may steer their learning experience. Therefore, my question becomes, What happens when fourth graders use learning profiles to direct their learning?

Purpose Statement/Significance of Research

The purpose of this study is to find out what happens when two components of the learner-centered design are implemented in a classroom. Since much of the research associates the learner-centered paradigm with positive student outcomes (McCombs, 1997; Haley, 2001; Campbell, 1991; Pedersen and Liu, 2003; Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2007; & Powers, 2008), it would be beneficial to see parts of the learner-centered design broken down in a 4th grade elementary school classroom. If this

design promotes optimal student outcomes, it may suggest the need for a shift from teacher-centered practices.

In 1990, the American Psychological Association appointed a task force to focus on the ways psychology related to learning, motivation, and individual differences. These connections could provide guidance for the educational system on how to improve student achievement. Through meta-analyses, the document *Learner Centered Psychological Principles: Guidelines for School Redesign and Reform* was drafted. The focus of these guidelines was to unleash the benefits of a classroom model called learner-centered. The term learner-centered, is defined by McCombs (p. 9, 1997). This new document, meant to improve student achievement, focused on the importance of the learner-centered design. Within this design, the learning process is catered to the needs of all learners in a classroom (McCombs, 1997).

Some of McCombs' (1997) main premises that need to be present in a learner-centered model are the following: (1) All learners are distinct and unique- this distinctness and uniqueness needs to be attended to in order for learners to fully engage and take responsibility for their own learning. (2) Learners' differences that need to be taken into account are their learning rates, learning styles, stages of development, abilities, talents, interests, and feelings of efficacy. (3) Learning needs to be relevant and meaningful to the learner. (4) Learning occurs best in a positive environment where the learner is respected, acknowledged, and appreciated. (5) Learners are naturally curious. These premises do not necessarily need to look a particular way; however, they need to be reflected in the beliefs and disposition of the teacher (McCombs, 1997).

When these premises are put into practice this generally means that “learners are included in the educational decision-making process, whether those decisions concern what learners focus on in their learning or what rules are established for the classroom”... as they are co-creators in the teaching and learning process (McCombs, 1997, p. 11). Also, learner’s differences need to be accounted for and respected. These include a learner’s culture, ability, learning style, developmental stage, and needs (McCombs, 1997).

Drawn from these learner-centered principles are two elements of focus for this study. These are learning styles and student-directed learning. Research suggests positive student outcomes when these two elements are fostered in the classroom environment (Haley, 2001; Campbell, 1991; Pedersen and Liu, 2003; Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2007; & Powers, 2008).

Haley (2001) and Campbell (1991) focused on evaluating the students on what type of learning style fit them and then instructed based on these learning profiles. In Haley’s (2001) study, each student took a survey from Armstrong’s book, *7 Kinds of Smart* (1993) to find their learning profile. This learning profile provided a critical reference for instructional planning. From this point, the Multiple Intelligences were applied to instructional strategies and therefore lead to more learner-centered activities. This study then found that academic achievement, student motivation, and positive student feelings about teachers who use a variety of instructional strategies increased.

Campbell (1991) implemented a Multiple Intelligence design into his classroom. He did this by setting up his classroom with seven different learning centers- each one with activities dedicated to one of the Multiple Intelligences. This was to give each

student a chance to learn in a way they are most comfortable. This fits the learner-centered design because students will feel more comfortable when “their dominant learning style is being used some of the time” (McCombs, 1997, p. 94). Campbell (1991) found that from using this instructional strategy, the students increased responsibility, self-direction, independence, and academic achievement.

The other aspect implemented in this study is student-directed learning. Student-directed learning, or self-instruction, refers to situations where learners are working and learning without the direct control of the teacher (Dickinson, 1987). This is clearly the learner-centered design because in the student-centered model, students take more responsibility and make more decisions about their work while teachers become facilitators (McCombs, 1997). When this was tried in a classroom, the results indicated that students engaged in self-management behaviors more frequently during independent work following student-directed instruction than following teacher-directed instruction (Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2003).

Not only do students increase their self-management skills, but independent study is regarded as the highest level of learning because it connects interest and readiness level of the individual student to critical thinking skills (Betts, 2004). When Powers (2008) applied student-directed learning in a classroom by taking away the teacher as the sole provider of knowledge, she found high positive comments about the use of independent study and student choice. When asked what they did not like, 98% of the students said, “nothing”. The students’ responses overwhelmingly supported the literature that argues for choice, independent study, and doing real world tasks (Powers, 2008, p. 63).

One inconsistent result of the learner-centered design is whether it always increases every student's academic achievement; However, the results indicate there are positive student feelings, motivation, interest, and the learning is more meaningful (Haley, 2001; Campbell, 1991; Pedersen and Liu, 2003; Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2007; & Powers, 2008). This study seeks to investigate the outcome of combining the learner-centered premises that focus on learning profiles and the premises that focuses on student-directed learning.

Organization of Thesis

The following chapters of this study examine the learner-centered model in the educational classroom setting. Chapter two provides current, relevant information in the field about what learner-centered means, what elements make up a learner-centered environment, and what the outcomes are when it is implemented in a real classroom. Chapter three examines the context of this study and the research design. This includes the research plan, the sources of data collection, the methodology, and the implementation procedure. Chapter four analyzes and interprets the results of the study. Finally, chapter five draws conclusions from the investigation, presents limitations of the study, provides suggestions for improvement, and discusses implications for future research.

Chapter II

The Literature Review

“Schools must be ‘learner-centered,’ concerned not about ‘whether the child is ready for school’ but ‘whether the school is ready for the child’ ” (Edwin J. Delattre)

Introduction

Through a review of literature and meta-analyses, a learner-centered environment is correlated to positive student outcomes. Critical and creative thinking, basic learning skills, student participation/initiation, motivation to learn, satisfaction, self esteem, and social connections/skills are all examples of positive student outcomes and all related to the learner-centered classroom model (Cornelius, 2007). Furthermore, research suggests that teachers shift from being providers of information to being facilitators, from being question answerers to question askers (Brooks & Brooks, 1993; Shultz, 2003). This chapter focuses on current literature and research that supports, unpacks, and examines the different faces of learner-centered classrooms.

The first section of the chapter discusses the history and development of the term learner-centered. It defines learner-centered from many perspectives. The second portion of this chapter explains what the research says about learner-centered classrooms. In section three, it shifts to the two key aspects of learner-centered classrooms, their effects on students, and what they may look like when implemented. These elements are how a learner-centered class can be fostered through individual learning-profile instruction and how it fosters student-directed learning. The last section looks at real instructional strategies that allow learners to control their learning. This includes the use of technology and eLearning. This literature review reviews the possible appearances of learner-centered classrooms and their benefits.

Learner-Centered: A Brief History and Definition

The debate about quality American education has been continuous ever since educators and psychologists questioned the purpose and problems facing schools (McCombs, 1998). Because of this, in 1990 the American Psychological Association (APA) appointed a task force to focus on the psychology of education. Their purpose was to “determine ways in which psychological knowledge base related to learning, motivation, and individual differences could contribute directly to improvements in the quality of student achievement and to provide guidance for the educational system that would best support student learning and achievement” (p. 3). Through a meta-analysis of research (a culmination of hundreds of studies done by researchers, teachers, and professionals in the field), the task force came up with the resulting document, *Learner Centered Psychological Principles: Guidelines for School Redesign and Reform*. This document lists twelve principles that provide the fundamental framework for influencing all learners and define learner-centered through validated research (APA, 1993; Goleman, 2004; McCombs, 1997).

According to the American Psychological Association’s website, the original twelve (now fourteen) principles fall under domains of basic practice called meta-cognitive and cognitive factors, affective factors, developmental factors, personal and social factors, and individual differences. These principles that describe the learner-centered model, drafted in 1990 and revised in 1993, are listed in Appendix A. They apply to all learners, no matter the age or position (APA, 1993). The term learner-centered may also be referred to as student-centered, person-centered, or child-centered.

The American Psychological Association also believes it is important for fostering student's self esteem and sense of well being (McCombs, 1997).

This meta-analysis conducted by the American Psychological Association, appointed Barabara McCombs to lead the task force in developing the psychological and educational principles that provided a framework for school redesign and reform. She and Jo Sue Whisler (1997) drafted the following definition of learner-centered:

... the perspective that couples a focus on individual learners (their heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs) with a focus on learning (the best available knowledge about learning and how it occurs and about teaching practices that are most effective in promoting the highest levels of motivation, learning, and achievement for all learners.) This dual focus informs and drives educational decision making. The learner-centered perspective is a reflection of the twelve learner-centered principles in the programs, practices, policies, and people that support learning for all (McCombs, 1997, p. 9).

This definition of learner-centered, along with the psychological principles, lead McCombs and Whisler (1997) to five conclusions that must be present in the teacher's beliefs for a learner-centered model. This study focused on these premises of the learner-centered model: (1) learners are distinct and unique and must take responsibility for their learning in order to engage in it; (2) their uniqueness stems from their talents, states of mind, learning rates, learning styles, abilities, feelings of efficacy, and needs; (3) learning is a constructive process that needs to be meaningful to the learner; (4) learning occurs best in a positive environment with positive feedback, interpersonal relationships,

respect, and appreciation; and (5) learning and curiosity are natural processes for humans, so no child needs to be “fixed”, they want to learn (McCombs, 1997, p. 10).

From the American Psychological Association’s meta-analysis (1993), McCombs (1997), Lambert (1998), and Whisler (1997) are only few of the major influential researchers of the task force. Their work in developing the learner-centered classroom design influenced a specific instruction strategy: student-directed learning. This was defined by Lambert and McCombs (1998) when they concluded that “learners are included in educational decision-making processes, whether it be what they focus on in their learning or the rules that are established in the class... teachers treat learners as co-creators in the teaching and learning process, as individuals with ideas and issues that deserve attention and consideration” (McCombs, 1998, p. 11). Teachers need to include students in the learning process. Lambert and McCombs’ (1998) research on *How Students Learn* illustrated how the way students learn must be accepted in a class and that students need to have an active role in their learning experience. The students, rather than teachers, should direct their learning.

Learner-Centered Classrooms

There is much empirical research in the educational field about learner-centered instructional designs that were applied in real classrooms of all ages and kinds (Doran, 2004). All studies found were associated with positive student outcomes and limited to no negative outcomes while the most positive outcomes were increased student motivation and interest (McCombs, 1998; Cornelius, 2007; Haley, 2001, Sternberg, 1997; Sternberg, Toriff, & Grigorenko, 1998; Dickinson, 1987). There is still the question of whether or not the student-centered approach benefits the student’s grades more positively than a

teacher directed approach. This section of the literature review focuses on what research has declared about the learner-centered classroom.

Research suggests that learner-centered pedagogy, with its recognition of all the aspects of the individual, responds to students in their full humanity (Rogers, 1983). Carl Rogers, an esteemed psychologist in the 1980's was an advocate of student-centered learning in education because of his humanistic approach to psychology. In his book *Freedom to Learn*, Rogers describes how research by the National Consortium for Humanizing Education found that, "there are some very positive effects from applying person-centered principles to daily practice in schools" (Rogers, 1983, p. 199).

Cornelius-White (2007) argues that learner-centered is a "counseling oriented, educational psychology model, overripe from meta-analysis, that posits that positive teacher-student relationships are associated with optimal, holistic learning. It includes classical, humanistic education and today's constructivist model" (p.113). This learner-centered model, along with other models, has been evaluated and dissected to better the structure of education (American Psychological Association, 1990; Goleman, 2004; McCombs, 1997; Mithaug, Mithaug, Agran, Martin, Wehnmeyer, 2003).

Cornelius (2007) reviewed 1,000 articles to examine what researchers in the field had to say about learner-centered education. He did this to ascertain the degree of positive student outcomes that person-centered teacher variables had. This approach considered person-centered teacher variables to "emphasize teacher empathy (understanding), unconditional positive regard (warmth), genuineness (self awareness), non-directivity (student-initiated and student-regulated activities) and the encouragement of critical thinking (as opposed to traditional memory emphasis)" (p. 113). His meta-

analysis found person-centered teacher variables to have an above average correlation with positive student outcomes (p. 130). These positive outcomes included a high correlation with critical and creative thinking, basic learning (i.e. IQ, verbal and math skills), increased student participation and initiation, student satisfaction, increased motivation to learn, and stronger interpersonal relationships (p. 131) suggesting that learner-centered classroom designs have very positive student outcomes.

This learner-centered design associated with positive student outcomes can include many different elements depending on the researcher. In one case, Jenkins and Keefe (2000) describe six basic elements of personalized instruction. These elements are:

- 1) A dual teacher role as coach and advisor
- 2) The diagnosis of relevant student learning characteristics
- 3) A collegial school culture
- 4) An interactive learning environment
- 5) Flexible scheduling and pacing
- 6) Authentic assessment (p. 450)

In their study, they implemented this design into two high schools and found that not only did the schools possess the characteristics of a learner centered environment, but they reached and maintained higher achievement rates on the MCAS (Massachusetts Comprehensive Assessment System) than previous years without this model. The learner-centered design, based on the above six principles, is responsible for this high rate of success (Jenkins & Keefe, 2000).

McCombs' (1997) ideas coincide with Jenkins' (2000) characteristics of learner-centered instruction. They both agree that the teacher needs to coach and advise students

in their learning process, but not take over the experience. Another important aspect in a learner-centered class is diagnosing student learning characteristics and finding learner profiles. An interactive learning environment leaves room for discussion and opinion. Flexible scheduling and pacing caters to the learning needs of individuals. Also, authentic assessment is a priority for both McCombs (1997) and Jenkins (2000) as McCombs describes the use of assessment being “as authentic as possible” (p. 95). One example of authentic assessment is the rubric because it defines performance at multiple levels (McCombs, 1997). Having two sets of researchers overlapping their beliefs in a learner-centered classroom and the positive outcomes connected with it ensures the importance and usefulness of student-centered environments.

In fact, McCombs (1997) established that by focusing on the learner and the learning process, educators will reach the goal of having their students meet rigorous academic standards. This was confirmed in a five year study conducted by the Mid-continent Regional Educational Laboratory (McREL). All of these studies solidify the positive effects learner-centered classrooms can have. Nevertheless, there are multiple aspects to consider when implementing a learner-centered environment.

Pieces of the Learner-Centered Design

In order to implement these aspects of learner-centered classrooms, below are listed examples of real classrooms with specific aspects of the learner-centered design. In the first classroom study, there is a focus on individual student learning styles and learning profiles. The next classroom concentrates on student-directed learning and independent study/self instruction. The research on these two aspects of a learner-centered environment guide this study’s implementation.

Learner-Centered Classrooms Emphasize Student Learning Styles

A significant factor of the learner-centered classroom is taking into account the unique and diverse needs of students (McCombs, 1997; Jenkins et al., 2000). Teachers can do this in a number of ways. One way teachers can do this is by having some lessons taught to fit more than one learning style. This would make all students more comfortable “because their dominant learning style is being used some of the time” (McCombs, 1997, p. 94). McCombs presents one model that addresses learning styles by Bernice McCarthy (1980). This is called the 4MAT System that categorizes students’ learning profiles as innovative learners, analytic learners, commonsense learners, or dynamic learners.

Learning styles in the learner-centered classroom can also be fostered through the perspective of Gardner’s Multiple Intelligences (1983). These intelligences include bodily/kinesthetic, interpersonal/social, intrapersonal/introspective, logical/mathematical, musical/rhythmical, naturalist, verbal/linguistic, and visual/spatial. Since the Multiple Intelligences suggest that there are many ways to show a plurality of intellect, Gardner’s eight intelligences foster the fact that there are different learning styles in a classroom. Accounting for unique learning styles in the classroom is a critical aspect of the student-centered classroom design (McCombs, 1998).

Haley (2001) applied Gardner’s Multiple Intelligence theory to a foreign language and second language class. In the beginning of the study, each student took a survey from T. Armstrong’s book, *7 Kinds of Smart* (1993) to find their learning profile. This learning profile provided a critical reference for instructional planning. Haley developed a control group and an experimental group. The control group’s instruction was mostly teacher-centered, or teacher-directed. The experimental group’s instruction incorporated Multiple

Intelligence theory. Some instructional strategies used here were learning centers, hands on experience, modeling, and feedback response (p. 358).

As a result of this study, teachers found a shift in the experimental group from teacher-centered to learner-centered. The application of Multiple Intelligence instructional strategies lead to more learner-centered activities. Learner-centered instruction from the Multiple Intelligence perspective demonstrated how students' strengths and weaknesses can be affected by the teacher's pedagogical style. Although the students' grades in both the experimental and control groups exhibited growth in language, the study did suggest that the experimental group applying Multiple Intelligence theory to instruction impacted academic achievement, student motivation, and positive student feelings about teachers who use a variety of instructional strategies (Haley, 2001). The experimental group's learning experience with instruction through Multiple Intelligences was more positive (Haley, 2001). Therefore, since the learner-centered model fosters instruction according to learning style, it is more beneficial, especially with recognition of the Multiple Intelligences.

Learning styles can be acknowledged in a number of ways. One way a third grade teacher set up his classroom was with seven learning centers- each one with dedicated to one of the Multiple Intelligences (Campbell, 1991). Each center had activities geared towards that learning style. For instance, In the *Personal Work Center* (Intrapersonal Intelligence), students explore the present area of study through research, reflection, or individual projects. In the *Working Together Center* (Interpersonal Intelligence), they develop cooperative learning skills as they solve problems, answer questions, create learning games, brainstorm ideas and discuss that day's topic collaboratively. In the

Music Center (Musical Intelligence), students compose and sing songs about the subject matter, make their own instruments, and learn in rhythmical ways (Campbell, 1991).

Over the course of the year, Campbell (1991) discovered that the students increased responsibility, self-direction, independence, and academic achievement. In fact, students who had previously performed poorly in school became high achievers in new areas.

Using and accepting an abundance of learning styles in the classroom supports the learner-centered purpose (McCombs, 1997). This way the student may lead the learning experience in their unique way, using their specific learning styles and abilities while being responsible for what they learn. After all, teachers can not make learning happen; it is the students who make the decision to learn (Goleman & McCombs, 2004). Students can learn much easier when they are instructed according to their learning profile (Sternberg, 1997; Sternberg, Toriff, & Grigorenko, 1998).

A student's learning profile refers to a student's preferred mode of learning that can be affected by a number of factors, including learning style and intelligence preference (Tomlinson, Brighton, Hertberg, Callahan, Carolyn, Moon, Tonya, Brimijoin, Conover, & Reynolds 2003). Like Gardner's Multiple Intelligences (1983), matching the instructional strategy to the student's learning style has positive student achievement outcomes (Sternberg, 1997; Sternberg, Toriff, & Grigorenko, 1998), especially when the instruction matches their individual preference. There are even achievement benefits to addressing intelligence or thinking preference during the learning process, even if the final assessment is not in the learner's preferred mode (Grigorenko & Sternberg, 1997; Saxe, 1990; Sternberg et al., 1998).

According to Tomlinson (2003), “the goal of effective instruction seems to be adequate flexibility in a teacher’s mode of presentation and in a student’s options for learning and expressing learning so that the individual can generally find a match for his or her learning-profile preferences” (p. 131). This means that in order to acquire real student learning, students need a variety of choices in order to obtain the information and they need freedom in how they express what they have learned. Discovering a student’s learning profile seems to be an essential step here, which is a natural component fostered in a learner-centered classroom.

Learner-Centered Classrooms Foster Student-Direction and Independent Study

Another major aspect of a learner-centered classroom is that lessons should be student-directed, or self-instructed, with facilitator guidance. In a learner-centered classroom, since learners are included in the educational decision-making process and teachers treat the learners as co-creators in the teaching and learning procedures, (McCombs, 1998) the learning process becomes student-directed or self-instructed. With student-centered learning, the goal is for students work to provide a response to a central question. Since students must sort out for themselves what they need to do and know in order to develop this response, this approach is more likely to promote student ownership over their process and learning than do teacher-directed approaches (Pedersen and Liu, 2003). Self-instruction, or student directed learning, is a key aspect of a learner-centered environment.

The term self-instruction refers to situations where learners are working and learning without the direct control of the teacher (Dickinson, 1987). As stated, this learner-centered self-instructed strategy does not mean teachers no longer have authority

or voice in the classroom. It simply means students are given more responsibility and more freedom of choice. Self-instruction empowers students because of its focus on choice opportunity (Mithaug, 2003). With increased student choice, there are positive student outcomes (Mithaug, 2003).

Mithaug et al. (2003) also found self-instruction pedagogy significant because it explained how students' use of various self-instruction strategies "increased their control of... their ability to learn" (Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2007, p. 8). This means that students could increase their ability to learn when they had some control and choice in the classroom.

In Dickinson's (1987) study, self-instruction included individualized instruction and self-access learning. The study illustrated that learner-centered self-instruction required students to take full responsibility for all decisions related to the curriculum, which therefore required self-regulation skills (p. 571). Although this takes more self control than students need in teacher-directed instruction, self-instruction proved to have more positive feelings linked to it from learners' perspectives. This positive association with student-direction over teacher-directed instruction was also established in another study. It was found that "during student-directed training, students performed those tasks themselves. The results indicated that students engaged in the self-management behaviors more frequently during independent work following student-directed instruction than following teacher-directed instruction" (Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2003). This suggests that student directed lessons may help to lead an increase in self management skills and positive feelings in the classroom.

When Mithaug et al. (2007) studied the comparison between direct instruction and self-instruction, they found that self instruction has a significantly greater practical benefit as well. It develops students' adaptive capabilities, which means it should be used as much as possible to empower students to learn in any way they choose. This idea that instruction can empower students to learn comes from student choice opportunity (Mithaug, 2006, p. 17). Therefore, with more choice in the classroom and less (but not completely without) teacher control, students obtain much more from the learning experience. Self-instruction, or independent study, has more positive outcomes on learners (Mithaug, 2006, p. 17).

Along with using independent study (a related form of student-directed instruction) to foster choice opportunity, independent study is also a way to foster differentiation for different learning styles (Powers, 2008). In fact, independent study is regarded as the highest level of learning because it connects interest and readiness level of the individual student to critical thinking skills (Betts, 2004). Powers' (2008) study of student independent study analyzed the connection between student choice, the use of independent study, and the connection of social studies with real world experiences. The students in the study participated in an inventions independent study where they had to design an invention idea relevant to the future of this century. For teacher assessment purposes, students produced portfolios with work logs, a timeline of activities, a poster, and a Powerpoint presentation. Data collection methods were primarily qualitative reflections, surveys, questionnaires, and informal interviews.

The results demonstrated high positive comments from the students with high motivation and high interest in all categories. There were also high positive comments

about the use of independent study and student choice. When asked what they did not like, 98% of the students said, “nothing”. The students’ responses overwhelmingly supported the literature that argues for choice, independent study, and doing real world tasks (Powers, 2008, p. 63).

Powers’ (2008) study concluded that independent study is essential for students who are bright but refuse to accept traditional ways of learning. All students learn in different ways and independent study is one way to support differentiated student learning. This model gives students “freedom to guide their own learning” (p. 63) and therefore, embraces the learner-centered strategy. Therefore, to fully engage students in learning, choice, competency, and connectedness must all be present to answer to the student’s needs (McCombs, 1998, p. 12).

As previously stated in fostering a broad spectrum of learning styles and student-directed lessons or independent studies, two pieces of the learner-centered model are represented. This is because, as McCombs (1998) states, learner-centered classrooms focus on learners and their learning process with a focus on their learning styles. She also says how learners should be included in educational decision-making processes (1998). Individual learning profiles and students becoming the co-creator of the lesson are keys to developing the ideal learner-centered environment.

By exercising Jenkins’ et al. (2000) elements of personalized instruction and McCombs (1997) and the APA’s (1990) learner-centered definition with using student learning profiles as a basis for student-directed instruction, an ideal learner-centered class would be created. This is because of all of the studies that show positive correlations to

them (McCombs, 1998; Cornelius, 2007; Haley, 2001, Sternberg, 1997; Sternberg, Toriff, & Grigorenko, 1998; Dickinson, 1987).

Instructional Strategy: Technology-Enhanced Student-Centered Learning

Described above are the important aspects that every learner-centered class needs to have. However, within a learner-centered environment, there are a variety of instructional strategies that can be used to foster these different learning styles and independent study. Technology is one of them.

Student-Centered eLearning

One way to increase learner-centered pedagogy is through technology. More specifically, the internet is a valuable resource that opens up a world of knowledge and communication sources. Pitrik and Holzinger (2002) studied the connection between the student-centered teaching design and the internet. They claimed that students who are given the freedom to explore areas, using the internet, based on their personal interests, and who are accompanied by a supportive facilitator, achieve superior academic results and develop socially and personally. In their study, they argued that the internet frees the instructor from being the sole knowledge provider. Therefore, the use of the internet supports the learner-centered design by making the student the sole knowledge provider. The instructor takes on the role of a facilitator who accompanies students rather than leads or coaches (Holzinger, 1997). They refer to this as Student-Centered eLearning.

The study consisted of student groups (from 2-4 people) that chose their topic of study from a list of 15 freely formulated topics to research online. To assess the students' engagement and participation, each student was required to document the time and activities he or she did with the project in a 'project diary'. This assessment strategy was

for the facilitator, but it also aided the students in self regulating their work styles. The results that Pitrik et al. (2002) found revealed that the students who were usually quieter tended to participate more actively in the online activities. They also found that students preferred this style of Student-Centered eLearning compared to conventional teaching and therefore felt they learned more. Students were able to learn from multiple examples instead of one and therefore feel they learn more. Students were unanimously in favor of using the internet to acquire knowledge and felt comfortable with what they learned.

Because this instructional design had so many positive student outcomes, it was recommended to be used as a future instructional strategy (Pitrik et al. 2002). Pitrik and Holzinger (2002) credited Carl Rogers as the pioneer of using technology as a tool for learning. Therefore, the adaptation of Student-Centered eLearning follows the spirit of Carl Rogers and thus “appears worthwhile and legitimate from a cultural viewpoint” (p. 169).

Teacher Practices and Views

As technology advances in the world, researchers in this field are looking at the effects it may have on the student-centered environment (Pitrik et al. 2002; Orill, 2001; Brush & Saye, 2000; Pederson & Lui, 2003). Much of this research looks at the teachers’ practices and feelings with making technology more student-centered. In a study implemented by Brush and Saye (2000), a database called Decision Point! was used to execute a student-directed group project. The teacher familiarized the students with the program and presented the central question the students were to answer. She then described two tasks the students would need in order to solve the problem (1) data

gathering and (2) decision making. Within groups, the students were to research their topics and then present them to the class. They were assessed by a predetermined rubric.

The data from this study showed confusion among students. Some made comments like "What are we using the computers for?" and "I'm kind of lost as to what we're supposed to do with this information" (p. 88). It was clear that there was no prior experience with computers and no underlying sense of learner-centeredness. This inference was drawn because the students were not comfortable enough with being independent. Both of the researchers stated that the "teacher did not take a more active role in forcing the students to elaborate on the strategies they were presenting and explain the evidence they had collected to support their strategies" (p. 92). The teacher and students' attitudes here exemplified this unfamiliar feeling of the learner-centered design, as if it had never been in practice before.

From the researchers' collection of observations and comments made during the post unit interviews of this study (Brush et al., 2000), there was evidence that technology-enhanced student-centered activities could promote deeper engagement and enhanced understanding of content. Also, this class exhibited high levels of enthusiasm, dialogue, and persistence in unit activities. However, organizational problems and teacher feelings about the student-centered unit can hinder this (Brush et al., 2000). This study concluded that the teacher needs to have a genuine belief in the learner-centered environment and have it already established in order for a technology driven student-centered unit to work.

Since the development of learner-centered activities has usually been left to the classroom teacher in the past, a new focus is leading researchers in the field to utilize the emerging use of computers in order to develop programs designed to be student centered.

Programs such as *Exploring the Nardoo* (Hedberg, 1997), *Decision Point!* (Brush & Saye, 2000), and *Rescuing Rocky* (Barab, Hay & Duffy, 2000) use technology “to promote a variety of activities typical of student-centered learning, such as experimentation, research, design, and solution development” (p. 59). A study done by Pederson and Liu (2003) investigated teachers’ feelings and beliefs about technology-enhanced student-centered learning with. Both the learner-centered and technology-enhanced pedagogies may be unfamiliar to teachers.

After the study was implemented, and the teachers’ feelings and views were recorded, Pederson et al. (2003) concluded that teachers need to provide a scaffold for students, especially those with special needs. Teachers need to support factual knowledge acquisition, and teachers need to take advantage of multimedia computer technology. This is how a technology-enhanced student-centered unit will work. Most importantly, they found the consistent relationship between teachers’ beliefs and practices. If the teacher believes in the learner-centered design, it is more likely to work (Pederson et al., 2003).

Conclusion

As this review of available literature suggests, a learner-centered classroom design is an effective method in obtaining positive student outcomes. These outcomes include increased interest, improved academics, positive feelings about school and teachers, increased motivation, and increased independence (McCombs, 1998; Cornelius, 2007; Haley, 2001, Sternberg, 1997; Sternberg, Toriff, & Grigorenko, 1998; Dickinson, 1987). Currently there has not been a significant amount of identifiable research in the field on implementing a learner-centered design in the elementary classroom with a focus

on learning styles and self-instruction. Through a combination of identifying learner profiles and encouraging and facilitating self-instruction, this is what was studied. The research in this chapter provides theoretical references, empirical support, and implementation strategies.

Chapter III

Methodology and Research Design

Introduction

This chapter examines the research paradigm used in this study and the methods of data collection and data analysis. The chapter concludes with a description of the context of the study and the participants.

The Research Paradigm

The research paradigm and data collection methods followed in this study are qualitative. Qualitative research is an investigative process where the researcher gradually makes sense of a social phenomenon by contrasting, comparing, replicating, cataloguing and classifying the object of study (Miles & Huberman, 1984). Qualitative research most often looks at social interactions within a natural setting (i.e. a home or classroom) where the research rarely disrupts or guides the organic results. The type of research conducted in this study is based on qualitative principles. The researcher tracks what naturally occurs when a learner-centered design is implemented in a fourth grade classroom.

Qualitative research is also interpretive. Conclusions are drawn based on the inquirer's observation and interactions with the participants (Wolcott, 1994). For this study, the shift to a learner-centered environment was documented and later interpreted by the researcher. All of these aspects are qualitative. Because the methodology analyzes the social interactions and interpretations in the classroom, this type of qualitative research is considered teacher research.

Cochran-Smith and Lytle (2004) use practitioner inquiry and practitioner research as “conceptual and linguistic umbrellas to refer to a wide array of educational research modes, forms, genres, and purposes” (p. 38). One form of practitioner inquiry is teacher research where teachers and prospective teachers examine their practices, assumptions, and collect data to work towards social justice by ensuring educational opportunities for all learners (Cochran-Smith & Lytle, 2009). Different from other research designs in teaching and education, in teacher research, the practitioner does the research while simultaneously teaching. Likewise, as I student teach in a fourth grade classroom, I also simultaneously conduct research.

Procedures

Prior to the start of the research plan, many steps were taken to help measure what would happen when a learner-centered unit of study was implemented. First, a participation letter was sent home to the students’ parents and/or guardians to grant permission for their children to partake in this study (Appendix B). Next, a student interest questionnaire was administered to find how the students currently feel about social studies and the instructional techniques. Questions asked were:

1. What is Social Studies?
2. Do you like Social Studies? Why or why not?
3. How have you been taught in Social Studies before? (Reading the text, writing, activities, projects, etc.)
4. Do you feel you’ve learned from these methods?
5. Do you have any suggestions for what teachers can do to help students learn?

Then, the students were given Rosenberg's Self Esteem Scale (1965). For both surveys, they were instructed to circle the answer or write the answer that represented most clearly how they feel. Next, I administered a learning profile assessment, based on Gardner's Theory of Multiple Intelligences (1993) to make the students and myself aware of the learning styles present in the classroom. These surveys took place over the course of three social studies class periods.

On the first day of the unit, I said to the students, "In 4th grade we need to learn about the United States government. These are the four objectives we need to meet. (The NJ Core Curriculum Content Standards were written in simplified terms for them on the board). From knowing what you may already know or not know about government and about researching, how do you think we can reach these objectives?" The students answered and we developed a list of ways the class could learn about government. I stated that once students gave me the resources they needed to research about government in the United States, I would find them, and they would be on their own.

The next day I had all of the resources available that the students had listed. These included their social studies textbook, children's literature (read aloud books and novels), internet access (two computers), and thesauruses. They were also allowed to interview a family member or adult at home to use as a resource. The students were given a sheet of paper with each objective stated and a blank next to it Appendix C. They filled in what they had learned about each objective. The learning portion of the study took six social studies periods, as they needed to have complete answers from more than one source. This whole section of the study was to find how well students can direct their own

learning with limited teacher input and approval. From day one I also met with a voluntary focus group at recess.

The focus group was a way for me to hear real opinions and feelings about what was happening in the classroom. I felt students might be more likely to share some of their feelings if it was only in front of a couple other peers, rather than a whole class. The focus group also gave me ongoing insights to whether students were on track in their studies.

After each student finished learning about each objective they were required to know, I asked them, “How are you going to prove to me that you have learned the material?” This began a grand conversation about how the students would be assessed. The students were given a choice of how they would like to demonstrate their knowledge. Together, the students and I created a rubric suitable to guide their learning and assess their understanding. This became their “test” or final project. This rubric is listed in Appendix D. This portion of the study allowed me to see how students expressed themselves through their own learning style.

After all students completed and/or presented their projects, I began the post study surveys. I administered the interest surveys, Rosenberg’s Self Esteem Scale, graded their projects, and compiled notes that I had taken during the focus group discussions.

Data Collection Methods

Qualitative data collection is based on open-ended observations, interviews, and documents. Multiple forms of data were collected in order to triangulate and confirm the findings. The sources of data collection were analyzed to draw conclusions about the learner-centered unit of study. The sources of data used are my teacher research journal,

student artifacts and assessments, student questionnaires and surveys, and focus group discussions.

Before the study, throughout the study, and after the study, the classroom environment was examined through Katherine Schultz's (2003) listening lens. Since this study is focused on the learners in the classroom, the listening framework "shifts the locus of activity away from the teacher" (Schultz, 2003, p. 14). Not hearing, but listening, to know one's students involves proximity and intimacy- something that cannot be done through observation. "Listening to teach... encompasses written words as well as those that are spoken, words that are whispered, those enacted in gesture, and those left unsaid." (Schultz, 2003, p. 8) This framework explicitly connects to this learner-centered study because in order for a teacher to design a learner-centered environment, the teacher must first listen to know their student through every move they make.

Schultz's lens was documented in the first method of data collection- the teacher research journal. The researcher wrote notes about conversations, observations, and happenings throughout the study. The journal was written in every day of the study weeks to reflect on lessons and events. The introspection and acknowledgement of biases, values, and interests is understood. This is because, naturally, the personal-self becomes inseparable from the researcher-self. The teacher research journal accounts for this through Schultz's lenses of "listening to know particular students" and "listening to classrooms: rhythm and balance" (Schultz, 2003, p. vii).

The second method of data collection was student artifacts and teacher tools. One student artifact includes student grades in social studies before and after the study. Another artifact was a Multiple Intelligence test to determine the outcome of each

student's learning profile. This was determined by giving each student a Multiple Intelligence test based on Gardner's Theory (1993) listed in Appendix E. This was done prior to the study to give the students and researcher an idea of how each individual learned best. A third student and teacher artifact was the rubric the students and teacher collaboratively created. Student work was collected and graded based on this rubric. This was done because the learner-centered design calls for learners to be co-creators of their learning experience and authentic assessments (McCombs, 1997; Jenkins & Keefe, 2002).

Student questionnaires and surveys were administered prior to the study and after the unit was implemented. These included a questionnaire on student interests and feelings about social studies. An example of the questionnaire is listed in Appendix F. Student answers from the questionnaires may suggest possibilities or ideas about the learner-centered design. Another student questionnaire used was the Rosenberg Self Esteem Scale to detect how students felt about themselves prior to and post study (See Appendix G). This was given before and after the social studies unit of study to track whether students being instructed in their learning styles affected the way they feel about themselves.

A focus group was called together twice a week for the researcher to hear real opinions, questions, feelings, or concerns the students may have about the student-directed unit of study. As a data source, focus group conversations were not limited to short answers and often provided more comprehensive insights into students' responses to the study. The researcher actively listened while the students talked. This was a heterogeneous group of students of different learning styles, abilities, race, gender, and

interests. Students volunteered to participate during their recess period. There were two groups: one consisted of four students and the other had five students. Focus group topics of discussion, questions, and student responses are listed in Appendix H.

Data Analysis

After collecting these different forms of data, I looked closely through each source to know what it was saying. I focused my analysis by asking the following questions: What commonalities does the data show? Are there common actions or gestures students exhibited? Did the students reach the lessons' objectives? How did the students feel about directing the learning process? Did they prefer having a choice versus having the teacher tell them what to do? Were students interested in this topic of study? While asking these questions, the multiple sources of data were analyzed by looking for connections and recurrent themes among student responses, observations, and student actions.

First I looked across all data sources and condensed and organized them into various categories. These categories were coded to help order the ideas. Particularly important was using Shultz's listening framework to read through my notes of students' quotes, words used, and gestures. Using Schultz's (2003) lens of listening to know one's students throughout the study helped me to analyze the meaning behind student actions. Listening to know one's students focuses on student writing, paying attention to their gestures, and their interactions with others (Schultz, 2003). It is the "attempt to go beyond scripted pedagogy and curriculum in a way that puts children's capacities at the center of teaching" by recognizing that children can become "creators, builders, and actors in their education" (Schultz, 2003, p. 35). The listening framework is a way to

understand what each individual brings to the classroom to support pedagogy and curriculum (Schultz, 2003). This lens realizes each student's uniqueness and style of learning and brings it to the forefront of the lesson. My study's analysis focused on the traits each student brought to the classroom: what their learning style was, how they choose to learn the material, and how they responded to the process. Transcripts from focus group meetings and notes from my teacher research journal unveil these responses.

This analysis of each data source and then across all data resulted in common themes based on student interests in social studies, student response to choice, student response to self-directed learning, and student beliefs about their learning (having independence, and whether or not students felt they learned from these methods). The related literature was also reviewed to look for research that might inform my findings.

Context of the Study

District

This study took place in Ethel Elementary School in Gainsville Township School District, Camden County, NJ. According to the United States Census Bureau of 2010 the town's population was 42, 891. Gainsville Township School District consists of 11 schools: 8 elementary schools and 3 middle schools. Gainsville Township School District spends about \$12,880 per pupil while spending 63% of their budget on instruction, 32% on support services, and 5% on other school expenditures (US Census Bureau, 2010).

School

As the largest elementary school in the district, Ethel Elementary School is home to approximately 788 students. When rated by the United States Census Bureau (2010) on test performance in New Jersey (using NJASK results), Ethel Elementary was ranked

number 5 on a scale of 1-10 being the best. Since 26% of the student population receives free and reduced lunch, based on family income, it is a title I school. The student to teacher ratio is 13:1. The student ethnicity breakdown is 64% White, 26% Black, 5% Asian/ Pacific Islander, and 4% Hispanic. It is considered a low socioeconomic area.

Classroom/Participants

The classroom has a total of 26 students: 18 boys and 8 girls. All students had parental permission to participate in this study. Of the total, 8 students received special education services from having an Individualized Education Plan or 504 Plan for their classification. Some students left the room for the resource room for reading and there was in class support for both reading and math. Three students were in the EXCELL (or academic enrichment) Program.

The classroom teacher, Mrs. Kane has been teaching for 3 years. This was her first year in 4th grade. Three new students were added to the classroom midyear, two of whom were twin boys. About 50% of the class came from a two parent home, 30% of students had a single parent or divorced parents, 12% of the class has had their family under DYFS investigation, and 8% of the class was in foster care.

The curricular programs used were up to date and inquiry or constructivist approaches. Everyday Mathematics has been used for math for the past 3 years. Reader's and Writer's Workshops were started this past year (September 2010). Social studies and science curriculums and units of study are determined by each grade's team of teachers and must reflect the New Jersey Core Curriculum Content Standards.

Looking Ahead

Chapter four presents the analysis and interpretation of the data and the findings of this study. Chapter five discusses the limitations of the study, a summary of the findings and conclusions of the study, implications for teaching and learning, and further questions to be addressed in future research.

Chapter IV

Data Analysis and Findings

Introduction

As mentioned in previous chapters, this study looks at using elements of a learner-centered approach to a social studies unit in a 4th grade classroom. This chapter presents the analysis of the data and the findings. It is organized into sections by recurrent themes found throughout the data. These themes are (1) student response to self-directed learning, (2) student response to choice, (3) student interest in social studies, and (4) student beliefs about their learning. Chapter IV also discusses the results and findings of the study.

Student Response to Self-Directed Learning

I began the learner-centered unit of study in social studies by starting a conversation with the class. I told them, “For the next few weeks, social studies will be a little bit different. Instead of me lecturing notes to you all, you will be directing your learning process. You can learn the material and express your thoughts in whatever way works best for you. Everyone in this classroom learns differently, as we’ve seen in the multiple intelligence tests. You are required to know a few pieces of information about government in 4th grade. In order to learn these, you will take the initiative.”

Listed in the New Jersey Core Curriculum Content Standards are what students need to know by the end of 4th grade in social studies. In fourth grade terms, they are: (1) identify what a local government, state government, and federal government is, (2) recognize the importance of the Constitution, (3) list the three branches of government and their roles, and (4) describe how all three branches work together. After these were

listed in front of the class, I asked the students, “How are we going to learn about these? Lets make a list of resources we could use if we had unlimited resources to find the answers.”

The list the class made consisted of the social studies textbook, encyclopedias, the internet, an adult, library books, Google, television, interviews, a class trip to Philadelphia, looking at pieces of art and/or pictures/graphs, and movies. Then, I told the students to brainstorm how they realistically plan on learning the material by making their own written list. Once they finished brainstorming, they began the researching and learning process in both class and at home that night. Each student was given a worksheet to take notes on what they found. Any fact they find needs to be supported by two different sources. In other words, they can not just interview an adult and use all of those answers. They need to find the same answers in another place as well.

In this area of the study, as noted in my teacher research journal and through observation, some students struggled with finding the information on their own. On March 8, 2011, I wrote, “Student-directed learning begins. Once I set them off on their own- about 6 hands went up. Five out of the six students were students that were classified. Since they usually receive modifications and extra guidance, I pulled a group to the back table to review the directions and all of the places they could find the information. I also wrote on the board, ‘Use your textbook (table of contents) or the internet for help’. This was still a challenge for two of the students. They needed to be presented with the exact page number to find the information before they frustrated out of the activity.”

These students did not have trouble with understanding the information, as I will later discuss; rather, it was the researching process. Questions often arose about where they should look to find the answers, what phrases they should use to search for the answers, or what questions to ask in an interview. The following dialogue between Wayne, one of the classified students, and me illustrates this.

Wayne shouted out, without a hand raised, “Miss Spahn, what page number is number one on?”

Me: “Wayne, try using your table of contents. What key words do you think you can use to look for it?”

Wayne: “Government?”

Me: “Yes, and what kinds of government are you looking for?”

Wayne: “Local?”

Me: “Yes, that is one, and what are the other two?”

Wayne: “State and na-channel”

Me: “You got it, state and national. Try finding local government first and then show me once you’ve found it.

Wayne: “Okay”. He puts his head down and skims through the text.

Wayne was able to follow these steps to find the information. He just needed a little prompting. And I was beginning to see the importance of the teacher as the coach in the learner-centered class room.

On March 9, 2011 in my teacher research journal I wrote about another classified student, “The look on Jared’s face led me over to him. I knew he was lost while the rest of the class was buzzing with research.” Katherine Schultz’s (2003) listening lens was in

working mode here as I closely began paying attention to students' gestures and words, or questions. Jared needed help finding the three branches of government. All I needed to do was direct him to a chart in the textbook.

As I further analyzed student talk and behaviors, it became obvious to me that often the students having the trouble getting started and coming up with ideas were those with Individualized Education Plans or 504 Plans. When I would ask them, "Where would you like to look? In the textbook? Online?" they would look confused. They seemed to have difficulty locating a resource on their own and would ask in a round about way, "Where would you like us to look?" This suggested that these students were usually significantly guided through the learning process and led to the answers. When given the task to learn on their own- in any way they wanted, with no wrong answers- they had trouble coping with this new method.

Reflecting further on my teacher research journal notes, student conversations, focus group discussions, and responses on the Student Interest Surveys, it occurred to me that these students were not used to having the responsibility of learning and researching put on them.

This was further made evident in my focus group meetings. When I asked the students, "How did you feel about having to research and find the material on your own?" One non-classified student named Daniel replied, "Looking it up is better because you can study the words." Another boy named Dave said, "When you look it up (not the teacher) you really know what it means." Subsequently, another student, who was actually classified stated, "It's harder to look on your own for the answer." These focus

group responses strengthened my assumptions that student directed learning is more likely to be accepted by non-classified students than classified students.

On the Student Interest Survey, an EXCELL (the school's academic enrichment program) student named Sean responded to question number four, ("Do you feel you have learned from these methods we have used in Social Studies?") with "Yes, because we get time to look it up ourselves without help." When I glanced at other EXCELL students' responses to the same question, Anne and Joe both wrote, "Yes, I feel I have learned from these methods." This could suggest that students, like EXCELL students who typically learn independently, found this learner-centered design very familiar and preferred learning information on their own.

In fact, one thing that surprised me that truly separated the classified students from the other students' ability to handle student directed learning was the in depth notes the students took and the enthusiasm of their research. On March 10, 2011, I wrote, "Today I walked around the room to facilitate what the students were finding in their research/learning process. One thing I found was that a percentage of the class (classified students/lower achieving students) was using only the textbook and they were copying straight from the text. This was acceptable as long as they were fulfilling the objective, but it seemed limited compared to other students who were on the internet Googling things like where the word government comes from. Today Anne (an EXCELL student) came up to me and asked if she could present what she found to the class. She had interviewed her dad and thought it might be helpful if she shared it. I let her do it. Although she got into how her dad was a democrat and she used vocabulary like

monarchy, she did present valuable information that related directly to the objectives they needed to research. This served as another resource, or model for students.”

Seeing a pattern between classified and non-classified students suggested that student-directed learning may be an easier or more regular process for those not classified. Further research would be beneficial to understanding why ‘typical’ students do well with this kind of learning, but students with special needs do not in this kind of environment.

Student Response to Choice

After days of the students collecting all they needed to know about the government in 4th grade, I opened the floor back up to the class and asked, “So how are you going to show me what you have learned? Instead of me just giving you a test, how can you prove to me you know the material?” I stood at the document camera with a blank sheet of paper projected while the class sat in a circle. This grand discussion was started by the same students who gave the first ideas in the previous class conversation. These were the EXCELL students and others who I noted in my teacher research journal as being “bright, confident, and participated regularly”. Since I noticed this was going on, I said, “I want to hear from those who haven’t given us an idea yet. This is what you will be doing the next week in Social Studies, so you might want to have a say. There are no wrong answers- just things that may not be possible with our resources.” Gradually, others started to raise their hands and offer ideas as well. I wrote down a list of what the students said, “Partners quizzing each other, half written test and half partner test, tests in groups of four, using the responders, going a skit, flashcards, drawing a picture/chart, and use the same worksheet we took notes on but no open book.” It wasn’t until an idea

sparked in one student that the class unanimously decided what they wanted to do to show me what they have learned...

Prior to the study, in order to create an environment of acceptance and appreciation for all of our individual strengths and weaknesses as well as creating a positive classroom community, I administered a multiple intelligence test. This was the Spencer & Miguel Kagan: Multiple Intelligences test taken from Kagan Cooperative Learning (2008). Students each answered questions on the test based on their individual preferences of how they like to do things. For example, number one read, "For recreation you like to...". The possible answer choices were "Read, write, and play board games; play logic games; paint, draw, go to a gallery; play an instrument, sing, listen to music; be active, play sports, dance; garden, attend to pets; be with friends, family, teammates; or spend quality time alone." Based on what the student checked off, they were exhibiting a trait of the following multiple intelligences, respectively: Verbal/Linguistic, Logical/Mathematical, Visual/Spatial, Musical/Rhythmic, Bodily/Kinesthetic, Naturalist, Interpersonal, or Intrapersonal.

After the students took this test, I described what each kind of 'smart' meant and how they are all important and each takes special talent. Then, each student found the one style of learning in which they were dominant so they were aware of how they may think and learn best. I told them that this might be helpful when we begin our Social Studies unit and it is up to them to learn the material.

While collaboratively creating the rubric for how students would show what they've learned, it was this surprising comment that brought the class's ideas together. I documented in my teacher research journal on March 15, 2011:

Anne, an EXCELL student, blurted out, “We can each use our own ‘smart’ to show you!” Other students began bobbing their heads up and down and agreeing.

Dave politely raised his hand and suggested, “Maybe we could pick what smart we want.”

Genna followed, “Yea, we can have options for how we want to show you.”

I wrote, *Choice of ‘Smart’* on the projector.

When reflecting in my teacher research journal later that day I wrote, “The rhythm and balance of the classroom changed here, as students began whispering to each other about what they would want to do. I drew their attention to the front and then called for a vote on which option the students wanted to prove to me that they learned from their research. The vote was unanimous once I reached *Choice of Smart* at the bottom of the list.”

After this grand conversation, the class and I collaboratively came up with a rubric that held the New Jersey Core Curriculum Content Standard requirements and the multiple ways each student may choose to convey what they have learned. First, I placed another blank sheet of paper on the document camera projector. Then, I stated, “Alright. As your 4th grade teacher, I need to know that you know the following four objectives.” I listed on the left side of the page the following objectives which were previously stated and researched by the students: (1) identify what a local government, state government, and federal government is, (2) recognize the importance of the Constitution, (3) list the three branches of government and their roles, and (4) describe how all three branches work together.

Next, the students had to create the choices they wanted. I left the right side of the page blank. I wrote in my teacher research journal how I saw some students take out their multiple intelligence tests- perhaps to remind themselves of what ‘smart’ they are, or to formulate some ideas. I stated, “Let’s hear some thoughts we could do for this choice project.”

Michael raised his hand and suggested, “I am interpersonal smart so we should be able to work with friends.”

I replied, “That is a very good suggestion Michael, but what will you do with your friends to show me what you’ve learned?” I could see him thinking.

“We could present the information in front of the class like a group project.”

Joe’s hand shot up, “We could do a skit!”

Michael agreed, “Yea we can do skits!” I could feel the excitement in both of their voices and expressions. Other voices started to rumble. I thought, ‘This is what collaborating is- feeding off of each other to create something.’

“Okay. Doing a skit can be an option.” I wrote that on the right hand side of the paper. We continued to list the following options: drawing a picture, drawing a chart, sing a song, write an essay, write a poem, write a song, write a letter, write a journal entry, or tell a story.

On March 15, 2011 I wrote in my teacher research journal, “We are calling the rubric a ‘Choice Board’ because the students choose one of the options to express what they know about the government objectives. They are to circle their choice and be crossing out the information they include as they go. Since the students came up with so many choices, we decided to consolidate them into the following: Express what you’ve

learned through Theater, Art, Music, or Writing. For example, ‘Write an essay’ and ‘Write a letter’ could both fall under the same category of ‘Writing’. I like leaving it general like this because there is more room for the students to surprise me and direct their assessment process themselves. However, at the same time, the students’ excitement for starting this Choice Board activity has me a little nervous. They are not used to being given the freedom to work in groups to make skits and draw pictures to show what they know. My cooperating teacher kept mentioning this. After telling her what my idea was for a learner-centered class she exclaimed, ‘You may need to give them more guidelines.’ I am afraid I may need to be coaching a lot more this time”. This rubric allowed each student to choose the way they wish to communicate what they’ve learned.

At the culmination of our class meeting on March 15, 2011, I took a step back and told everyone to reflect on what we came up with on the board. Without my prompting, “One student raised their hand and said, ‘Neatness and grammar count!’ Others ‘yes’d and nodded. This showed me that they really cared and were holding each other accountable for good work.” When I noticed Cara making eye contact with her friends and pointing at others, I realized what she was doing. She raised her hand and asked, “How many can be in a group?” Knowing what my cooperating teacher had said, but knowing that this had to be student led, I hesitantly opened the question up to the class. I got answers from groups of two to groups of seven. Trying to keep their morale high, I said, “We can do groups up to three people. This is because I want to see what each individual knows, and the more presentations, the better!”

A few seconds later, Dan, a classified student, raised his hand to participate! He exclaimed, “You can’t do no stick figures!” I nodded my head in complete agreement, as did others.

Michael shouted out, “And you gotta use markers!”

I replied, “Let’s say, if you choose the Art option it must be in color.” I heard “yeas” and felt the approval of the class to write it on the rubric. Once the various choices of how students could demonstrate their knowledge were finalized and the criteria for assessment were listed, I asked if there were any other comments or concerns. The class was silent. I then told them to choose wisely and we would begin the next day. Since it was projected from the document camera, I typed up and gave each student a printed copy of this Choice Board/rubric the following day. This is shown below:

Choose one. You MUST include all bullets below.



Must Include

- ___ 3 branches of government
- +
- ___ Roles of the 3 branches
- +
- ___ How branches work together
- +
- ___ Describe the difference between local, state, and federal government
- +
- ___ Include the country this government is for!
- =
- 5 total points!

Whichever option you choose must be neat (in writing or with the picture) and have correct grammar. The picture must be labeled, colored, and no stick figures!

At the end of the day on March 15, 2011 I reflected, “The class really came alive today. Everyone collaborated the way everyone fed off of each other’s ideas. I let the class go with it. Whatever option they suggested, such as “Can we do a music video?!”, my reply was, “As long as you can incorporate the required elements from the rubric!”

Through focus group conversations, my teacher research journal, and the student surveys, letting the students have a choice on how they express their knowledge was well received. Question number five on the Student Interest Survey asked, “Do you have any suggestions for what teachers can do to help students learn?” one student answered, “They can do more cool things like Choice Boards”. Another student named Josh answered question number three, (“How have you been taught in Social Studies before”) with “Activities like the Choice Board was the best!” After the study I let students write any further comments or questions on the back. Anne wrote, “You let us choose to do what is right for us.” Joan said, “I like that you let us pick what we want to do.” Another student Danielle wrote, “Dear Miss Spahn, I really like the way you teach social studies. for example we get to pick how we learned the stuff you teach us. Love, Danielle.” Across the board on the Student Interest Surveys, the students enjoyed having a choice on how to be assessed.

In the focus group, it was stated by one student that, “Before we were told what to do in social studies but it is better now because we can pick what we want to do and I feel like that is better for me.” When I asked the students what their favorite thing about school was, five out of the nine participants said, “Doing the choice board”. By the end of the study, students definitely seemed more comfortable having a choice in their learning styles. This stems from their positive comments about having a choice (listed above), to

me having at least two students a day ask me a question along the lines of, “Are we doing Choice Boards today?” or in another subject, “Can we choose which way we give you the answer like in Social Studies?” Also, in focus group when I asked students what they liked about school in general and they say, “Doing choice boards,” that shows me that they prefer being able to choose how they express what they’ve learned.

On March 17, 2011 I reflected on the Social Studies period in my teacher research journal. “While the students were working on their “Choice Boards”, there was excitement in the air. Minds were loud and busy, and conversation was on topic. Students seemed much more enthusiastic about the project and they seemed more inclined to do a good job carefully than to just finish and get it done quickly. When students asked for more time, I allowed it because I could sense how hard they were working- they weren’t wasting the time given. Even Schultz (2003) stated, ‘Listen to how much time they each need’ (p. 34). The students embraced the ability to choose through picking what they knew was right for them and what they would be successful doing.”

Response to Choice by Students with Special Needs

Observing my class through Schultz’s (2003) listening lens, I knew I had to review what went on in the social studies discussion with certain students who had difficulty working independently in the first part of the study. Since I realized some of the classified students needed guidance I checked in with a few of them at recess that afternoon. I transcribed a dialogue from my teacher research journal that I had with two students:

Me: “Hey Jared! So do you know which option you are going to choose for tomorrow’s Choice Board?”

Jared: “Yea the writing one”

Me: “Oh Yea? Neat! Why did you choose that one?”

Jared: “Because it’s the easiest!”

Me: “Okay sounds good to me! Let me know if you have any questions. Good luck!” I felt good that he felt confident about his choice.

Another conversation I had with Dan:

Me: “Hey Dan! So which option are you going to do for the Choice Board?”

Dan: “The picture one”

Me: “Oh I knew it! (Dan was a very good artist) I can’t wait to see it!”

Dan smiles.

In my conversations with students noted in my teacher research journal, focus group discussions, and comments on the Student Interest Surveys, one surprising factor was the positive response regarding the ability to choose from students who were classified. To further understand this phenomenon, I re-examined the Student Interest Surveys completed by students who were classified. One common theme that emerged was their answer to question number two “Do you like Social Studies?” Below are examples of their responses:

Caitlin: “Yes. Because you get to do choice board.”

Wayne: “Yes because we get to act draw or sing about learning about government.”

Sal: “Yes. Because you get a chos what to do.”

Through Katherine Schultz’s (2003) listening lens, I noted in my teacher research journal how the rhythm and balance of the classroom seemed to change throughout the

unit. This was an unexpected and positive surprise. Students who usually had never participated- in any subject- were volunteering to pair up with someone else to do a skit in front of their peers. I wrote in my journal on March 9, 2011 that it seemed to be “the classified students [who] were having trouble getting started and researching”. Then, on March 16, 2011 I noted, “Today Wayne and Joe took the initiative in forming a group for a skit! They got up out of their seats and started talking about who would be in it and what they would do. At first I have to admit I was apprehensive about the two of them working together and doubted what they might come up with, but once they started working I was amazed! They were on task, writing up a skit dialogue, and so focused that I rewarded them by letting their group sit in the hall to work for the rest of the period!”

One particularly special moment I recall was when Dan came in the morning of his birthday and asked, “Miss Spahn, are we doing choice boards today?” My teacher research journal documents that throughout the week there was a unanimous feeling of excitement in the room, including myself. The fact that students who previously had trouble with the learning process were becoming actively engaged in their work whether it was in groups or individual meant something. Some of them who had previously never socialized much or vocalized their opinions were drawing beautiful pictures and working in theater groups with students with whom they rarely interacted.

Student Interest in Social Studies

A third finding was the increase in student interest in social studies from before the study to after the study. On Student Interest Surveys, question number two asked “Do you like social studies? Why or why not?” Below is a chart of the students’ answers:

Do you like social studies?

	Before	After
Yes, I like Social Studies	16	21
Kind of, sometimes I like it and sometimes I do not	5	0
No, I do not like Social Studies	5	5

It seems as though students who were uncertain of whether or not they liked social studies shifted to liking it after the learner-centered unit of study. This could suggest that they like taking more ownership of their learning and having choice or the actual content. Regardless, based on the data analysis, the student interest in social studies was high- 80% of the class liked it compared to 61% before the study.

Through focus group conversation and observation, it was evident that social studies became a favorite part of the day for almost everyone, including myself. One student in focus group claimed, “I like coming to school now when we have choice boards in Social Studies”. All of the students in the focus group that met on March 22, 2011 stated that Social Studies was one of their favorite parts of the day. Joan stated, “I like social studies because we can pick what we want to do and sometimes work with our friends.” This was, in fact, the only subject of the day where students had a say in how they learned material and how they showed they knew it.

Student Beliefs About Their Learning

One of the biggest surprises when analyzing the data emerged from students’ comments on their learning. Not only did student interest in social studies and student choice increase, but data suggests that students felt that they learned more through this

learner-centered design of teaching and learning. On the Student Interest Survey, question number four asked, “Do you feel you have learned from the methods teachers use in social studies?” Below is a chart of their responses before and after the study:

“Do you feel you have learned from the methods teachers use in social studies?”

	Before	After
Yes	20	23
No	6	3

There was a 12% positive increase in the way students felt about their learning. This trend was supported through a triangulation of data. These Student Interest Surveys showed that students felt they learned more both in question number four and on the back where students wrote comments. Anne, “I like how you help teach us social studies so we understand it better.” Genna wrote, “I like when we used the Choice Boards because I learned a lot that way”. Joe wrote on the back of a survey, “I don’t like Social Studies but from what the choice boards and Miss Spahn taught us I learned allot.”

In the focus groups, when I asked students how they felt about directing their learning, changing from the teacher just giving them the information, they responded, “Looking it up yourself is better because you can study the words. When a teacher tells you, you just copy it down and don’t think as much about it. I like it this way cause I feel more responsible.” Another student responded, “When you look it up you really know what it means. ‘Cause you don’t just look at what you’re supposed to look up, sometimes you find other important stuff around it that makes you learn more”. Then a third chimed in, “Yea you remember it better cause you can picture yourself searching for it and you

have to know it cause you can't think the teachers gonna tell you." This showed me that having the students look up the information themselves helps them really learn and know it better.

This was also seen in my observations. I noted in my teacher research journal, "Since students were so engaged and enthusiastic in this study, they wanted to present their work to the class. I chose to 'listen' to my students' excitement about learning and foster that moment by letting them show their peers what they did. When students presented their choice board skits, pictures they made, or essays/letters to the class, they were correct with their statements about the government. The majority of the class included every element of the rubric that they needed and were able to expand on it."

Students were told that when they presented, I would ask questions. To my surprise and pleasure, each student was able to present accurate information about the American government. For example, when Danielle went up to present her drawing, she displayed the three branches of government and said what they were. I asked her, "Could you tell us what their roles are?" She responded, "The executive is like the ring leader of a circus (she was referring to a video she watched to research this material that used a three ring circus as a metaphor for the three branches of government). This is where the president is. The legislative makes the laws and the judicial is the courts. They all work together by balancing each other so no one is stronger than the others." She was completely right and answered more than I had asked.

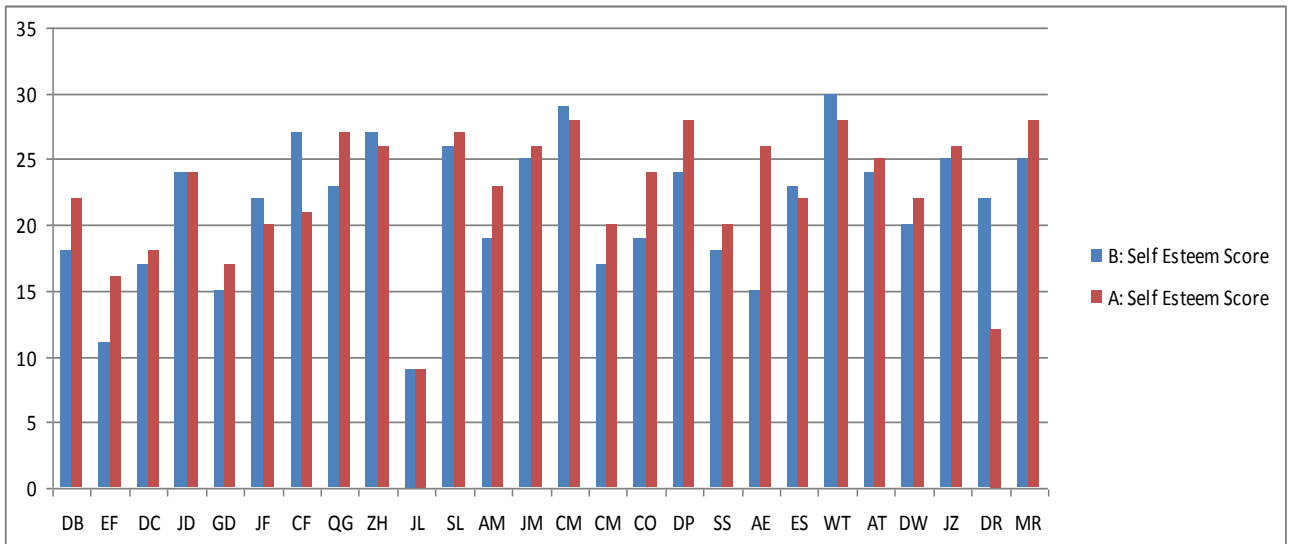
While I graded the student on their presentations and looked over what their work, students received either 5/5 or 4/5 on their rubrics. No one received a lower grade.

Even students with special needs were recalling and conversing about what they had learned.

Student Change in Self Esteem Linked to Learning

In addition to the Student Interest Surveys I administered and the focus group questions, I gave a pre and post study Rosenberg Self Esteem Scale (1965). This was to see if having the students learn in their own way and express what they've learned through their learning styles had any effect on the way they felt about themselves. Below is a chart of the student's scores before and after the study. The higher the number, the higher the self esteem.

**Student Self Esteem Before and After Learner-Centered Study
According to Rosenberg's Self Esteem Scale**



More often than not, there was an increase from pre study to post study in self-esteem scores using the Rosenberg Self Esteem Scale. Seventeen out of twenty six, or 65% of the students showed an increase in self esteem on paper. In fact, even students with special

needs showed an increase in their self esteem score when related to learning. These are DC, JL, CM, SS, WT, and DW.

When I spoke to students in the focus group after the study about how they feel about themselves as learners when it came to Social Studies, I received the following comments:

Michael: “Social Studies was easier to me because I could learn the material the way I wanted to.”

Caitlin: “I felt good about myself.” I later commented in my teacher research journal on March 22, 2011 that, “It was elating to hear Caitlin say this. She is a classified student who always gets down on herself while she tries so hard.”

Aiden: “When we could choose I felt like a better student”. This was very surprising to hear from a student who usually doesn’t show emotion about anything related to school.

This could suggest that when students direct the way they learn material in school and they have a choice in how to convey what they learned, self esteem can be affected in a positive way. The data implies that perhaps students feel better about themselves and their learning when they are free to use their learning style.

General Conclusions

Overall, introducing this learner-centered unit of study in social studies in a 4th grade class resulted in many interesting findings. The study first suggested that students who are not classified are more likely to be successful directing their learning. It also suggested that classified students are more likely to have trouble with student directed learning than typical students; however, once students (classified and ‘typical’ students)

reflected on their learning process, they realized that when they directed their own learning, the material and the process becomes much more meaningful to them.

Second, giving students a choice of learning styles to demonstrate what they've learned had a positive effect on each student as well as on the rhythm and balance of the classroom. This held especially true for students with special needs. Students who typically had not socialized much or participated often were speaking up and taking initiative to form groups or present in front of their peers. All students enjoyed having the ability to choose how to show what they learned.

Third, findings also suggest that student interest in social studies increased because of the way they were able to explore and present the information they learned. Students began to claim that social studies was their favorite part of the school day.

Finally, students displayed positive beliefs about their learning. They felt that they learned more in social studies using this style of learning; their grades were reflective of this. In fact, student self-esteem increased for the most part when being free to use their learning style in a classroom.

The following chapter discusses the conclusions and implications of this study as well as its limitations. It also suggests recommendations for future research in the field.

Chapter V

Conclusions and Implications

Introduction

This study analyzed the effects that implementing elements of a learner-centered classroom could have on a 4th grade class during social studies. The elements implemented were students self-directing their learning and students being able to choose the way in which they were assessed. This chapter focuses on the summary of the findings, conclusions about this research, limitations for this study, and implications for the field and further research.

Summary of Findings

As I discussed in Chapter Four, implementing elements of a learner-centered design had some interesting effects on the 4th graders in this study. First, there was a mixed student response to the student-directed learning process. When given the opportunity to research and explore a topic in social studies on their own (with four objectives as guidelines), the class seemed split in their success and enjoyment of this activity. Students who were typically high academic achievers responded positively to the self-directed learning. They believed it helped them understand the material better and they liked being able to do it on their own. However, the students who had trouble with this independent work ended up being those students who were academically lower achieving. In fact, these students had Individualized Education Plans and 504s.

Next, after the students led their learning process, they had to prove to me that they knew the material. This assessment tool was created by the students with little guidance and prompting from me. The rubric we came up with stated that each student

needed to demonstrate, through music, art, theater, or writing the five objectives they learned. The class had a choice on how to express their new gained knowledge. Student response to this was positive and exciting. Not only did the rhythm and balance of the classroom change, but those students with IEPs and 504s were embracing the fact that they could use their other talents to show what they know. This suggested positive student responses when students have a choice in the classroom.

Another interesting finding was students' interest in social studies. I analyzed the student interest surveys and, in terms of numbers, student interest in social studies increased after the study. Student comments in focus groups and conversations also confirmed this idea. It could have increased because of the subject matter, the way they learned the material, or both. Regardless, an increase in student interest in social studies was evident.

Finally, at the culmination of this study, students reflected as having positive feelings about their learning. They felt they learned a great deal about the United States government and that they did a good job doing it. This suggests that perhaps the way the students learned the material and the way in which they could choose to express what they had learned had them feeling accomplished. To measure students' feelings about themselves when linked to learning, I administered the Rosenberg Self Esteem Scale (1965) before and after the study and told the students to answer the questions thinking about themselves as learners in social studies. There was an increase in self esteem scores for 65% of the class. This suggests that the learner-centered unit brought about positive feelings within most individuals about themselves and their learning

Conclusions

Based on my findings and the research that already exists in the field, some conclusions can be made about learner-centered designs. Many of my findings overlapped with those already existing. Like in my classroom, one study found self-instruction pedagogy significant because it explained how students' use of various self-instruction strategies "increased their control of... their ability to learn" (Mithaug, Mithaug, Agran, Martin, Wehmeyer, 2007, p. 8). In fact, independent study is regarded as the highest level of learning because it connects interest and readiness level of the individual student to critical thinking skills (Betts, 2004). This was reflected in my classroom as well when students on different readiness levels were all able to learn the material in their own way.

Regarding student choice, using independent study to foster choice opportunity is a way to also foster differentiation for different learning styles (Powers, 2008). This held true when the students in my classroom developed the choice board as their assessment rubric. The class collaborated and compromised by providing options for each learning style. Overall there was a very positive response. Students liked being able to choose how to demonstrate what they learned. From implementing a learner-centered study, Campbell (1991) discovered that the students increased responsibility, self-direction, independence, and academic achievement. In fact, students who had previously performed poorly in school became high achievers in new areas. Interestingly enough, students who typically performed poorly academically in my class started getting excited about having a choice in their learning.

Powers' (2008) research also concluded that independent study is essential for students who are bright but refuse to accept traditional ways of learning. This was especially true in my classroom when the students who thoroughly enjoyed directing their own learning ended up being those who were part of the academic enrichment program. Students who did not typically do well in school had a bit more trouble with independent study.

As I reflect on the research I have done that is already in the field and on what I did in my classroom, there were a lot of overlapping themes and findings. Perhaps even more research should be done to explore possible positive effects that a learner-centered classroom can have on students' learning and feelings about themselves as learners. Frankly, these two aspects are probably the most important for young developing minds.

Limitations

As I conducted my study, I encountered several limitations that could have hindered the process and/or outcomes. The first limitation I encountered was a lack of time. Between waiting for the Internal Review Board to approve of this thesis and switching to my special education student teaching placement, there was not as much time as I would have liked to complete the study. With more time, I could have collected more data and perhaps even conducted another unit of study in social studies to confirm data.

Another significant limitation was the fact that this was not my classroom. I was a student teacher in this 4th grade inclusion classroom from January 18, 2011 to March 25, 2011. This presents a problem because the learner-centered design is one that, when truly implemented, begins at the beginning of the year. Also, Katherine Schultz's (2003)

listening framework is meant to work best when there is a consistent relationship between a teacher and her students. Unfortunately, since I was only present for a few months, it is possible that student-teacher relationships and understandings were not as strong as that of a full time teacher-student relationship were not as likely to open up to me as they would if I were their full time teacher.

Implications for the Field

Using the research I have done in this study, it is my hope that teachers and educational professionals will take a closer look at what it means to be learner-centered. Not only does it mean preparing our students to be self-sufficient, independent, and liberated in their thinking, but it means taking a traditional teacher and curriculum driven classroom and turning it into accepting and listening to students in their full humanity. In fact, Katherine Schultz (2003) explains, “Listening to know particular students suggests noticing the humanness of every child and their capacity to be creators, builders, and actors in their education and their lives.” (p.35) Children have the ability to make choices and create or inquire to enrich curriculum.

As seen in my study, children respond positively when given the opportunity to make decisions about their learning. A possible argument here might be that giving students the power to make decisions in the classroom will take away valuable time needed for mandatory curriculum study. However, like I did in my study, teachers can pick important benchmark objectives that students need to know and communicate this to their students. Then, once everyone is on the same page about what they need to know, students can begin exploring, researching, and talking about the topic. Another area of debate may be teachers’ uncertainty of giving children the independence to learn the

material on their own and make decisions. I believe that in order to avoid miscommunications and to build trust in one's students, expectations need to be set high in the beginning of the year and kept consistent. This way, students know that their best work is expected of them, even when the teacher is not walking them through the lesson and making decisions for them.

From looking at Chapter 2's statement of what research in the field has already said, and from looking at my study, teachers can construct their learner-centered classrooms. When teachers are willing to take a step back from the lecturing role and see what the students have to offer, who knows the magic that may unfold. Nothing bad can come from teaching that fosters independence and pride in one's talents and individuality. This is the right way to prepare our students for the challenges they will face in their community and world one day.

Suggestions for Further Research

The conclusions I have drawn from this study suggested a number of new findings for the field of education. Not only did implementing elements of a learner-centered classroom draw positive responses from my students, but it seems to show the same outcome in other researchers' findings. I strongly feel that learner-centered classrooms need further examination and exploration. Having students take more of an ownership of their learning could be a very powerful move for the field of education.

Due to the limitations of this study, it would be beneficial to the field if someone were to implement a learner-centered design in full working mode in their classroom. This means starting at the beginning of the year and forming meaningful relationships with students through the Schultz's (2003) listening framework. It also means developing

a classroom environment where all students feel supported, accepted, and free to make mistakes. These are only a few suggestions for how to set up a classroom that promotes independence and individuality. Once this classroom is set, it would be helpful to investigate the effects it has on students' learning, feelings about themselves as learners, and feelings about the subject.

Another element of the learner-centered design that was not focused on in this study is bringing students ethnicity, race, culture, and home lives into the classroom. This study focused on accepting each other's unique learning styles to strengthen each individual learner before taking on the learner-centered design. Bringing other important back ground information into the center of the classroom may provide more support for each individual. Future research should take this into consideration when respecting each learner in their full humanity.

Closing Thoughts

Allowing students to take the reins on their learning experience can be a powerful occurrence and may even change the way we think about the system of education itself. It was a pleasurable experience to watch what happened when students are given the opportunity to direct their learning and make decisions for how they want to be assessed. I strongly believe that more research needs to be done in the field on learner-centered classrooms, especially since it produces positive student responses.

References

- American Psychological Association. (1990) *Learner-centered psychological principles: guidelines for school redesign and reform*.
- Armstrong, T. (1993). *7 Kinds of smart*. New York, New York : A Plume Book.
- Barab, S. A., Hay, K., & Duffy, T. (2000). *Rescuing Rocky*.
- Betts, G. (2004). Fostering autonomous learners through levels of differentiation. *Roeper Review*, 26, 190-191.
- Brooks and Brooks (1993). *In search of understanding: The case for constructivist classrooms*. Association for Supervision and Curriculum Development, 143.
- Brush, T., Saye, J. (2000). Implementation and evaluation of a student-centered learning unit: A case study. *Educational Technology Research and Development*, 48, (3), 79-100.
- Campbell, B. (1991). Multiple intelligences in the classroom. The learning revolution. Retrieved from <http://www.context.org/ICLIB/IC27/Campbell.htm>.
- Cochran-Smith, M. & Lytle, S. (2004). *Practitioner Inquiry, Knowledge, and University Culture*. Amsterdam: Kluwer Academic Publishers.
- Cochran-Smith, M. & Lytle, S. (2009). *Inquiry as a stance: Practitioner research for the next generation*. New York; Teachers College Press.
- Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: A meta-analysis. *Review of Educational Research*. 77, (1), 113-143.
- Dickinson, L. (1987). *Self-instruction in language learning*. Cambridge: Cambridge University Press.
- Doran, T. (2004). A case study of three high achieving urban fringe high schools: factors and structures that lead to high achievement. (Doctoral dissertation). (3158759).
- Gardner's Theory of Multiple Intelligences (1993).
- Gardner, H. (1999) *Intelligence reframed: Multiple intelligences for the 21st century*, New York: Basic Books.
- Gardner, H. (2006). *Changing minds: The art and science of changing our own and other people's minds*. Boston, Massachusetts: Harvard Business School Press.

- Goleman, D. (2004). *Building academic success on social and emotional learning: What does the research say?* New York: Teachers College Press.
- Grigorenko, E. & Sternberg, R. (1997). Styles of thinking, abilities, and academic performance. *Exceptional Children*, 63, 295-312.
- Haley, M. H. (2001). Understanding learner-centered instruction from the perspective of multiple intelligences. *Foreign Language Annals*. 34, (4), 355-367.
- Holzinger, A. (1997). Computer aided mathematics instruction with mathematica 3.0. *Mathematica in Education and Research*, 6 (4), 37-40.
- Jenkins, J.M. & Keefe, J.W. (2002). Two schools: Two approaches to personalized learning. *Phi Delta Kappan*. 83(6) 449-456.
- Land, G. & Jarman, B. (1992). *Break Point and Beyond*. New York, NY: Harper-Collins Publishers, Inc.
- McCarthy, B. (1980). *The 4MAT System*.
- McCombs, B. & Whisler, J. S. (1997). *The learner-centered classroom and school: Strategies for increasing student motivation and achievement*. San Francisco: Jossey-Bass Publishers.
- McCombs, B. & Lambert, N. (1998). *How students learn: Reforming schools through learner-centered education*. Washington D.C.: American Psychological Association.
- Mithaug, D. & Mithaug, D. K. (2003). Effects of teacher-directed versus student-directed instruction on self-management of young children with disabilities. *Journal of Applied Behavior Analysis*, 36, (1), 133–136.
- Mithaug, D., Mithaug, D., Agran, M., Martin, J., & Wehmeyer, M. (2003). *Self-determined learning theory: Construction, verification, and evaluation*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Mithaug, D., Mithaug, D., Agran, M., Martin, J., & Wehmeyer, M. (2007). *Self-instruction pedagogy: How to teach self-determined learning*. Springfield, Illinois: Charles C. Thomas Publisher.
- Miles, M. B., & Huberman, A. M. (1984). *Qualitative data analysis: A source book of new methods*. Beverly Hills, CA: Sage.
- Pederson, S. & Lui, M. (2003). An evaluation of the use of problem-based learning software by middle school students. *Journal of Universal Computer Science*, 4, (4), 466-483.

- Pitrik, R. & Holzinger, A. (2002). Student-centered teaching meets new media: Concept and case study. *Educational Technology and Society*, 5, (4), 160-172.
- Powers, E. (2008). The use of independent study: As a viable differentiation technique for gifted learners in the regular classroom. *Gifted Child Today*, 31, (3), 57-65.
- Rogers, Carl. (1983). *Freedom to learn: For the 1980's*. Columbus, Ohio: Charles E. Merrill Publishing Company.
- Saxe, G. (1990). *Culture and cognitive development: Studies in mathematical understanding*. Hillsdale, NJ: Erlbaum.
- Schultz, K. (2003). *Listening: A framework for teaching across differences*. New York; Teachers College Press.
- Smith, M. K. (2001). Peter Senge and the learning organization. *The Encyclopedia of Informal Education*. www.infed.org/thinkers/senge.htm
- Sternberg, R., Torff, B., & Grigorenko, E. (1998). Teaching triarchically improves student achievement. *Journal of Educational Psychology*, 90, 374-384.
- Tomlinson, C., Brighton, H., Callahan, C., Moon, T., Reynolds, T., Hertberg, H., Brimijoin, K.; C., Lynda A. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27, (2-3), 119-145.
- United States Census Bureau. (2010).
- Wolcott, H. F. (1994). *Transforming qualitative data: Description, analysis, and interpretation*. Thousand Oaks, CA: Sage.

Appendix A: Learner-Centered Principles

Learner Centered Psychological Principles: Guidelines for School Redesign and Reform

1. Nature of the learning process- The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience.
2. Goals of the learning process- The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.
3. Construction of knowledge- The successful learner can link new information with existing knowledge in meaningful ways.
4. Strategic thinking- The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.
5. Thinking about thinking- Higher order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.
6. Context of learning- Learning is influenced by environmental factors, including culture, technology, and instructional practices.
7. Motivational and emotional influences on learning- What and how much is learned is influenced by the motivation. Motivation to learn, in turn, is influenced by the individual's emotional states, beliefs, interests and goals, and habits of thinking.
8. Intrinsic motivation to learn- The learner's creativity, higher order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.
9. Effects of motivation on effort- Acquisition of complex knowledge and skills requires extended learner effort and guided practice. Without learners' motivation to learn, the willingness to exert this effort is unlikely without coercion.
10. Developmental influences on learning- As individuals develop, there are different opportunities and constraints for learning.
11. Social influences on learning- Learning is influenced by social interactions, interpersonal relations, and communication with others.
12. Individual differences in learning- Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity.
13. Learning and diversity- Learning is most effective when differences in learners' linguistic, cultural, and social backgrounds are taken into account.
14. Standards and assessment- Setting appropriately high and challenging standards and assessing the learner as well as learning progress -- including diagnostic, process, and outcome assessment -- are integral parts of the learning process (APA, 1993).

Appendix B: Participation Letter

Erial Elementary School
20 Essex Avenue
Sicklerville, NJ 08081

January 20, 2011

Office of Research
Rowan University
201 Mullica Hill Road
Glassboro, New Jersey 08028

To Whom It May Concern:

On behalf of the staff at Erial Elementary School, I grant Caley Spahn permission to conduct her master's thesis research project (in Mrs. Kiefer's fourth grade classroom). The project will consist of a learner-centered unit. The objective is to see what happens when students direct their learning through choices of learning styles. This will give students room to think divergently and become more cognizant of their individual abilities.

Ethical and confidentiality procedures will be closely followed during the implementation of the study, the collection of data, and the final summary of results. Consent forms will be sent home to parents/guardians. A final summary of the study's results will be available to all interested persons at the conclusion.

Feel free to contact me with any questions or concerns at 856-555-5555.

Sincerely,

Timothy Trow, Principal

Appendix C: Objectives Worksheet

Identify what a local government, state government, and federal government is.

What is the importance of the Constitution?

List the three branches of government and their roles.

Describe how all three branches of government work together.

Name: _____ # _____

Choose one. You MUST include all bullets below. Use your text book and notes for help.



Must Include

- ___ 3 branches of government
- +
- ___ Roles of the 3 branches
- +
- ___ How branches work together
- +
- ___ Describe the difference between local, state, and federal government
- +
- ___ Include the country this government is for!
- =
- 5 total points!

Whichever option you choose must be neat (in writing or with the picture) and have correct grammar. The picture must be labeled, colored, and no stick figures!

Appendix E: Multiple Intelligence Test

Testing and Assessment of MI
Chapter 18 The MIT and The Facet Tests

The MIT Multiple Intelligences Test

Multiple Intelligences Test	Verbal/Linguistic	Logical/Mathematical	Visual/Spatial	Musical/Rhythmic	Body/Kinesthetic	Naturalist	Interpersonal	Intrapersonal
1 For recreation, you like to...	<input type="checkbox"/> Read, write, play word games	<input type="checkbox"/> Play logic games	<input type="checkbox"/> Paint, draw, go to a gallery	<input type="checkbox"/> Play an instrument, sing, listen to music	<input type="checkbox"/> Be active, play sports, dance	<input type="checkbox"/> Garden, attend to pets	<input type="checkbox"/> Be with friends, family, teammates	<input type="checkbox"/> Spend quality alone time
2 To pre-mortize facts, you...	<input type="checkbox"/> Create a phrase or saying	<input type="checkbox"/> Make a logical sequence	<input type="checkbox"/> Visualize the answer or draw it	<input type="checkbox"/> Create a rhyme or song	<input type="checkbox"/> Associate them with a gesture or movement	<input type="checkbox"/> Use nature analogies	<input type="checkbox"/> Work with a partner	<input type="checkbox"/> Relate the fact to personal experience
3 If something breaks or won't work, you...	<input type="checkbox"/> Read the instruction book	<input type="checkbox"/> Examine the pieces to figure how it works	<input type="checkbox"/> Study the diagram	<input type="checkbox"/> Snap, tap your fingers, hum, or whistle while trying to fix it	<input type="checkbox"/> Tinker with the parts	<input type="checkbox"/> Examine the parts carefully	<input type="checkbox"/> Work with someone to fix it	<input type="checkbox"/> Weigh if it's worth fixing, fix it yourself
4 For a team presentation, you...	<input type="checkbox"/> Write the lines	<input type="checkbox"/> Analyze the data, present the statistics	<input type="checkbox"/> Create the visual aids	<input type="checkbox"/> Put words to a tune	<input type="checkbox"/> Create movement, action	<input type="checkbox"/> Choose a nature topic	<input type="checkbox"/> Lead the presentation, coordinate efforts	<input type="checkbox"/> Work alone on your part
5 In conflict, you...	<input type="checkbox"/> Use a clever saying to make your point	<input type="checkbox"/> Devise a winning strategy	<input type="checkbox"/> Picture a solution	<input type="checkbox"/> Look for a "harmonic" solution	<input type="checkbox"/> Move, gesture	<input type="checkbox"/> Study relations among parts	<input type="checkbox"/> Mediate, look for amicable solution	<input type="checkbox"/> Get away from others
6 To make the next board game move, you...	<input type="checkbox"/> Talk yourself through the move	<input type="checkbox"/> Weigh the consequences of each move	<input type="checkbox"/> Visualize what the next move will look like	<input type="checkbox"/> Keep with the rhythm of the game	<input type="checkbox"/> "Try out" a number of moves	<input type="checkbox"/> Think in terms of predator and prey	<input type="checkbox"/> Analyze motives of others	<input type="checkbox"/> Make the move that feels right
7 You like games if you can...	<input type="checkbox"/> Talk, use your linguistic skills	<input type="checkbox"/> Use math, analyze the possibilities	<input type="checkbox"/> Picture the moves, draw	<input type="checkbox"/> Have music playing	<input type="checkbox"/> Be active, use fine motor skills	<input type="checkbox"/> Play outside	<input type="checkbox"/> Play with others	<input type="checkbox"/> Play solitaire, decide your moves alone
8 To add to your portfolio, you...	<input type="checkbox"/> Write an essay	<input type="checkbox"/> Include math, logic	<input type="checkbox"/> Create a picture or graphic organizer	<input type="checkbox"/> Write or record a song or tune	<input type="checkbox"/> Act on a video, or perform	<input type="checkbox"/> Work with plants or animals	<input type="checkbox"/> Perform with others	<input type="checkbox"/> Write a private journal or evaluation
9 For a present, you like a...	<input type="checkbox"/> A book or magazine	<input type="checkbox"/> Logic games, logic puzzles	<input type="checkbox"/> Art, art supplies, jigsaw puzzle	<input type="checkbox"/> Music, concert tickets	<input type="checkbox"/> Sports equipment	<input type="checkbox"/> A pet, flowers, outdoor gear	<input type="checkbox"/> Big party	<input type="checkbox"/> Journal or diary
10 During free time, you like to...	<input type="checkbox"/> Read or write	<input type="checkbox"/> Solve problems	<input type="checkbox"/> Draw, paint, make models	<input type="checkbox"/> Listen to music, play music, sing	<input type="checkbox"/> Work with your hands	<input type="checkbox"/> Enjoy nature	<input type="checkbox"/> Spend time with friends, socialize	<input type="checkbox"/> Be alone
Top Right (✓) SCORE 1: Forced-Choice The Most True/Alternative		1		3	3		2	
Bottom Left (✓) SCORE 2: Free-Choice All True/Alternatives	3	3	2	5	1	5	7	8

Spencer & Miguel Kagan: Multiple Intelligences
Kagan Cooperative Learning • 1 (800) WEE CO-OP

18.3

DMS

Appendix G: Self Esteem Scale

Name: _____

Instructions: Below is a list of statements dealing with how you feel about yourself when it comes to Social Studies. Circle the answer which best fits

SA = Strongly Agree

A = Agree

D = Disagree

SD = Strongly Disagree

1. I am satisfied with myself. SA -A -D -SD

2.* At times, I think I am no good at all. SA -A -D -SD

3. I feel that I have a number of good qualities. SA -A -D -SD

4. I am able to do things as well as most other people.
SA -A -D -SD

5. * I feel I do not have much to be proud of. SA -A -D -SD

6. * I certainly feel useless at times. SA -A -D -SD

7. I feel that I'm a person of worth, at least on an equal plane with others.
SA -A -D -SD

8. * I wish I could have more respect for myself. SA -A -D -SD
9. * All in all, I feel that I am a failure. SA -A -D -SD
10. I take a positive attitude toward myself. SA -A -D -SD

Scoring: SA=3, A=2, D=1, SD=0. Items with an asterisk are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items. The higher the score, the higher the self-esteem. Scores below 15 suggest low self-esteem.

Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Appendix H

Student Focus Group Guide

- A focus group will be called together once a week for the researcher to hear real opinions, questions, and concerns the students may have about the student-directed unit of study.
- This will be a heterogeneous group of students of different learning styles, abilities, race, genders, interests, etc.
- The researcher will ask about how students feel while they're working and whether their interest in the subject increases or decreases.
- The researcher will also ask how they feel about doing the learning on their own.