Student-Centered Versus Teacher-Centered Teaching Styles in High Poverty and Low Poverty Schools and Their Impact on Language Arts and Math MCT2 Scores

Hollie Moore Parker
University of Southern Mississippi

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STUDENT-CENTERED VERSUS TEACHER-CENTERED TEACHING STYLES IN HIGH POVERTY AND LOW POVERTY SCHOOLS AND THEIR IMPACT ON LANGUAGE ARTS AND MATH MCT2 SCORES

by

Hollie Moore Parker

Abstract of a Dissertation Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

December 2011
ABSTRACT

STUDENT-CENTERED VERSUS TEACHER-CENTERED TEACHING STYLES IN HIGH POVERTY AND LOW POVERTY SCHOOLS AND THEIR IMPACT ON LANGUAGE ARTS AND MATH MCT2 SCORES

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Because No child Left Behind Act (NCLB) of 2001, ensures that all students reach a specified minimum standard of academic success, teaching styles tend to be scrutinized by school leaders constantly. This research included Math and Language Art teachers from 4th, 5th, and 6th grades. This meditational study examined whether or not teaching styles mediates the relationship between on academic achievement based on Socio-Economic and School Accountability Status. Using Principals of Adult Learning Scale (PALS) respondent data was analyzed via Mediation.

The Principal dissertation research questions addressed in this study were: a) Do students score higher on Language Arts Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level? There were no statistical significance found in this sample (β =.056, p=.533). b) Do students score higher on Math Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic and school level? There were no statistical significance found in this sample (β =-.047, p=.649).
The University of Southern Mississippi

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Hollie Moore Parker

A Dissertation
Submitted to the Graduate School of The University of Southern Mississippi in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

Approved:

__________________________________________
Director

Dr. Thelma Roberson

Dr. Richard Mohn

Dr. Kyna Shelley

Dr. Rose McNeese

Dr. David Lee

Susan A. Siltanen
Dean of the Graduate School

December 2011
DEDICATION

This work is dedicated to my mother, Susan P. Moore, for instilling in me a drive for excellence, a thirst for knowledge, and spirit of determination, my father, Samuel C. Moore, for always being compassionate and dependable; to my husband, Chris, for allowing me the time and having the patience to complete this project; and a special appreciation to my children John-Thaxton and Julia Elaine for completing me by giving me hope and happiness. I also would like to thank my entire family for seeing me through. I love you all.
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CHAPTER I

INTRODUCTION

The No Child Left Behind Act (NCLB) of 2001 requires public school leaders to scrutinize teaching styles and ensure that all students reach a specified minimum standard of academic success (Simpson, LaCava, & Graner, 2004). This level of accountability challenges administrators and teachers to implement effective teaching styles in every classroom. (DeCastro-Ambroseti & Cho, 2005). The challenges posed by NCLB have left many administrators and teachers searching for insights into achievement patterns and demographic factors that affect student achievement. Because of this challenge, many teachers may need to alter their teaching styles in order to develop instructional approaches that effectively meet the needs of all students (Bracey, 2004a; Dirkx, 2006).

Teacher characteristics, such as age, years of experience, degrees, and professional membership may influence student achievement. However, Rice and Taylor (2000) suggest that the techniques, styles of teaching, and strategies teachers use with their students determine academic success. Such studies have led to an understanding that teaching styles greatly influence student achievement (Jarvis, 2002).

There is disagreement among some researchers of what constitutes good teachers. One, such as Borich (2000), consider that good teachers must be good role models in their community. In addition, some value that thorough knowledge of the content or subject matter is enough to be an effective teacher who can
lead students to succeed academically; however, others realize that simply caring for students is enough (Borich, 2000). Although all of these attributes are important for teachers to be effective, teachers should also be able to evaluate and understand their students’ socioeconomic status, academic needs, learning styles, and ethnic background. Understanding these student attributes helps teachers accurately develop a teaching style that is most effective for the academic success of students (Burden & Byrd, 1994).

Because choosing the most appropriate teaching style for all students is vital, teachers must understand the differences of the teaching style and how it affects each individual student (Gardner, 1983). Some teachers report that student-centered learning, such as, cooperative learning, investigative learning, and problem-based learning enhance student involvement and increase student achievement. These teachers believe that student-centered learning promotes opportunities for students to work in partnerships to learn faster and more efficiently, to have greater retention, and to have a better attitude about learning (Dickinson, 1994).

However, other teachers consider a traditional instructional style to create a more teacher-centered classroom in which students are taught through strategies such as lectures and direct instruction. Such teachers acknowledge that this style of instruction allows them to determine each student’s academic success by evaluating the students’ independently produced, written work and/or engagement in verbal conversations and/or discussions about the content (Hargis, 2001; Tsai, 2000). This style of instruction enables the teacher to
determine if each student comprehends the skills being taught (McCarthy & Anderson, 2000).

Howard Gardner (1983) identified multiple learning intelligences. These intelligences indicate that students learn differently, and teachers can individualize learning instruction (Gardner, 1983). Gardner asserts that student needs are best met when instruction is specific to the individual learner and the teacher must become a learning partner in the students’ academic achievement. In other words, the key to successful academic achievement rests within the classroom, with the teacher (Gardner, 1983).

Gardner’s life work, identification of learning styles, has been highly valued by teachers because it enabled them to create instruction based directly on the students’ needs. Having knowledge of multiple intelligences and different learning styles have helped a significant number of educators to question their work and to encourage teachers to look beyond the narrow confines of the dominant discourses of skilling, curriculum, and testing (Gardner, 1991).

According to Grossman (1991), teachers’ teaching styles are one of the most valuable components in the educational system. Gardner (1983), states that a teacher’s teaching style is important because of the impact that it makes not only on academic success, but also in motivating students to learn. It is therefore, necessary for teachers to implement researched-based strategies according to the learning style of the students in their classroom that focus on successful academic performance (Gardner, 1983). Hence Gardner’s theory of motivating students through research-based teaching styles must be aligned with
the students' learning style. Grossman (1991) also cites that the socio-economic status of the students may also drive an even more specific diverse method of instruction and may further alter the teaching style.

Statement of the Problem

The No Child Left Behind Act of 2001 requires states to rank their schools according to indicators of academic performance. This federal initiative was originally designed to improve language arts and math scores by implementing an accountability method that was specific to outcomes such as statewide tests, graduation rates, and attendance. Adequate Yearly Progress (AYP), a requirement of NCLB, is measured by achievement levels of all children including minorities, special education students, and students from low income households, hence the concept, “No Child Left Behind.” These benchmarks, or achievement levels, are determined by individual states (MDE, 2007).

The state of Mississippi complies with NCLB and mandates that each school be evaluated annually. The goal is for every student in every school to demonstrate satisfactory achievement (MDE, 2007). The high stakes nature of these state and federal laws puts tremendous pressure on the teachers and school leaders who are responsible for delivering the curriculum to students and monitoring student success (Leblanc & Lacey, 2009).

Because the initial focus of NCLB was on student achievement in reading, writing and math skills, these content areas have come under greater scrutiny. Subsequently, mandates from the state of Mississippi Department of Education charged teachers with ensuring the adequate performance of their students in
these areas and placed responsibility of all students’ academic success with the teacher. Not only were standards given for school districts, but standards were mandated for teacher instruction; the one size fits all teaching method was no longer considered the most appropriate for all students (Leblanc & Lacey, 2009). Teachers need to understand that the style in which they present the curriculum material, not only influences what an individual child comprehends, but also the academic level of the entire school (Schargel, 2009).

According to Palincsar and Klenk (1992), the variety of teaching styles that teachers implement in their classrooms can be crucial for student learning depending on their students’ socio-economic status. The school environment for low socio-economic students is fundamentally different from the environment at home. In most schools, uniformity dominates the classroom and there is typically little regard for diversity. In most low-income homes, the families do not structure the daily chores of life; however, found in many middle class homes, families work together to structure the daily chores of life (Payne, 2001). Because of these differences (Payne, 2001), Palincscar and Klenk (1992) discovered that students from a less structured home environment become more successful academically in a more structured classroom environment, which includes a more structured teaching style.

The importance of this study is to help school leaders understand which, if any, teaching style (student-centered or teacher-centered) can be the most appropriate style of instruction based on a school’s socio-economic status and the school’s accountability level ranking. This study can lead to a greater
understanding of which teaching style a teacher should implement depending on the unique needs of his or her students, which in turn can lead to greater academic gains for all students.

Purpose

The purpose of this study is to determine which teaching style, student-centered or teacher-centered, is most effective for students from different socio-economic levels and for schools with different accountability levels in the state of Mississippi. This study will not conclude which teaching style is better overall; however, it will seek to determine which teaching style is appropriate for the given school and the socio-economic status of the student body. This study will provide information for school leaders who may wish to extend staff development training on specific teaching styles based on the needs of their students’ academic performance and socio-economic status.

Research Questions

1. Do students score higher on Language Arts Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status?
2. Do students score higher on Math Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status?

Hypotheses

1. Teaching styles mediate the relationship between socio-economic status and MCT2 Language Arts scores.
2. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Language Arts scores.
3. Teaching styles mediate the relationship between socio-economic status and MCT2 Math scores.

4. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Math scores.

Delimitations

The study will be delimited in the following ways:

1. Participants will include only fourth grade, fifth grade, and sixth grade teachers teaching Math and/or Language Arts from selected public school districts in Mississippi.

2. Accountability Levels of school districts will be delimited to reported accreditation levels for the 2009-2010 school year.

3. Socio-economic status of each school will be determined by the reported percentage of students eligible to receive free or reduced lunches during the 2009-2010 school year.

4. Teaching style will be determined by a single measurement, i.e., a total score on a modified version of the Principals of Adult Learning Scale (PALS).

5. MCT2 test scores in Language Arts and Math will be limited to 2009-2010 class scale scores provided by participating school districts for each teacher in the study.

Assumptions

The assumptions for study are as follows:
1. The Principles of Adult Learning Scale (PALS) research questionnaire as modified is acceptable for measuring teaching style.

2. The teachers in this study will respond to the Principles of Adult Learning Scale (PALS) and the demographic questionnaires truthful and accurately.

3. The school districts in this study will accurately report the each teacher's class scale score from the 2009-2010, Mississippi Curriculum Tests 2 (MCT2) in Math and/or Language Arts.

4. The data provided by the Mississippi State Department of Education is accurate and complete.

5. MCT2 are accurate measures of student achievement in Language Arts and Math.

Definitions

*Annual Yearly Progress (AYP)* - is a measure of year-to-year student achievement on the state assessment in reading and mathematics. This measurement is what holds schools, districts, and states accountable for student performance under Title I (NCLB). This measurement of growth determines if schools are successfully educating students (MDE, 2009).

*Mississippi Accountability System Label:* For the purpose of this study, accountability labeling system measures student performance on rigorous curriculum and assessments. Based on the students’ performance, the schools and districts receive performance classification labels that are ranked from highest to lowest. Those rankings are as follows: Star School, High Performing, Successful, Academic Watch, Low Performing, At Risk of Failing, and Failing.
These classifications are based on achievement, academic growth, or improvement and the graduation rates for schools with graduates. (MDE, 2009).

**Socio-Economic Status (SES)**- For the purpose of this study, SES will be determined by eligibility for free or reduced priced lunches through the State of Mississippi Department of Education Free or Reduced Lunch Report by District (MDE, 2010). Since eligibility for free and reduced lunch is determined based on household income and/or other indicators of poverty, it is often used as an indicator of socio-economic status (Ralston, Newman, Clauson, Guthrie, & Buzby, 2008).

*High Socio-Economic Status School*- For the purpose of this study, high socio-economic status schools have fewer than 70% of enrolled students that are eligible to receive free and/or reduced priced lunch.

*Student-Centered Teaching* – An instructional approach where the teacher is the facilitator and the knowledge is constructed by the students (Kemper, 1997). The student is active instead of passive in the learning environment and makes the key decisions about learning (Gibbs, 1995). For the purpose of this study, teachers who score above 146 on PALS are considered student-centered instructors.

*Low Socio-Economic Status Schools*- For the purpose of this study, low socio-economic status schools have more than 70% of students that are eligible to receive free and/or reduced price lunch.

*Teacher-Centered Teaching*– An instructional approach that is systematic in measuring for mastery of basic skills, facts, and information (Rosenshine &
Stevens, 1986). Harden and Crosby (2000) describe teacher-centered instruction as the focus of instruction on the teacher transmitting knowledge to the students. For the purpose of this study, teachers who score below 146 on PALS are considered teacher-centered instructors.

*Teaching Styles* refers to “the distinct qualities displayed by the teacher during instruction based on his/her beliefs and are persistent from situation to situation regardless of the content” (Conti, 1990, p. 80-81). For the purpose of this study, teaching styles will be characterized as student-centered or teacher-centered as measured by PALS questionnaire.
CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Our global society requires citizens who are problem solvers and higher order thinkers (Hargreaves, 2003), and our educational systems are constantly faced with the task of producing this type of learner. The focal point of the entire educational community has experienced a heightened focus on continuous academic improvement because of the high states testing and the No Child Left Behind Act (NCLB) of 2001, (Keefe & Amenta, 2005; NCLB; Simpson, LaCava, & Graner, 2004). Because school leaders and teachers face high expectation to implement effective rigorous curriculums in specific academic areas (Haycock & Chenoweth, 2005; NCLB 2001), the following literature review in Chapter II provides a background for the study of teaching styles and their impact on academic success. There are seven sections in this chapter that explore the literature on effective schools, theoretical framework, learning styles, teacher-centered and student-centered classrooms, socio-economic status, free and reduced lunch, and Mississippi Accountability Labeling System.

Effective Schools

The Effective Schools Movement began in response to the Coleman Report, (Coleman, 1966). Coleman and other researchers conducted *The Equal Educational Opportunity Survey* which concluded that family background was the major determinant of school success, and there was little that schools could do to influence academic achievement (Mace-Matluck, 1987). However, subsequent
studies of Effective Schools revealed that schools could, in fact, influence student achievement and overcome family background disadvantages (Levine & Lezotte, 1990).

Ron Edmonds, Wilber Brookover, and Larry Lezotte led the Effective Schools Movement. They identified schools that were successful in educating all students regardless of their socioeconomic status or family background. From these research findings, schools across the United States and even in other countries began implementing improvement plans (Levine & Lezotte, 1990). Edmond’s project, Search for Effective Schools (1979), produced an influential list of characteristics, or correlations, that many effective schools had in common. Lezotte (1991) refined the correlates as follows: Safe and Orderly Environment, Climate of High Expectations for Success, Instructional Leadership, Clear and Focused Mission, Opportunity to Learn and Student Time on Task, Frequent Monitoring of Student Progress, and Home-School Relations. In 1978, Edmonds and Fredrickson studied 20 schools in Detroit. They determined from their research that a school’s leadership makes a difference in students’ academic success. They also determined that there were six essential characteristics of effective schools attributable to leadership: leaders, who are well organized, frequently monitor student progress, set clearly stated goals and learning objectives, communicate a plan for academic weakness, ensure that teachers were instructionally effective, and implement strong leadership that included management and instructional skills (Levine & Lezotte, 1990).
Furthermore, Wilbur Brookover and Lawrence Lezotte studied data from eight elementary schools in Michigan in 1979. According to Brookover and Lezotte (1979), this study determined that high performing schools had higher expectations for teachers and administration. Also it was determined that students took ownership of their academic work. On the other hand, lower performing schools had students that expressed great concerns for their academics, but their teachers and administrators had low expectations, i.e., they did not believe the students were able to learn (Brookover & Lezotte, 1979).

Brookover also identified characteristics of effective school learning climates through his research with colleagues. Their study revealed that a major part of the variance in achievement between schools could be explained by three components of the school social system: school input, school social structures, and school climate (Brookover et al., 1979). In further studies, Brookover et al. (1982) concluded that the ideology of the school, the organization of the school, and the instructional practices of the staff were essential to an effective school learning climate.

Theoretical Framework

*Student-Centered*

The theoretical framework for the teaching style of student-centered instruction is constructivism. Constructivists base their beliefs on the theories of Dewey (1897/2001) and Vygotsky (1934/1986). Hein (1991) defined constructivism as the idea that students individually and socially construct knowledge and meaning as they learn.
Followers of the constructivist learning theory believe that learning occurs when students are actively engaged in the learning process. Thus, constructivists focus on social interaction between students and believe learning becomes meaningful to students through this interaction (Costa and Kallick, 2004). Constructivists believe that engaged learners interact with each other, and that interaction, whether verbal, physical, or both, is what enhances academic progress for all students (Derry, 1996; Gagnon & Collay, 1990; Prawat, 1996).

Vygotsky (1934/1986) found that a student’s academic growth is dependent on their social ability. He stated, “Every function in the child’s cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)” (Vygotsky, 1978, p. 63).

Vygotsky’s theory promotes the idea that learning takes place when students play an active role in the learning process. The student and the teacher shift roles. The teacher collaborates with the students; therefore, becomes the facilitator instead of the instructor. The learning; therefore, becomes a shared learning experience for both teacher and students. Even though his beliefs were discovered in the 20th Century, Vygotsky’s theories are still relevant today.

Dewey (1897/2001) stated, “I believe that the only true education comes through the stimulation of the child’s powers by the demands of the social situation through which he finds himself” (p. 2). Dewey also believed that students enhance each other’s learning process and that they need to acquire a high interest in learning. If they have a high interest in their learning process,
then they are taking ownership in their own learning and have a greater chance for academic success.

Costa and Kallick (2004) stated that because constructivism promotes learning when students are actively engaged in the learning process, teachers should create a style of instruction to promote this type of learning. This includes environments where students’ interaction with one another is consistent with the teacher’s daily instruction (Johnson & Johnson, 2001).

**Teacher-Centered**

The Behaviorist Theory, popularized by B. F. Skinner, supports teacher-centered instruction. Skinner (1953) defined learning as a change in an individual’s explicit behaviors. He also stated behavior changes are an outcome of the student’s responses to stimuli that occur in their environment. Skinner (1953) used the term operant conditioning to refer to the impact of a particular behavior on the future occurrence of the behavior.

One principle of Skinner’s operant conditioning is positive reinforcement. Rewards and praise are examples of positive reinforcement. Any pleasant experience that causes students to make a desired connection between stimuli and response is considered a positive reinforcement. According to Skinner (1953), when students receive positive feedback from teachers during teacher-centered styles of instruction, such as lecture, students can be academically successful.

There are some teaching and learning styles that reflect the behaviorist theory for example: memorization and the positive reinforcement teachers
provide when students show mastery (Prawat, 1996). He also states that teachers who have students participate actively in the lecture have more academically successful students.

**Teachers’ Impact on Student Achievement**

Teachers increase student achievement regardless of the school's practices (Good & Brophy, 1986; Marzano, 2003). Scheerens and Bosker (1977) found that the teacher outcome on instruction was underestimated when determining the outcome of the school. The percentages of variance accounted for by teacher outcome variables and school-level variables were about equal (Teddlie, Springfield, & Reynolds, 2000). Thirty different analyses reporting in the Tennessee-Value Assessment System (TVAAS), resulted in a significance. This significance led Wright et al. (1997) to believe that the most important factor that affected student learning was the teacher.

The teacher’s impact on student achievement distinguishes a variety of variables specific to teachers and the effect the variables have on student achievement (Cotton, 1995). Marzano (2003) recognized these variables and focused on instruction, curriculum design, and classroom management. According to Marzano (2003), instruction consisted of those direct and indirect activities directed by the teacher to apply, expose, and strengthen students’ essential knowledge. Marzano (1998), Marzano, Gaddy, and Dean (2000), and Marzano, et al. (2001) identified nine highly regarded categories of instructional strategies and documented their percentile gains instructionally at the end of one school year. Those categories are as follows: identifying similarities and
differences (45 percent), summarizing and note-taking (teacher-centered activities) (34 percent), reinforcing effort and providing recognition (29 percent), homework and practice (28 percent), nonlinguistic representations (27 percent), cooperative learning (student-centered learning activities) (27 percent), setting goals and providing feedback (23 percent), generating and testing hypotheses (23 percent), and questions, cues, and advance organizers (22 percent).

An instructional blueprint was developed by Hunter (2004) which contained essential instructional teacher-centered strategies and lesson plan elements. The lesson plan elements included: anticipatory set (effective hook), setting the objective, purpose for learning and relevance, teacher input, guided practice by teacher, check points for understanding, independent practice, and closure. Marzano (2003) recognized that teachers in high-performing schools were also provided an instructional blueprint that employed research-based instructional strategies at regular intervals, and administrators gave research-based feedback to improve teachers’ instructional delivery.

Marzano’s second category, where the teacher has an impact on student achievement, is the curriculum design. The pacing and ordering of content and the style of instruction the teacher uses is critical for student achievement (Clark & Yinger, 1970; Marzano, 2003). Saylor and Alexander (1974) reported that the design of the curriculum impacted the experiences and learning opportunities children have under the guidance of the classroom teacher. Marzano (2003) states the design of the curriculum, which includes sequencing and pacing of content along with students’ personal experience, impacts student achievement.
A teacher that relies on textbooks for decisions about content and does not pace the curriculum’s content accordingly or plan for purposeful learning only increases the achievement gap for all students (Stevenson & Stigler, 1992; Stigler & Hiebert, 1999).

In an effort to help teachers bridge achievement gaps, Bloom’s Taxonomy of Educational Objectives: The Classification of Educational Goals was established for teachers to evaluate the rigor of curriculum, instruction, and assessments (Krathwohl, 2002). These educational objectives are organized in developmental stages, assuming that mastery of the previous level was required before moving to the next more complex level. Bloom found that variety of levels of instruction should be implemented in order for students to develop skills in the more complex levels, such as synthesize and apply knowledge, of a skill at a proficient level (Slavin 1991).

Implementation of instruction and student performance is the cornerstone of effective learning. How teachers implement the instruction and the opportunities given to students in order to construct meaning determines whether the assignment is useless or meaningful to the student (Newman & Wehlage, 1993).

Learning Styles

Learning style encompasses individual physiological, cognitive, and affective behavior processes, such as, how individuals perceive, relate and react to learning opportunities. Learning styles are individual attributes that are not acquired easily. Consequently, a lot of educational and psychological research
has been devoted to identifying learning styles and the relationship of personal differences to effective learning (Horton & Oakland, 1997). Most learning style researchers consider that instructional strategies and curriculum should be adjusted to fit the individual’s learning styles. Sheridan & Steele-Dadzie (2005) found that when instruction is adapted to fit the personal learning style of the individual, the individual obtains higher test scores and is more motivated to learn. In contrast, a difference in learning style of a student and the instructional strategy of a teacher can cause the teacher and the student to become frustrated about the learning process. Gay (2000) found the socio-economic, ethic, and cultural environment of students needed to be considered when choosing the appropriate teaching style.

Teaching Styles

A study by the Educational Testing Service reported by Blair (2000) indicated that “students whose teachers undertake further study and who use certain teaching styles score higher on tests than students who do not have the benefits of such teacher practices” (p. 24). An associate research scientist, Wenglinsky, at the Educational Testing Service associated effective teaching methods to academic gains, stated in sum, this study shows not only that teachers matter most, but also, how they most matter…. What really matters is not where teachers come from, but what they do in the classroom. Students who perform ahead of their peers were taught by educators who integrated hands-on learning, critical thinking, and frequent teacher developed assessments into their lessons. (as cited in Blair, p. 24).
Teacher-Centered Instruction

The traditional teacher-centered model of instruction has been the pervasive method instruction in public schools in the United States (Koutselini & Persianis, 2000; Passman, 2001). Teachers that use the traditional approach usually plan a lesson based on the specific objective, and deliver instruction through lecture format. Then, the teacher usually provides time for drill and practice or seatwork, and possibly assigns homework that reinforces the day’s specific objective. The textbook is most often the foundation for the lesson and is usually the center of activity (Hargis, 2001; Tsai, 2002). The teacher-centered model allows the teacher the complete control over the learning process by placing the teacher as the main source of information and students as passive in nature related to the material (Duffy & Jonassen, 1992).

According to Jarvis (2002), classroom instruction is generally guided by the teacher, and the teacher determines the procedure for the learning objectives. When teachers become productive lecturers, the students tend to value the personal qualities of the teacher and retain more information.

Jarvis (2002) also stated that in a typical teacher-centered classroom, the teacher spends most of the time presenting the day’s content to the class from the white board/Promethean board or overhead projector. The students should be taking notes and asking questions during the lecture, a process that should be completed with ease and not troublesome for students. Students should also have the opportunity to participate freely through discussion during the lecture. The teaching style should not appear to be unpleasant, boring, or a duty to the
instructor. When presenting the content, the teacher should use a professional manner of authority when speaking to students in order to have more effective listeners (Jarvis, 2002). In a teacher-centered classroom, students work independently, usually in rows, listening and taking notes as the teacher lectures (Lord, 1999).

Jarvis (2002) found that the steps of lecture are simple. If teachers follow these simple steps, their students can be academically successful. He suggests that teachers should master the content prior to delivering instruction, present the content in a lecture with a pleasant format and allow students to take notes, and allow students to ask questions and the teacher will answer them accordingly. Finally, the teacher should assess the student’s understanding of the material in a paper-pencil format with feedback.

Furthermore, Foshay (1975) found that teachers that use teacher-centered instruction represent a more authoritative process of teaching, whether it is in a social, content, or professional manner. A teacher, who has social authority, is in control of the social environment of the classroom. Burden and Byrd (1994) found that teachers who prefer teacher-centered instruction believe that it is important to be the authority of the content they present in a classroom. Such teachers should have experience with and knowledge of the content they convey to students. A teacher’s reputation will depend on how well he/she knows the content and how well it is taught. This personal relationship teachers have with the content enables them to provide students to have a more meaningful learning experience.
In addition, Jarvis (2002) found that in order to maintain students' attention spans during a teacher-centered lesson, many teachers use the lecture time as a quick overview of the content in order to stimulate discussion, activate prior knowledge, or motivate students to begin or continue further reading and research. Having students ask questions, make comments and participate in the discussion are goals in effective lecturing. A comfortable environment must be created in order for students to actively participate in the lecture.

According to Foshay (1975), the teacher-centered classroom’s advantage is that the material can be presented in a way the students can learn in short steps. When instruction is teacher-centered, the students have a sense of individual accountability. Students interact in conversation by asking questions if or when they become confused from the lecture, yet it is primarily the teacher’s responsibility to keep the class moving and aiding the students when needed. Rosebrough (2003) stated that if a lecture is presented in a way that is connected to the students’ individual experiences, the student will truly benefit from the lesson. Grissom (2000) believes that the majority of teachers use teacher-centered instruction because it is an effective style of teaching.

Bohlken (2000) conducted research to determine if teacher-centered instruction was interesting to students in a lecture format and if they learned from the lecture style of instruction. He found that students were interested and actually learned from the lectures provided when the lectures were interesting and the presenter was knowledgeable in the content. Therefore, he determined that a students’ ability to learn from teaching styles, such as, lecture was indeed
effective. He found that the more interested the students were in the lessons and the more content knowledgeable the presenter was, the more likely the students would become academically successful.

Another study was conducted on single cross-disciplinary class by Machemer & Crawford (2007), on how students felt about student-centered or teacher-centered instruction. The results indicated that the students preferred teacher-centered instruction. Many students suggested in the study that they were more comfortable in a classroom setting that was teacher-centered because it was more structured. He also found that students, at times, felt uncomfortable working in groups when sharing the responsibilities of learning.

**Student-Centered Instruction**

McCombs and Whisler (1997) defined student-centered teaching as follows:

The perspective that couples a focus on individual learner (their heredity, experiences, 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 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 student-centered perspective is a reflection of the twelve student-centered psychological principals in the programs, practices, policies, and people that support learning for all (p. 9).

Research supports student-centered instruction as a problem-solving approach that can increase a student’s self-esteem related to academic
achievement (Chaney-Cullen & Duffy, 1999). Prawat (1996) noted that within the constructivist theory, students teach themselves what they should know and are more motivated learners. However, Jonassen (1991) purported the constructivist theory as subjective. He stated the outcomes are unclear and learning may be incidental.

Student-Centered instruction is a set of techniques for enhancing the value of student-to-student interaction. Cooperative learning, which is a type of student-centered instruction, involves small groups of learners who work together as a team to solve problems, complete tasks, or accomplish a common goal (Garfield, 1993; Kagan, 1992). Student-centered instruction focuses on students helping one another to achieve a common goal in order to be more successful academically. This is the opposite of a teacher-centered classroom in which students compete for grades and rewards. The purpose of cooperative learning is to give authority to the students in the learning process, a form of student empowerment that is more difficult in a lecture format (Palmer, Peters, & Streetman, 2003).

Students working in groups of two or more mutually search for understanding, and solutions can make learning more meaningful (Goodsell, Maher, & Tinto, 1992). Studies by Johnson and Johnson found students, who participate in cooperative learning, have higher achievement, greater productivity, longer retention, increased intrinsic motivation, more motivation to learn, more time on task, and higher-levels of reasoning and critical thinking than students who are taught through other formats (Johnson, Johnson, and Holubec,
According to Palmer, Peters, and Streetman, (2003), students who participate in cooperative learning attain group goals that cannot be obtained by working alone. Learning becomes viewed as a mutual concept with each student taking part in the learning and teaching process (Fox, 2001).

Johnson, Johnson, and Holubec (1993) contend that teachers need to understand the basic elements that enable students to work cooperatively with each other and should master the following components before implementing student -centered activities within their classroom.

1. Teachers should provide a clear task and a group goal for students.
2. Teachers should help students understand and take responsibility in individual and group accountability.
3. Teachers should give students the opportunity to have face-to-face interaction and work together while promoting each other’s success by sharing resources and supporting each other’s efforts to learn.
4. Teachers should teach students necessary interpersonal and small group skills.
5. Students need to be able to discuss how well they are achieving their goals and maintaining effective work relationships.

Wilson (1991) studied the affects of cooperative learning on reading comprehension in seven high-risk elementary schools. The 455 fourth grade
students in this study were selected based on their low socioeconomic status and low academic performance. The findings indicated there was a significant difference in reading comprehension among students involved in cooperative learning as compared with students that were not involved in cooperative learning. Students that participated in student-centered activities, such as cooperative learning, showed higher academic gains than other students. Although no significant differences were found between boys and girls within either group, there was a significant difference in girls that received student-centered activities, such as cooperative learning, from girls that did not participate in student-centered activities (Wilson, 1991).

Slavin (1982) reported that 21 out of 36 studies found significantly greater achievement levels in cooperative learning groups than in control groups of traditional style teaching. Ten studies found no difference, and one found a slight advantage for the control group. Slavin (1982) also found that individual accountability in cooperative learning was more successful if students were graded individually or if the sums of each team members’ scores were combined for a total score. He also stated that cooperative learning activities with the least individual accountability had the lowest success rate.

A study completed by Johnson & Johnson (1995) was conducted with 72 sixth graders, who were divided into three equal groups. The cooperative learning group demonstrated the most oral interaction, the most active search for organization and ideas, and the highest self-esteem. Students learned that they
could disagree and that conflict could be turned into a positive experience (Vermette, 1998).

Ellis & Whalen (1990) discovered studies indicating that students spend more time on task while engaged in cooperative learning activities. They also found that teachers favored the cooperative learning activities because it decreased the time they spent getting students’ attention and keeping it. He found that the student-centered styles of instruction, such as cooperative learning, included a wide variety of activities that may be implemented in several different ways in an elementary classroom.

Student-centered activities create a positive interdependence among students. They also motivate students to learn because they encourage each other through behaviors, such as, persevering with difficult task, attending class regularly, praising the efforts of others, and receiving help from one another (Millis & Cottell, 1998). The results of cooperative learning research indicates that students who have opportunities to work cooperatively learn faster and more efficiently, have greater retention, and feel more positive about their learning experience (Johnson & Johnson, 2001).

Socio-Economic Status

A student’s race and/or background have been identified as factors related to socio-economic and achievement gaps (Williams, 2003). In addition, Lee and Luykx (2005) stated that family support, such as a family member helping students with homework and the parents’ educational background, influences children’s attitude toward education. Williams (2003) stated, “the most widely
accepted explanation for the achievement gaps included assumption about such issues as poverty; mobility rates; disparities in resources; parenting; preschool teacher quality and attitudes; stereotype threat; teacher expectations; television; test bias; and genetics” (p. 15). Williams also stated that any of these factors combined could affect the academic success of low socioeconomic students.

In 1966, the Equality of Education Opportunity was the first major study on the effects of socioeconomic status and achievement. The lead researcher was James Coleman, and subsequently, the report became known as The Coleman Report. The study included approximately 60,000 students, 60,000 teachers, and 3,100 schools across the country (Coleman, 1987). This report had two major findings. First, it found that school resources, school facilities, curriculum, and teacher quality did not significantly impact academic achievement. Second, background characteristics of students had the most significant effect on student achievement (Coleman, 1987). However, the Coleman findings indicated that social class was significant to student achievement. This meant that the socioeconomic status of students have a greater impact on student’s academic success than other factors. However, the interpretations of these findings were later clarified as subsequent studies, e.g., effective schools found that the effects of socio-economic status could be overcome by the following correlates of effective schools: clear school mission, high expectations for success, strong instructional leadership, frequent monitoring of student progress, opportunity to learn, safe and orderly environment, and home-school connection.
Payne (2001) stated, “Poverty occurs in all races and in all countries” (p. 10). Rainwater and Smeeding (1995) stated that poverty is based on the gross monetary income earned and on a poverty measurement that was established in the early 1960’s. Families in poverty lack the normally or socially acceptable amount of money needed for the necessary and basic possessions for survival and usually have children in schools which are considered low socio-economic status (Payne, 2001). Furthermore, poverty is difficult for children in schools. Lambie (2005) found that most families in poverty have less structure at home, and their children have difficulty adapting to the structured environment of school. Payne (2001) stated that knowing the home factors associated with poverty such as excessively loud communication, habitual tardiness, and continuous movement from place to place of residence, can help teachers and educators give the best chance for academic success by understanding the way their students live.

In 1982, Richard Lweontin (as cited in Berliner, 2006) studied IQ based on social class. The participants in this study were approximately 50,000 women and their children, who were studied from the time of pregnancy. The results indicated that the children from the lowest social class had a mean IQ that was significantly lower than the IQ of students from a higher social class. This study revealed that a child’s everyday life impacts their academic success and is responsible for the differences in academic ability. The results also indicated that children who are removed from the poverty environment and placed in a more
structured environment could improve their academic success; therefore, become successful in school.

Payne (1995) stated that most families in poverty have been at this status for two generations or longer, and it is difficult for these families to get out of poverty. Payne (2001) found that there are four reasons people move from poverty: they find it too painful to stay, they have a goal or a vision, they have a relationship with a significant other, or they have a talent or a skill.

According to Payne (1995), families that have the necessary or socially acceptable amount of money for basic needs for survival are considered middle class. Children from these type families are usually more stable and receive higher education (Payne, 1995). Rainwater and Smeeding (1995) stated that these children from middle class families tend to have been exposed to more world experiences that help them become successful academically because they have a better understanding for real life experiences. Such experiences can consist of vacations, exposure to books and knowledge at home, and learning to read at a young age. Barton (2004) asserted that middle class families have more resources at home and spend more time with their children using these educational resources that increase their children’s chances for academic success in school.

Lambie (2005) stated that most middle class families tend to be more independent and stable. These families are more likely to have coping skills and resources necessary to handle situations that might influence a child’s ability to succeed academically. Lambie also stated that it is common to see more focus
put on school performance in middle class families rather than families that are of a lower socioeconomic status. Middle class children may have more rituals and routines at home such as routine supervision of homework assignments. Parents from the middle class also are more likely to have the educational background needed to help their children with assignments (Lambie, 2005).

The socio-economic status of student population can influence the school’s academic performance. Students from poorer families might have more health concerns that impact learning than the middle class students (Rothstein, 2004). Many of these families have different philosophies based on their circumstances. For instance, middle class parents are more likely to work in situations that require them to get along with others and achieve higher thinking tasks such as responding to open-ended questions. On the other hand, jobs that most lower income parents have, such as working in factories, tend to have simple job tasks that require following simple directions (Rothstein, 2004).

Although these are commonalities among high poverty that explain some schools achievement gaps, some schools have been successful academically, even if they are considered high poverty schools (Reeves, 2003). Reeves (2003) identified schools with demographics of 90 percent minority, 90 percent eligible for receive free or reduced priced lunch, and 90 percent that were academically successful. Through his research, Reeves found that there were five commonalities among these schools: a) strong emphasis and focus on academic achievement, b) clear curricular choices, c) frequent monitoring of student
progress through assessments, d) strong emphasis in writing in all academic areas, and e) external scoring of student work.

National School Lunch Program

The National School Lunch Program (NSLP) is a federally funded program that gives schools the ability to offer free and reduced price lunches to students that financially qualify annually through the schools. This is a federally funded program that feeds millions of students. In this program, more minority students participate than non-minority, and students from families with lower incomes participate more than those with higher incomes (Ralston, Newman, Clauson, Guthrie, & Buzby, 2008).

The students that participate in this program have to complete some preliminary applications that determine if they qualify for free and reduced priced lunches. According to The Public Information Staff (2008), Children from families with incomes at or below 130% and 185% of the poverty level are eligible for reduced-priced meals, for which students can be charged no more than 40 cents. (130% of the poverty level is $27,560 for a family of four; 185% is $39,220). Children from families with incomes over 185% of poverty pay full price, though their meals are still subsidized to some extent. Local school food authorities set their own prices for full price (paid) meals, but must operate in areas where at least 50% of students are eligible for free or reduced-price meals may serve all their snacks for free.

The state agencies that oversee this program have a set of guidelines that must be followed in order for students to be eligible for this program. In addition,
a set of guidelines must be provided to parents at a local level. Families can apply to enroll in this program at any time of the year and generally do so through their local school. There are many situations that automatically qualify families, such as, a child who is considered a runaway or a migrant. The students that participate in this program are screened and generally categorized as low socioeconomic status students, and the students that do not enroll or do not qualify are not considered low socioeconomic status (The Public Information Staff, July, 2008).

Mississippi Statewide Accountability Labeling System

The No Child Left Behind Act of 2001 (NCLB) envisioned to improve the educational process in schools across the United States. It mandates that all states develop assessments that measure individual students’ academic progress, as well as the schools’ academic performance. All students in certain grades must take standardized tests for educational leaders to document and track students’ academic performance. By tracking the performance of students, schools are able to document academic growth and improvement, and states are able to intervene if schools are not showing that their students are making appropriate academic gains.

Responding to NCLB in 2007, Superintendent of Education, Hank Bounds, appointed an Accountability Task Force to revise Mississippi’s accountability system according to the newly revised curriculum frameworks and a new state assessment in Math and Language Arts. This team defined a top performing school and compared it to a failing school. The Task Force identified a range of
indicators for the two levels of performing classifications. Finally, in February 2009, the new State Accountability Rating System was adopted, and it changed the way schools were accredited and labeled within the state. The new accountability rating system labels schools from highest to lowest based on achievement, academic growth, or improvement and graduation rates. The Quality of Distribution Index (QDI) measures academic achievement with the maximum at 300 and the minimum at zero. According to the MDE (2009), the Quality of Distribution Index (QDI) should be used for measuring achievement. The QDI measures the distribution of student performance on state assessments around the cut points for Basic, Proficient, and Advanced performance. The formula for the QDI is

\[ QDI = \% \text{Basic} + (2 \times \% \text{Proficient}) + (3 \times \% \text{Advanced}) \]

The schools and districts receive performance classifications that are as follows: Star School (QDI Score 250-300), High Performing (QDI Score 200-250), Successful (QDI Score 166-199), Academic Watch (QDI Score 133-165), At-Risk of Failing (QDI Score 100-132), and Failing (QDI Score 0-99).

The Mississippi Department of Education is responsible for identifying schools that do not meet annual growth expectations. The highest rating can only be received if the school has high achievement and achieved growth over the previous year.

Summary

It is evident that different researchers support each of the teaching styles investigated in this study, both student-centered and teacher-centered teaching
styles. Webb (1994) and Yecke (2004) support the theory that student-centered learning is not the most effective way of teaching to promote student achievement because they believe that the traditional styles are more productive in helping students become more effective learners. On the other hand, some researchers believe that teachers using a student-centered teaching style allow students to achieve deeper depths of knowledge and become stronger learners (Palincsar & Herrenkol, 2002; Slavin, 1996). Whether the teacher chooses student-centered or teacher-centered strategies, the students’ learning environment and schools’ academic performance should be considered in the decision-making process of selecting appropriate instructional practices (Burden & Byrd, 1994).

NCLB and Statewide accountability models mandates testing, and this mandate holds teachers responsible for improving yearly academic performance for all students while meeting the needs of a diverse student population (Hargreaves, 2003). Many teachers have had to change their teaching style in order to meet the needs of their students. Several of the teaching styles that have been used in the past may not be effective or may not be appropriate to the needs of today’s students or unique populations of students in particular schools. As asserted by Gatto (1999), teachers should meet the needs of all students in order to prepare them to academically successful.
CHAPTER III

METHODOLOGY

This study sought to determine which, if any, teaching style (student-centered or teacher-centered) impacted academic achievement based on socio-economic status and school accountability status. Chapter III presents a description of the study’s research design, participants, data collection, instrument, procedures and statistical analysis.

Research Design

The study incorporated survey methodology and a non-experimental design. Data was analyzed using mediation. Mediation was an appropriate method of analysis and it was used to describe the relationships among socio-economic status, school accountability, and teaching styles.

The research questions addressed in this study are:

1. Do students score higher on Language Arts Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level?

2. Do students score higher on Math Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level?

Hypotheses

1. Teaching styles mediate the relationship between socio-economic status and MCT2 Language Arts scores.
2. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Language Arts scores.

3. Teaching styles mediate the relationship between socio-economic status and MCT2 Math scores.

4. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Math scores.

Participants

The participants for this study included approximately 200 teachers from selected schools in the state of Mississippi based on accountability level and free and reduced lunch status (Socio-economic status). The schools were characterized by the Mississippi Department of Education’s Accountability Labeling System as: Star School, High Performing, Successful, Academic Watch, At Risk of Failing, and Failing. The researcher further categorized the schools according to percentage of Free/Reduced lunch eligibility with the results of having at least four schools in each category that were categorized as follows:

- Star School and below 70% free/reduced eligibility
- Star School and above 70% free/reduced eligibility
- High Performing and below 70% free/reduced eligibility
- High Performing and above 70% free/reduced eligibility
- Successful and below 70% free/reduced eligibility
- Successful and above 70% free/reduced eligibility
- Academic Watch and below 70% free/reduced eligibility
- Academic Watch and above 70% free/reduced eligibility
• At Risk of Failing and below 70% free/reduced eligibility
• At Risk of Failing and above 70% free/reduced eligibility
• Failing and below 70% free/reduced eligibility

Note: Failing and above 70% free/reduced eligibility. (There were no schools reported in the state of Mississippi that are Failing and above the 70% of Free/reduced eligibility).

The teachers (in grades 4th, 5th, and 6th teaching Math and/or Language Arts) of the selected schools participated in this study.

Table 1

Low Poverty Schools (Below 70% of students receiving free and reduced lunch)

<table>
<thead>
<tr>
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<tr>
<td>Star</td>
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<tr>
<td>High Performing</td>
<td>4</td>
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<tr>
<td>Successful</td>
<td>7</td>
</tr>
<tr>
<td>Academic Watch</td>
<td>5</td>
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<tr>
<td>At Risk of Failing</td>
<td>0*</td>
</tr>
<tr>
<td>Failing</td>
<td>0*</td>
</tr>
</tbody>
</table>

* No schools were reported in 2010 on MCT2 scores.
Table 2

*High Poverty Schools (Above 70% of students receiving free and reduced lunch)*

<table>
<thead>
<tr>
<th>Accountability Status</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Star</td>
<td>1</td>
</tr>
<tr>
<td>High Performing</td>
<td>2</td>
</tr>
<tr>
<td>Successful</td>
<td>7</td>
</tr>
<tr>
<td>Academic Watch</td>
<td>2</td>
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<td>At Risk of Failing</td>
<td>5</td>
</tr>
<tr>
<td>Failing</td>
<td>1</td>
</tr>
</tbody>
</table>

**Procedures**

A letter (Appendix A) was sent to each superintendent from the selected school districts requesting participation in this study. After approval was received from the Human Subjects Review Board (Appendix B), the researcher mailed a letter to the selected school districts requesting teachers’ names and scale scores for 2009-2010 MCT2 (Appendix C). Once the researcher received the information from the school districts, the researcher assigned each participant (teacher) a code and coded the questionnaires to match each teacher’s code. The questionnaire did not include the teacher’s name, only the teacher’s code. The researcher stapled a cover letter to each questionnaire that explained the purpose of the study and how to complete the questionnaire (Appendix E). The coded questionnaire and cover letter was placed in an envelope with the
teacher’s name on the outside. The envelope was not to be returned to the researcher, just the coded questionnaire.

A packet was prepared for each principal that included: A cover letter to the principal explaining the purpose of this study (Appendix D), the personalized envelopes for each teacher which contained a coded questionnaire and instructions how to return coded questionnaires, and self-addressed envelope to return the completed questionnaires to the researcher. The researcher delivered the packets to each school and verbally gave instructions as to how the questionnaire is to be administered to teachers and reinforced the confidentiality of the questionnaire.

Instrumentation

In this study the Principles of Adult Learning Scale (PALS) was used to gather data to assess the teaching style of teachers in grades 4, 5, and 6. Gary Conti developed this instrument in 1978 to measure the degree to which the instructors employed certain principles of adult learning. Permission to use and modify PALS was granted by the author (Appendix G). Because Conti (1978) originally developed PALS to survey adult education instructors whose students were adults, there was a need to modify the terminology in the original instrument. The word adult was replaced by the word student so that the survey would be more applicable to the participants in this study (Appendix F). This modification has been used in previous studies with reports that the survey maintained high reliability and validity (Elliott, 1996, Hmielecki, Meyer & Theresa, 2002, Traver, & Kalsher, 2003; Seever, 1991; Spoon & Schell, 1998;). In each
of these studies, where PALS had been slightly modified, a Cronbach’s alpha was calculated to determine the internal consistency, and the alpha levels exceeded the minimum requirement of .70.

PALS is a 44-item instrument that is a summative rating scale using a 6-point verbal frequency scale. Participants responded by indicating the frequency with which they practice each of the instructional strategies described in the survey. The PALS questionnaire was scored by using the Principles of Student Learning Scale (PALS) Score Sheet (Appendix H). A range of scores 0-5 are placed by the item depending on how the participant rated each question. The PALS scoring system rates questions 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44 as 5=5, 4=4, 3=3, 2=2, 1=1 and 0=0. Questions 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41 were recoded as follows: 0=5, 1=4, 2=3, 3=2, 4=1, and 5=0.

Scores are calculated by summing the value of the responses for each question in the factor. Compare factor score values to their respective means. If the score is equal to or greater than each respective mean, then this suggests that such factors are indicative of the teaching style. An individual's total score on the instrument is calculated by summing the value of each of the seven factors. Scores between 0-145 indicate your style is teacher-centered. Scores between 146-220 indicate your style as being learner-centered. The teacher's total score can be divided into seven specific factors that relate to specific teaching behaviors. These factors are:

1. Learner-Centered Activities
2. Personalizing Instruction
3. Relating to Experience
4. Assessing Student Needs
5. Climate Building
6. Participating in the Learning process
7. Flexibility for Personal Development (Conti, 1979)

Conti (1979) determined reliability of the PALS using the test-retest method, yielding a reliability coefficient of .92. Construct validity of PALS questionnaire was established by a panel of 10 professors of adult education and was later verified by a factor analysis (Conti, 1983). The content validity was determined by correlating individual PALS items and each participant’s total score (Conti, 1979).

In an additional study, Apps (1989) determined criterion-related validity by comparing scores on PALS to the Flanders Interaction analysis Categories (FIAC). Both instruments measure initiating and responsive actions. Eighty percent of the available group that had scored two standard deviations either above or below the mean was on PALS was observed. Pearson correlation between PALS and each of the three possible FIAC ratio scores of teacher response ratio, teacher question ratio, and pupil initiation ratio showed a positive correlation of .85, .79, and .82. These high correlations statistically confirm that PALS consistently measures initiating and responsive constructs and PALS is capable of consistently differentiating among those who have divergent views concerning these constructs. Although this instrument is classroom oriented and was originally designed for use in the basic adult education setting, the normative
scores for PALS have remained consistent across various groups in education (Conti, 1983).

Analysis

For teachers with more than one class scale score, the average of the class scale scores was calculated and used to represent the teachers’ class (average) scale score. Mediation (Barron, Frazier, & Tix, 2004) was used to examine the direct and indirect effects between variables. A mediation method of analysis was used to determine if teaching styles mediate the relationship between socio-economic status and accountability on MCT2 Math, and/or Language Arts scores. Mediation (Barron, Frazier, & Tix, 2004) was also used to test the predictor (socioeconomic status and accountability level) on the outcome (MCT2 Math and Language Arts scores).

Figure 1. PALS mediating relationship between SES and Language Arts MCT2.
Figure 2. PALS mediating relationship between Accountability and Language Arts MCT2.

Figure 3. PALS mediating relationship between SES and Math MCT2.

Figure 4. PALS mediating relationship between Accountability and Math MCT2.
The mediations (Barron, Frazier, & Tix, 2004) tested were as follows:

Teaching styles mediate the relationship between socio-economic status and MCT2 Language Arts scores. Teaching styles mediate the relationship between socio-economic status and MCT2 Math scores. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Language Arts scores. Teaching styles mediate the relationship between Mississippi Accountability Level and MCT2 Math scores.
CHAPTER IV

RESULTS

Introduction

The primary purpose of this investigative study was to determine which, if any, teaching style (student-centered or teacher-centered) mediates academic achievement based on socio-economic status and/or school accountability status. PALS instrument was used to gather data to assess the teaching style of the participants. PALS was scored by calculating the sum of the value from responses for each question. Scores between 146 and 220 indicate student-centered teacher. Any scores below 146 indicate teacher-centered teacher. Mediation (Barron, Frazier, & Tix, 2004) was used to test the dependencies among PALS score (Teaching style) in socio-economic status and school accountability status on Math and Language Arts scores. This chapter examines the processes through which the study was conducted and the analyses used to examine the research questions and related hypotheses. Descriptive statistics, inferential statistics, and a summary of results are provided.

Descriptive Statistics

This study used primary data collected through questionnaires from teachers throughout the Coastal Region of Mississippi, who taught Language Arts or Math in the fourth, fifth, and sixth grades; archival achievement data collected from the Mississippi Curriculum Assessments; and Mississippi’s reporting of schools’ Accountability hosted by the school districts and the Mississippi State Department of Education (2010).
Questionnaires were sent to 321 selected Mississippi public school teachers in grades four, five, and six from 41 public schools in ten districts throughout the state of Mississippi. The selected schools were categorized as high or low poverty and then categorized according to their Mississippi Accountability Status. Only schools that fell into those categories were selected by the researcher. One hundred and eighty-two (56%) completed questionnaires were returned in a timely manner and included in the analysis.

Demographics

Nine teachers (4.9%) were males, and 173 (95.1%) were female. Among those participants, 69 teachers (37.9%) taught 4\textsuperscript{th} grade, 86 (37.4%) taught 5\textsuperscript{th} grade, and 45 (24.7%) taught 6\textsuperscript{th} grade. The highest degree of education reported indicated that 85 (46.7%) held bachelor’s degree, 90 (49.5%) held master’s degree, 4 (2.2%) held specialist’s degree, 2 (1.1%) held doctorate degree, and 1 (.5%) did not report a degree. The classes were described as 33 (18.2%) self-contained and 147 (80.8%) departmentalized. Of the 182 participants, 125 taught Language Arts and 98 taught Math. Ninety-six of the participants were reportedly from low poverty (below 70%) schools and 86 of the participants were reported from high poverty (above 70%) schools. See Table 3 provides demographic information of participants.
Table 3

*Characteristics of Participants*

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</tr>
<tr>
<td>Bachelors</td>
<td>85</td>
<td>46.7</td>
</tr>
<tr>
<td>Masters</td>
<td>90</td>
<td>49.5</td>
</tr>
<tr>
<td>Specialist</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>Doctoral</td>
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<td>1.1</td>
</tr>
<tr>
<td>Other</td>
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<td>.5</td>
</tr>
<tr>
<td><strong>Classes</strong></td>
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<td></td>
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<tr>
<td>Self-Contained</td>
<td>33</td>
<td>18.2</td>
</tr>
<tr>
<td>Departmentalized</td>
<td>147</td>
<td>80.8</td>
</tr>
<tr>
<td><strong>Subjects Taught</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Arts</td>
<td>125</td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td><strong>Socio-Economic Status of Participants’ School</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Poverty (Below 70%)</td>
<td>96</td>
<td>52.8</td>
</tr>
<tr>
<td>High Poverty (Above 70%)</td>
<td>86</td>
<td>47.2</td>
</tr>
</tbody>
</table>
Analysis of Hypotheses

The first research question was stated as follows: Do students score higher on Language Arts Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level? This was addressed by two relating hypothesis.

The first hypothesis proposed that teaching styles mediated the relationship between Socio-economic Status and MCT2 Language Arts scores. Mediation was tested using the three steps outline (Barron, Frazier, & Tix, 2004). According to this method, there are three steps in establishing that a variable (Teaching Styles) mediates the relationship between the predictor (SES/Accountability Status) and an outcome variable (Language Arts/Math MCT2 scores). The first step is to show that there is a significant relationship between the predictor and the outcome. The second step is to show that the predictor is related to the mediator, and the third step is to show that the mediator is related to the outcome.

Figure 5. Direct relationship between SES and Language Arts MCT2.

Note: ***p<.001

The first path for testing this hypothesis was to determine if there was a significant relationship with SES and Language Arts MCT2 scores. Results indicated that there was a significant relationship between SES and Language
Arts MCT2 scores. ($\beta = -0.322, p<.001$). Since this relationship was significant, the researcher proceeded to the next step.

The second path was to determine if there was a significant relationship with SES and the mediator (PALS-Teaching Style). Results showed that the relationship between SES and PALS is approaching significance ($\beta = -0.143, p=.055$). This relationship was approaching significance; therefore, the researcher proceeded to the next step.

![Diagram of PALS mediating relationship between SES and Language Arts MCT2](attachment:image.png)

*Figure 6. PALS mediating relationship between SES and Language Arts MCT2. Note: ***p<.001*

The third step involved testing if PALS-Teaching Style mediated the relationship between SES and Language Arts MCT2 scores. There was not a significant relationship between PALS and Language Arts MCT2 scores ($\beta=.056, p=.533$). Therefore, teaching styles did not mediate the relationship between SES and MCT2 Language Arts scores.
Table 4

Socio-Economic Status and Language Arts MCT2 Scores

<table>
<thead>
<tr>
<th>Paths Tested</th>
<th>β</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Status and Language Arts MCT2 Scores</td>
<td>-.322***</td>
<td>.001</td>
</tr>
<tr>
<td>Socio-Economic Status and PALS (Teaching Style)</td>
<td>-.143</td>
<td>.055</td>
</tr>
<tr>
<td>PALS (Teaching Styles) and Language Arts MCT2 Scores</td>
<td>.056</td>
<td>.533</td>
</tr>
</tbody>
</table>

Note: ***p<.001

The first research question was also addressed by the second hypothesis, which was stated as follows: Teaching styles mediate the relationship between socio-economic status and MCT2 Language Arts scores. The researcher followed the same mediation outline.

Figure 7. Direct relationship between Accountability and Language Arts.

Note: ***p<.001

The first path for testing this hypothesis was to determine if there was a significant relationship between Accountability Status and Language Arts MCT2 scores. Results indicated that there was a significant relationship between Accountability and language Arts MCT2 scores (β = .497, p<.001) in this study. Since this relationship was significant, the researcher proceeded to the next step.
The second path was to determine if there was a significant relationship with Accountability Status and PALS (Teaching Styles). Results showed that the relationship between Accountability and PALS was not significant ($\beta = .095$, $p=.204$) in this study. Even though the direct relationship was not significant, the inter-relationships among the three variables examined together could still show mediation. Therefore, the researcher proceeded to the third step of mediation.

**Figure 8.** PALS mediating relationship between Accountability Status.

The third path was to determine if PALS was related to Language Arts MCT2 scores. There was not a significant relationship between PALS and Language Arts MCT2 scores ($\beta=.056$, $p=.533$). Therefore, teaching styles did not mediate the relationship between Accountability Status and MCT2 Language Arts scores.
The second research question was stated as follows: Do students score higher on Math Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level? This was addressed by two relating hypothesis.

The first hypothesis proposed that teaching styles mediated the relationship between Socio-Economic Status and MCT2 Math scores. Mediation was also tested using the three steps outline by Barron, Frazier, & Tix (2004).

![Diagram](image.png)

*Figure 9. Direct relationship between SES and Math .M.CT2. Note: ***p<.001*

The first path tested for this hypothesis was tested to determine if there was a significant relationship with SES and Math MCT2 scores. Results indicated that there was a significant relationship between SES and Math MCT2 scores.
(β = -.175, p < .001). This relationship was significant; therefore, the researcher continued to the next step.

The second path was to determine if there was a significant relationship with SES and PALS. Results indicated that the relationship between SES and PALS was approaching significance (β = -.143, p = .055). Since this relationship was approaching significance, the researcher proceeded to the next step.

The third step involved testing if PALS mediated the relationship between SES and MCT2 Math scores. There was not a significant relationship between PALS and Math MCT2 scores, (β = -.047, p = .649). Therefore, teaching styles did not mediate the relationship between SES and MCT2 Math scores.

Table 6

<table>
<thead>
<tr>
<th>Paths Tested</th>
<th>β</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Status and Math MCT2 Scores</td>
<td>-.183</td>
<td>.075</td>
</tr>
</tbody>
</table>

Figure 10. PALS mediating relationship between SES and Math MCT2.

Note: ***p < .001
The second hypothesis proposed that teaching styles mediated the relationship between Accountability Status and MCT2 Math scores. Mediation was tested using the three steps outlined by Barron, Frazier, and Tix (2004).

**Table 6 (Continued)**

<table>
<thead>
<tr>
<th>Paths Tested</th>
<th>β</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Economic Status and PALS (Teaching Style)</td>
<td>-.143</td>
<td>.055</td>
</tr>
<tr>
<td>PALS (Teaching Styles) and Math MCT2 Scores</td>
<td>-.047</td>
<td>.649</td>
</tr>
</tbody>
</table>

Note: ***p<.001

The second hypothesis proposed that teaching styles mediated the relationship between Accountability Status and MCT2 Math scores. Mediation was tested using the three steps outlined by Barron, Frazier, and Tix (2004).

**Figure 11. Direct relationship between Accountability Status and Math MCT2. Note: ***p<.001**

The first path for testing this hypothesis was to determine if there was a significant relationship with Accountability Status and Math MCT2 scores. Results indicated that the relationship was significant between Accountability Status and Math MCT2 scores (β = .447, p<.001).

The second path was to determine if there was a significant relationship with Accountability Status and PALS. Results showed that the relationship was not significant (β = .095, p=.204). Even though the direct relationship was not significant, the inter-relationships among the three variables examined together
could still show mediation. Therefore, the researcher proceeded to the third step of mediation.

The third step involved testing if PALS mediated the relationship between Accountability and Math MCT2 scores. There is not a significant relationship between PALS and Math MCT2 scores ($\beta = -0.047$, $p=0.649$). Therefore, teaching styles did not mediate the relationship between Accountability Status and Math MCT2 scores.

Table 7

**Accountability Status and Math MCT2 Scores**

<table>
<thead>
<tr>
<th>Paths Tested</th>
<th>$\beta$</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accountability Status and Math MCT2 Scores</td>
<td>.447***</td>
<td>.000</td>
</tr>
<tr>
<td>Socio-Economic Status and PALS (Teaching Style)</td>
<td>.095</td>
<td>.055</td>
</tr>
<tr>
<td>PALS (Teaching Styles) and Math MCT2 Scores</td>
<td>-.047</td>
<td>.649</td>
</tr>
</tbody>
</table>

Note: ***$p<.001$
Summary

Chapter IV provided a brief description of results of this study of 4th, 5th, and 6th Language Arts and Math teachers in Mississippi schools and their teaching styles’ influence on MCT Language Arts and Math scores. In addition, this study provided whether teachers’ teaching styles (student-centered or teacher-centered) mediated Language Arts and Math MCT2 scores, regardless of the schools Socio-Economic Status or Accountability Status. Results of the analysis of the data were provided for two research questions and four hypotheses using statistical procedures mediation methods (Barron, Frazier, & Tix, 2004).
CHAPTER V
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The *No Child Left Behind Act* (NCLB) of 2001, requires public school leaders to scrutinize teaching styles and ensure that all students reach a specified minimum standard of academic success (Simpson, LaCava, & Graner, 2004). This level of accountability challenges administrators and teachers to implement effective teaching styles in every classroom. (DeCastro-Ambroseti & Cho, 2005). The challenges posed by NCLB have left many administrators and teachers searching for insights into achievement patterns and demographic factors that affect student achievement. Because of this challenge, many teachers may need to alter their teaching styles in order to develop instructional approaches that effectively meet the needs of all students (Bracey, 2004a; Dirkx, 2006).

According to Grossman (1991), teacher’s teaching styles are one of the most valuable components in the educational system. Gardner (1983) stated that a teacher’s teaching style is important because of the impact that it makes, not only on academic success, but also in motivating students to learn. It is therefore, necessary for teachers to implement researched-based strategies in order for students to become academically successful (Gardner, 1983).

Purpose

This study set out to determine which teaching style, student-centered or teacher-centered, was most effective for students from different socio-economic
levels and for schools with different accountability levels in the state of Mississippi. This study was proposed to help school leaders understand which, if any, teaching style (student-centered or teacher-centered) could positively affect student achievement of students from different socio-economic levels and affect the school’s accountability level ranking in the state of Mississippi. In order to explore these issues, this study was centered around two research questions.

Research Questions

The research questions addressed in this study were:

1. Do students score higher on Language Arts Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level?

2. Do students score higher on Math Mississippi Curriculum Tests based on teaching practices regardless of their socio-economic status and school level?

Mediation (Barron, Frazier, & Tix, 2004) was used to describe the relationships among socio-economic status, school accountability, and teaching styles. This study found a statistically significant relationship between socio-economic status and Language Arts scores and a statistically significant relationship between socio-economic status and PALS (Teaching styles). In addition, this study found a statistically significant relationship between accountability and Language Arts scores and a statistically significant relationship between accountability and PALS. However, there was not a
statistically significant relationship between PALS and Language Arts MCT2 scores.

This study also found a statistically significant relationship between socio-economic status and Math MCT2 scores and an approaching statistically significant relationship between socio-economic status and PALS. In addition, this study found a statistically significant relationship between accountability and Math scores and a statistically significant relationship between accountability and PALS. However, there was not a statistically significant relationship between PALS (Teaching styles) and Math MCT2 scores.

Participants

Questionnaires were sent to 321 teachers from selected schools. One hundred eighty-two completed questionnaires were included in the study. The 182 participants teachers were from selected schools in the state of Mississippi. Schools were selected based on their school’s accountability level and free or reduced lunch status. Teachers were ranged from grades 4, 5, and 6 and taught Language Arts, Math, or both.

Limitations

The researcher acknowledges the following limitations to this study:

1. Data collection of the PALS questionnaire was limited to teachers’ self-reported his/her perception of their own teaching style.

2. Participants included only 4th, 5th, and 6th grade Math and Language Arts teachers in Mississippi.
3. There were no schools included in the study with the Accountability Status of “Failing and Low Poverty” and “At Risk of Failing and Low Poverty because in the year 2009-2010 no such schools were reported on Mississippi Department of Education Accountability Status report.

4. The Accountability levels were applicable for years 2009-2010 only.

Findings

Principle dissertation findings included: a) teaching styles did not mediate the relationship between SES and Language Arts MCT2 scores ($\beta=0.056$, $p=.533$); b) teaching styles did not mediate the relationship between Accountability Status and Language Arts MCT2 scores ($\beta=0.056$, $p=.533$); c) teaching styles did not mediate the relationship between SES and math MCT2 scores ($\beta=-0.047$, $p=.649$); d) teaching styles did not mediate the relationship between Accountability Status and Math MCT2 scores ($\beta=-0.047$, $p=.649$).

Implications

No Child Left Behind (NCLB) requires all public schools to administer Language Arts and Math assessments each year. These tests include grades 3 through 8 (MDE, 2007). Through these assessments, teachers must ensure that all students reach a specified minimum standard of academic success (Simpson, LaCava, & Graner, 2004). This level of accountability challenges teachers to provide instruction that is limited to the assessment that is mandated by the state.

Besides the state's heavy emphasis on exam-driven accountability, laws such as NCLB and Performance-Compensation may actually be forcing
teachers to teach more teacher-centered way, which may not be the best approach for all students. These laws could be forcing teachers into teaching to a basic-skills test level, echoing an increasingly common complaint of educators in many states.

Although this study did not find a statistically significant relationship, it did reveal some interesting data. Out of the 182 participants, only 3 teachers scored high enough on the PALS questionnaire to be classified as a student-centered teacher. The PALS questionnaire was originally developed for teachers of adult learners. This questionnaire has shown in past research and studies to be a very reliable and a valid instrument to determine teaching styles. However, according to the Conti (Appendix G), this study was the first time it had been used for teachers in grades 4th, 5th, and 6th. Furthermore, this survey might not be the most appropriate for this specific population.

On the other hand, the accountability level of teachers has left teachers implementing teacher-centered instructional strategies due to the accountability of state testing mandates. Many teachers could be teaching more skills based instruction in order for all of their students to succeed academically on the Mississippi Curriculum State Assessments. These teachers could be teaching to the test.

Because teachers first and foremost responsibility is to promote learning for all students, teachers develop instructional strategies that require them to teach to the assessment because they’re accountable to all students’ academic performance on the state assessments. Teachers implementing predominately
teacher-centered instructional strategies may include relentless drilling on test content, eliminating important curricular content that is not covered by the test, and providing interminably long practice sessions that incorporates actual items from these standardized assessments (Popham, 2000). This study supports that teachers are using significantly more teacher-centered instructional strategies in the classroom and could be due to state testing mandates.

Because this study revealed such few teachers categorized as student-centered teachers, this could pose a problem due to the upcoming new state standards that will be fully implemented in 2014-2015. These Common Core Standards are nationally based standards and focus more on student performance rather than a standardized assessment. Some teachers categorized as predominately teacher-centered could have difficulty changing to student-centered teaching strategies. This new assessment will be geared more to student performance-based instruction. In addition, the teachers will be encouraged to use instructional strategies that enable students to be involved in debating topics with other students, complete projects that involve students to peer research, and collaborating with peers to come to a consensus decision based on facts and research.

This study is not merely suggesting that “teaching to the test” is an ineffective way of teaching. This study is challenging school leaders to realize that the accountability level that NCLB imposes and its impact on instruction. Because this study reveals that no one teaching style is more appropriate in a specific environment, teachers should balance both student-centered and
teacher-centered styles of instruction in order to best teach the all students. In addition, district and school administrators need to understand the impact of high-stakes testing and work towards strengthening teaching quality, as well as the quality of instruction.

Recommendations for Policy and Practice

This study revealed that teaching styles does not mediate the relationship between SES and Math/Language MCT2 scores and Accountability and Math/Language MCT2. In addition, many teachers were not categorized as student-centered teachers based on the PALS questionnaire; therefore, recommendations for policy and practice include but are not limited to the following:

1. Because of NCLB, many districts purchase curriculum programs that require teachers to implement a specific teaching style. Although this study indicated that the teaching style did not mediate the relationship of Language or Math MCT2 scores regardless of SES status or school’s Accountability Status, there is overwhelming evidence in the literature to the contrary. Because of this study’s indication, districts should not focus on one specific teaching style being a critical factor for improving the students’ academic achievement. Instead, the districts should focus on improving teachers’ quality of instruction using both student-centered and teacher-centered styles.

2. Literature provided in this study reflects that the teacher generally guides classroom instruction, and the teacher determines the procedure for the
learning objectives (Jarvis, 2002). Because the results of this study concluded that no one teaching style is the most appropriate for any specific students in any given environment, teachers need to have a clear understanding of the knowledge and skills represented by the state standards and state assessments in order to provide appropriate instructional strategies in teaching the content. Therefore, districts should spend time and money by providing professional development for both teaching strategies, teacher-centered and student-centered.

3. This study indicated that teachers were implementing predominately teacher centered instruction. This could pose a problem when teachers begin to implement Common Core Standards. Because the Common Core Standards are so different than current state standards and the expectations are different for students (MDE, 2011), educators should implement teaching style trainings within the Common Core Standards trainings.

4. According to the MDE, (2011), the new Common Core Standards have Speaking and Listening Standards that were not included in the current Mississippi State Standards. These standards involve collaboration with partners about topics and debating issues. These standards also involve collaboration among their peers within mastering specific objectives. Literature in this study discussed that teacher-centered classroom designs demonstrate majority of students desks face the teacher where the teacher is delivering the content to the whole lecture style (Lord, 1999).
This study indicated that the majority of teachers are teacher-centered. However, this style of instruction could pose a problem when implementing many of the Mississippi State Common Core Standards. District personnel, administrators, and teachers need guidance in how to change and when to change their teaching style to fit the need of the students based on the specific standard.

Recommendations for Future Research

This study concentrated on relationships between teaching styles and academic success. This particular group of teachers was categorized predominately as teacher-centered teachers based on the results of the completed questionnaires. Further examination of implementation of teaching styles is justified.

A possible avenue for future study in this area would be to investigate the following:

1. Because this study focused on specific grades that were state tested, future study could compare the teacher styles with the non tested areas to tested areas to determine if there is a significant difference in the styles of instruction.

2. Future study could focus on teacher attitude toward teaching styles being implemented to determine if teachers are using the teaching style of their choice or a teaching style preferred by their school district.
Dear Superintendent,

I am Principal at Dixie Attendance Center (Forrest County School District) and a doctoral student at The University of Southern Mississippi. For my dissertation research I am interested in studying the relationship between classroom level teaching styles and MCT2 scores. More specifically, I want to survey teachers to identify their teaching style and compare this with classroom level MCT2 scale scores. Teaching styles will be analyzed in the context of student-centered versus teacher-centered strategies using a well established survey instrument (PALS). A comparison will be made between classrooms in high poverty and low poverty schools as defined by the number of students eligible for free or reduced lunches. The study will include Language Arts and Math MCT2 scores. The results of this study can lead to a greater understanding of classroom practices that are most beneficial for students of varied backgrounds and which may impact student achievement. Districts participating in this study will remain confidential, but will be provided with the overall results of this study.

Your district has been identified for inclusion in this study and I am seeking your permission to survey 4th, 5th, and 6th grade teachers in your district. If you agree to participate in this study, I will need a list of 4th -6th grade teachers and their classroom data (Scale Score) from MCT2 scores for 2009-2010 school year. I will also need permission to visit schools to distribute surveys to participating teachers.

I assure you the information you provide will remain confidential. It will not be used to evaluate teachers or schools in any manner. The names of the students, teachers, or schools will not be reported. Each teacher’s name will be transformed to a code and that code will be used to continue the survey. Specifically, there is a need to match responses on the teaching style survey to specific MCT2 scores. The data will be aggregated. No individual’s results will be reported. All data in this study will be retained in a secure location and the anonymity of participants will be protected. This study will also be approved by
the Human Subjects Review Board at The University of Southern Mississippi prior to data collection.

I believe that the results will lead to a greater understanding of how teachers affect instruction depending on the environment. I will be glad to further discuss this research with you and/or answer any questions you might have. I appreciate your consideration for allowing your district to participate in this study.

If you agree to participate in this study, please complete the following page and return in the enclosed envelope. Again, I appreciate your willingness to participate in this study.

Sincerely,

Hollie Parker
(School District)

You have permission to conduct your research in the following schools. I understand that the district will need to provide you a list of 4\textsuperscript{th}, 5\textsuperscript{th}, and 6\textsuperscript{th} grade teachers and their classroom level MCT2 scale scores for Language Arts and Math. I further understand that teachers’ names will not be reported in the study.

<table>
<thead>
<tr>
<th>Schools were listed here</th>
<th>Participation Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

Signature: ______________________  Date: ______________________

Please complete this form and return in the self-addressed envelope provided.
The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 11020801
PROJECT TITLE: Student-Centered Versus Teacher-Centered Teaching Styles in High Poverty and Low Poverty Schools and Their Impact on Language Arts and Math MCT2 Scores
PROPOSED PROJECT DATES: 01/01/2011 to 07/11/2011
PROJECT TYPE: Dissertation
PRINCIPAL INVESTIGATORS: Hollie Parker
COLLEGE/DIVISION: College of Education &
Psychology DEPARTMENT: Educational Leadership
FUNDING AGENCY: NIA
HSPRC COMMITTEE ACTION: Expedited Review Approval PERIOD OF APPROVAL:
02/08/2011 to 02/07/2012

Lawrence A. Hosman, Ph.D.

HSP RC Chair
2-9-2011 Date
Dear Superintendent (This was individualized),

I am very pleased that you are allowing (School District) to participate in my study of the relationship between classroom level teaching styles and MCT2 scores. I appreciate you allowing me to survey your 4th, 5th and 6th grade teachers that teach Math and/or Language Arts to identify their teaching style and compare this with classroom level MCT2.

A recent letter was sent to you and you gave me permission to obtain the teachers scale scores for Language Arts and/or Math in grades 4th, 5th, and 6th. Please note that the teachers’ names will not be reported in the study. Once receiving this information, the name of the teacher will become a code and further reports will be represented by the code instead of the teachers’ names.

Once Again, thank you for your cooperation. Your help is a critical ingredient in the success of this study. I look forward to sharing the results with you.

Please complete the attached information and return to me by ********

Sincerely,

Hollie Parker
Doctoral Candidate
The University of Southern Mississippi
2009-2010 MCT SCALE SCORES

Please complete the following: (If a teacher taught more than one class, please list each scale score).

<table>
<thead>
<tr>
<th>Teacher’s Name</th>
<th>Grade</th>
<th>Subject</th>
<th>Scale Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Hollie</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parker</td>
<td>4th</td>
<td>Math</td>
<td>142</td>
</tr>
</tbody>
</table>

If you have any questions or concerns, please call me at 601-520-5673 or email holliegore@aol.com.

Thank You for your support.
APPENDIX D

LETTER TO PRINCIPAL

Hollie Parker  
2959 Monroe Road  
Moselle, MS 39459  
601-520-5673

(Date)

Dear Principals (This was individualized),

I am Principal at Dixie Attendance Center (Forrest County School District) and doctoral student at The University of Southern Mississippi. For my dissertation research I am interested in studying the relationship between classroom level teaching styles and MCT2 scores. More specifically, I want to survey teachers to identify their teaching style and compare this with classroom level MCT2. Teaching styles will be analyzed in the context of student-centered vs teacher-centered strategies using a well established survey instrument. A comparison will be made between classrooms in high poverty and low poverty schools as defined by the number of students eligible for free or reduced priced lunches. The study will include Language Arts and Math MCT2 scores. The results of this study can lead to a greater understanding of classroom practices that are most beneficial for students of varied backgrounds and which may impact student achievement. Schools participating in this study will remain anonymous, but will be provided with the overall results of this study.

(Superintendent’s Name) has approved for me to collect data from your school. Please give the enclosed PALS survey to each 4th, 5th, and 8th grade teachers that were provided by your superintendent. I will collect the surveys on (DATE). Each teacher that completes the survey will be entered in a drawing of ($50.00).

I assure you the information your teachers provide will remain confidential. It will not be used to evaluate teachers or schools in any manner. The names of the students, teachers, or schools will not be reported. Each teacher’s name will be transformed to a code and that code will be used to continue the survey. Specifically, there is a need to match responses on the teaching style survey to specific MCT2 scores. The data will be aggregated. No individual’s results will be reported. All data in this study will be retained in a secure location and the anonymity of participants will be protected. This study will also be approved by the Human Subjects Review Board at The University of Southern Mississippi prior to data collection.

I believe the results will lead to a greater understanding of how teachers affect instruction depending on the environment. I will be glad to further discuss this research with you and/or answer any questions you might have. I appreciate your consideration for allowing your district to participate in this study.

Sincerely,

Hollie Parker
APPENDIX E

LETTER TO TEACHERS

(Date)

Dear Teachers,

Obtaining feedback from teachers is important for addressing educational needs. I am collecting data from 4th, 5th, and 6th grade teachers for a study in the relationship between classroom level teaching styles and MCT2 scores. It should take approximately 15 minutes to complete this survey. Your participation is completely voluntary and the results will remain anonymous and confidential. You may decline or withdraw participation at any time without penalty or loss of benefit. There are no known risks involved with your participation outside of the inconvenience of completing the survey. Further, results from this study are intended to help provide necessary support for teachers. Once data is collected and analyzed, results will be presented in a dissertation; the names of teachers, schools, and districts will never be revealed. All responses will be aggregated so that no individual can be identified.

This research (assuming IRB approves) project has been approved by the Institutional Review Board (IRB) at The University of Southern Mississippi. IRB approval ensures that all federal research guidelines are followed and participants are protected from risks. By completing and returning the attached questionnaire, you give the researcher permission to use the data as stated above. Any questions, or concerns about your rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820, or Hollie Parker, (601)-520-5673.

If you do not have any questions and are willing to participate, please do the following:

1. Complete the following questionnaire.
2. Return it to the collection box in your school’s Teacher Workroom by (date)

Thank you in advance for your assistance with my research project.

Sincerely,

Hollie Parker
Doctoral Candidate
The University of Southern Mississippi
PRINCIPLES OF STUDENT LEARNING (MODIFIED)

Please tell about yourself

1. Gender: Male ________ Female ________

2. Highest degree earned:
   _____ Bachelors (B.S., B.A., etc.)  _____ Masters (M.S., M.Ed., etc.)
   _____ Specialists (Ed.S)  _____ Doctorate (Ph.D., Ed.D.)
   _____ Other, please specify: _____________________

3. Total teaching experiences in years (including this year): ____________

4. Please check the classification(s) that best represents your primary teaching assignment during the 2009-2010 school year.
   _____ 4th  _____ 5th  _____ 6th

5. Please check the subject(s) you taught in 2009-2010 school year.
   _____ Mathematics  _____ Language Arts  _____ Did NOT teach Math/Language Arts

6. Please check the classification that best describes your teaching position:
   _____ Self-Contained Classroom (teach the general subjects to your students)
   _____ Departmentalized (teach only certain subjects to your students)
Principles of Student Learning Scale (MODIFIED)

Directions: The following survey contains several things that a teacher might do in a classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you most frequently practice the action described in the item. Your choices are Always, Almost Always, Often, Seldom, Almost Never, and Never. If the item does not apply to you, select never. Please circle only one.

1. I allow students to participate in developing the criteria for evaluating their performance in class.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

2. I use disciplinary action when it is needed.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

3. I allow older students more time to complete assignments when they need it.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

4. I encourage students to adopt middle-class values.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

5. I help students diagnose the gaps between their goals and their present level of performance.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

6. I provide knowledge rather than serve as a resource person.
   
   Always    Almost Always    Often    Seldom    Almost Never    Never

7. I stick to the instructional objectives that I write at the beginning of a program.
8. I participate in the informal counseling of students.
   Always  Almost Always  Often  Seldom  Almost Never  Never

9. I use lecturing as the best method for presenting my subject material to students.
   Always  Almost Always  Often  Seldom  Almost Never  Never

10. I arrange the classroom so that it is easy for students to interact.
    Always  Almost Always  Often  Seldom  Almost Never  Never

11. I determine the educational objectives for each of my students.
    Always  Almost Always  Often  Seldom  Almost Never  Never

12. I plan units which differ as widely as possible from my students' socio-economic backgrounds.
    Always  Almost Always  Often  Seldom  Almost Never  Never

13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.
    Always  Almost Always  Often  Seldom  Almost Never  Never

14. I plan learning episodes to take into account my students' prior experiences.
    Always  Almost Always  Often  Seldom  Almost Never  Never

15. I allow students to participate in making decisions about the topics that will be covered in class.
    Always  Almost Always  Often  Seldom  Almost Never  Never
16. I use one basic teaching method because I have found that most students have a similar style of learning.

   Always   Almost Always   Often   Seldom   Almost Never   Never

17. I use different techniques depending on the students being taught.

   Always   Almost Always   Often   Seldom   Almost Never   Never

18. I encourage dialogue among my students.

   Always   Almost Always   Often   Seldom   Almost Never   Never

19. I use written tests to assess the degree of academic growth in learning rather than to indicate new directions for learning.

   Always   Almost Always   Often   Seldom   Almost Never   Never

20. I utilize the many competencies that most students already possess to achieve educational objectives.

   Always   Almost Always   Often   Seldom   Almost Never   Never

21. I use what history has proven that students need to learn as my chief criteria for planning learning episodes.

   Always   Almost Always   Often   Seldom   Almost Never   Never

22. I accept errors as a natural part of the learning process.

   Always   Almost Always   Often   Seldom   Almost Never   Never

23. I have individual conferences to help students identify their educational needs.

   Always   Almost Always   Often   Seldom   Almost Never   Never

24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.
Always       Almost Always       Often       Seldom       Almost Never       Never
25. I help my students develop short-range as well as long-range objectives.

Always       Almost Always       Often       Seldom       Almost Never       Never
26. I maintain a well-disciplined classroom to reduce interferences to learning.

Always       Almost Always       Often       Seldom       Almost Never       Never
27. I avoid discussion of controversial subjects that involve value judgments.

Always       Almost Always       Often       Seldom       Almost Never       Never
28. I allow my students to take periodic breaks during the class.

Always       Almost Always       Often       Seldom       Almost Never       Never
29. I use methods that foster quiet, productive, deskwork.

Always       Almost Always       Often       Seldom       Almost Never       Never
30. I use tests as my chief method of evaluating students.

Always       Almost Always       Often       Seldom       Almost Never       Never
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.

Always       Almost Always       Often       Seldom       Almost Never       Never
32. I gear my instructional objectives to match the individual abilities and needs of the students.

Always       Almost Always       Often       Seldom       Almost Never       Never
33. I avoid issues that relate to the student's concept of himself/herself.
34. I encourage my students to ask questions about the nature of their society.

35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.

36. I have my students identify their own problems that need to be solved.

37. I give all students in my class the same assignment on a given topic.

38. I use materials that were originally designed for students in elementary and secondary schools.

39. I organize learning episodes according to the problems that my students encounter in everyday life.

40. I measure a student's long-term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.

41. I encourage competition among my students.
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YOUR ASSISTANCE IS GREATLY APPRECIATED. THANK YOU FOR YOUR TIME.
APPENDIX G

PERMISSION TO USE AND MODIFY PALS

From: Gary J. Conti <gjconti@earthlink.net>
To: holliegore@aol.com
Subject: Re: PALS
Date: Thu, Mar 25, 2010 6:24 am
Attachments: SPSS_Scoring_Program_for_PALS.pdf (12K),
Adult_Literacy_Article_on_PALS.pdf (186K), Identify_Your_Teaching_Style--
(1814K), PALS_Dissertations.pdf (696K), PALS_with_adult_removed.pdf (29K),
PALS.pdf (30K)

Hollie:

Sorry for the delay in responding, but I just discovered your message in my quarantined file. I have not used PALS with educators at this level nor know of anything in the literature. However, I think you have a strong conceptual base for doing this. Knowles started out arguing that andragogy, which is really a learner-centered approach to the teaching-learning process, was how adults learned. Of course, he had to do this because in the 1960s adult education was trying to establish itself as a distinct field of study. However, over the years he expanded this to say that andragogy (i.e., the learner-centered approach) is really how people learn naturally. Of course, schools restrict this natural process! Thus, your study would be a great way to test Knowles' argument and to see how much his ideas are accepted at this level. You also have strong support in my opinion for the grade levels you have chosen. Grade 4 is the level where the emphasis shifts from learning to read to using reading to learn content. After 8th grade, there is also a major shift. Eighth grade is about dealing with the change to adolescence while 9th grade is the shift to high school credits and graduation (I taught 8th graders for 9 years; it was a great experience!). It would be fun to look at K-3 also to see if they are more learner-centered because of the focus on teaching the basics in reading and math, but you can save that study for after graduation!

If you want to use PALS with the group, I suggest that you drop the word "adult" from the questions. I have done that in some training sessions, and some of my students have done it in their research. It does not change the questions, and I wish that I would have done that originally. All you need to do is to make a brief statement about the word change in your methodology chapter. Then in your findings chapter, run a Cronbach's alpha (it is simple to do in SPSS once you have your data in the computer) to show that the reliability is solid, which it always is with PALS. You should be doing a Cronbach's alpha anyhow to show that the instrument is reliable for your sample; you will just get double use out of it.

Attached are some materials that may help you with your study. Let me know if you need any help once you get started...

--Gary
APPENDIX H

PALS SCORE SHEET

Principles of Adult Learning Scale (PALS) Score Sheet

Used by permission of Gary Conti

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### Specific Teaching Behaviors

**Learner-Centered Activities**

Add the new scores for items 2, 4, 11, 12, 13, 16, 19, 21, 29, 30, 38, 40

**Personalizing Instruction**

Add the new scores for items 3, 9, 17, 24, 32, 35, 37, 41, 42

**Relating to Experience**

Add the new scores for items 14, 31, 34, 39, 43, 44

**Assessing Student Needs**

Add the new scores for items 5, 8, 23, 25

**Climate Building**

Add the new scores for items 18, 20, 22, 28

**Participation in the Learning Process**

Add the new scores for items 1, 10, 15, 36

**Flexibility for Personal Development**

Add the new scores for items 6, 7, 26, 27, 33
Information for Scoring

- The total score indicate the strength of a teacher’s support for either a learner-centered or teacher-centered style of learning.
- Scores may range from 0 to 200. The average score for PALS is 146.
- Scores above 146 indicate a tendency toward the learner-centered mode of teaching.
- Scores below 146 imply support of a teacher-centered approach.
- Most scores will be within one standard deviation of the mean, that is they will be between 126 to 166.
- Movement toward either of these scores (126 or 166) indicates increased commitment toward one type of teaching or the other.
- Scores within two standard deviations indicate strong support, while scores within three standard deviations indicate extreme support.

- Your overall score can be divided into 7 specific factors that relate to specific teaching behaviors.
- Specific information can be found in your textbook on pages 80-82.
REFERENCES


NY: Teachers College Press.


Good, T. L., & Brophy, J. E. (1986). School effects. In M.C. Wittrock (Ed.),
*Handbook of research on teaching* (3). 570-600. NY: MacMillian.


http://www.epi.org/publications/entry/webfeatures_viewpoints_social_class_leaves_imprint/


