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An Analysis of the Impact of Continuous Progress Curriculum on Student Achievement

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The University of Southern Mississippi
AN ANALYSIS OF THE IMPACT OF CONTINUOUS PROGRESS
CURRICULUM ON STUDENT ACHIEVEMENT

by

Jessica LaRae Ladner Taylor

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 2012

ABSTRACT

AN ANALYSIS OF THE IMPACT OF CONTINUOUS PROGRESS CURRICULUM ON STUDENT ACHIEVEMENT

by Jessica LaRae Ladner Taylor

December 2012

There has been an emphasis on educators to improve student achievement, particularly in low socioeconomic schools. The latest research encourages educators to use student data to drive instruction. The purpose of this study was to determine if using data to arrange students by academic performance improves academic achievement. A middle school in Mississippi has implemented Continuous Progress Curriculum to group students based on multiple data points. Throughout the school year, data from tests and assignments are analyzed by teachers and administrators. Based on the data, students are moved to the most appropriate performance level that will address the skills and content the student needs to improve academic achievement. The study revealed an increase in student achievement.

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2012

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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

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December 2012

DEDICATION

This dissertation is dedicated to my husband, Jason L. Taylor, who has supported me in my career and education. Also, to my parents, Sam and Marie Ladner, who have instilled work ethics needed to be successful in life.

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CHAPTER I

INTRODUCTION

Background

Education has always been a concern around the world (Cotton, 2003). According to Walberg and Greenberg (1997), the citizens of the United States have been concerned about student achievement in schools for years. There are two sides to the concern: one side says that students are learning more and doing better on standardized achievement tests, and the other side says students are learning less than they ever did; however both sides agree that academic achievement is too low for one to compete in today's technologically advanced society, particularly among the minority and poor students (Chall, 2000).

For the past several decades, achievement tests have shown that student achievement is on the decline. One of the first indicators that student achievement is too low began as early as 1960; particularly in the 1970s and 1980s, scores on the Scholastic Achievement Tests (SATs) began to decline. Another indicator was the low achievement, particularly among minority and impoverished students on the National Assessment of Educational Process (NAEP) (Chall, 2000).

In response to the low test scores and the public's concerns about low student achievement, Mississippi, as well as the United States of America, has attempted to address the issue through legislation. Historically, Mississippi established accreditation to improve segregated public high schools in the late 1800s and the turn of the 20th century. In 1926, accreditation in the elementary schools was addressed; and in 1935 there were efforts to accredit African American schools. In 1970, the United States Supreme Court

ordered all Mississippi schools to desegregate. The order gave the state the freedom to order standards and procedures for the accreditation of schools and placed the responsibility of enforcing the law on the Mississippi Department of Education. In the 1980s, the Education Reform Act of 1982 was passed. This law demanded performance-based school accreditation, which focused on student mastery and student achievement. The law also changed the accreditation process from voluntary to mandatory. In 1994, legislation placed more importance on student achievement; this was done by requiring more rigorous standards and placing stricter accountability on schools. A performance-based accreditation system was implemented for individual schools and school districts in 1999, which set performance standards for each school in the state. These performances were based on high expectations for students, strong accountability for results, a process to implement accountability, and the development of a Comprehensive Student Assessment System. Senate Bill 2488, passed in 2002, provided that accreditation levels target individual schools rather than the school districts. Schools failing to meet the accreditation levels would be designated as Priority Schools. Accreditation would be based on meeting an annual growth expectation in student achievement and the percentage of students scoring basic and proficient. This law placed accountability on the superintendent, principal, teacher, student, and parent (Mississippi Department of Education, 2003-2004).

In 2002, President George W. Bush signed the No Child Left Behind Act into law. The writers of No Child Left Behind Act combined the requirements of the Elementary and Secondary Education Act (ESEA) and the Improving America's Schools Act of 1994 (IASA). The federal government has spent billions of dollars to help schools

prepare and meet the requirements of NCLB (GAO U.S. Government Accountability Office, 2009). NCLB requires states to develop an accountability system that begins testing students in the third grade through 12th grade. The students are tested regularly in science, reading, writing, and mathematics, and the students must show growth from year to year. Also, the system must desegregate the students' scores into groups based on race, gender, socioeconomics, special education, English Second Language, and migrant status. Each group must show growth in each tested subject each year and be proficient by 2014. The U.S. Department of Education (2002) stated, "NCLB empower parents, citizens, educators, administrators, and policymakers with data from annual assessments and give parents information about the quality of their children's schools, the qualifications of teachers and their children's progress in key subjects" (Sindelar, 2006, p. 6).

Since the advent of NCLB, educators have had the responsibility of improving student achievement. The use of data to close the achievement gap has become critical, but sorting students by test scores is not going to address student achievement alone (Sindelar, 2006). Educators must use data from tests to evaluate instructional practices and monitor students' academic progress. The new tests have provided educators with data that indicates what students are learning and if progress is being made toward learning goals. Now that educators have these data, the question of what to do with the information is left unanswered. The U.S. Department of Education has asked schools to use data to guide instruction to address students' strengths and weaknesses. Using data is a sound way to guide instruction to improve student achievement. Educators can make instructional changes such as prioritizing instructional time, targeting students with skill

deficits, developing interventions that help students' continue to progress, judge effectiveness of lessons, perfect instructional methods, and make school-wide decisions about curriculum changes (U.S. Government Accountability Office, 2009).

Theoretical Framework

This study examined the benefits of grouping or tracking of students based on performance on multiple assessment instruments using the Continuous Progress Curriculum (CPC). The topic of grouping students by ability has been a controversial issue for almost one 100 years. Research has shown that grouping students on the basis of ability offers little benefit to academic achievement. When compulsory education laws were passed, the one-room classroom school was replaced with separating students into "*learning groups*" based on those perceived to be slow, bright, or deficient. As immigrants and Southern Blacks moved into the urban areas of the North, the practice of "learning groups" became standard as an attempt to Americanize the students. Schools were able to socialize and prepare students for employment based on social class (Ansalone, 2010). For several years, researchers have developed the concept of social capital theory, which is defined as the norms and networks that enable people to act collectively. In other words, social capital is when a person relies on people one can relate to, especially in a time of need (Woolcock & Narayar, 1999). Social capital theory has been used to explain achievement disparities among children (Bassani, 2007). Researcher widely accepted that group diversity can promote creativity and new ideas, but according to recent studies, diverse groups may experience more conflict when compared to a homogeneous group (Paulus & Nijstad, 2003).

Even though grouping students is a controversial issue in education, tracking is practiced to an extent in every school. For example, gifted and special education students are grouped into classes based on one's perceived ability (Chall, 2000). In most elementary, middle, and high schools in the United States, students are grouped by high, average, or low ability in all academic classes. This is known as *between-class grouping* and is occasionally used is grouping for some subjects within the school day. Another form of tracking may take place within the classroom. The teacher may homogeneously group students for instructional purposes (Ansalone, 2010). Currently in education, the pendulum is swinging back towards the one-room schoolhouse style of instruction. The nonprofit group Re-Inventing Schools Coalition (RISC) supports grouping students based on performance rather than age level or grade level. RISC states that students should be able to progress through the curriculum based on mastery or performance (McLester, 2011). A more recent method used to group students is the Continuous Process Curriculum (CPC), which uses student data from assessment to group students based on performance rather than one's perceived ability (T. Williams, personal communication, 2010).

In 1931, Turney researched student grouping and found advantages to homogeneous grouping: teachers are able to individualize instruction, slower learners will more readily participate, and advanced students are not as likely to experience boredom (Ansalone, 2010). Since the 1970s and 1980s, educators have developed curricula based on Piaget's cognitive development theory. Piaget studied how children developed and learned how to solve problems, and he discovered that not all children develop at the same rate. Vygotsky took the social aspect Piaget's cognitive development

theory and further explained that a learner's social environment will affect the learning taking place. In addition, Vygotsky developed the "zone of proximal development (ZPD). Each person has a ZPD, which is the range of potential learning. The ZPD is still being researched through scaffolding, different types of grouping, and reciprocal teaching (McInerney, 2005).

There are four theoretical assumptions that come with homogeneous grouping; however, there is no research that supports three of the four assumptions. The first assumption is that academic achievement improves when students are homogeneously grouped. Some studies have shown increases in academic achievement for average and above average students, but the studies may have been politically influenced. Also, teachers have higher expectations for higher grouped students, and instructional strategies may be different from lower grouped students. The second assumption is that every group will get a fair and equitable education. Research has shown that homogeneous grouping causes students to be separated according to ethnicity, racial, and socioeconomic lines. Some view homogeneous grouping as an efficient method to prepare students for the appropriate level in the labor market. According to recent research, when immigrant students are compared to native students, immigrant students benefit from homogeneous grouping (Ryabov, 2009). The third assumption is that slower students will have a stigmatism from being in the low group. Waitrowski, Massey, and Wilson, (1982), found in his research that slower students in homogeneous groups had higher self-concept because there were no comparisons to brighter students. The fourth, which is supported by research, is that teachers prefer teaching homogeneous groups because planning for instruction is easier and makes remediation and enrichment possible in the classroom

(Ansalone, 2010). Recent research of teachers as a social and capital resource has shown a positive impact academic achievement (Schriner, Mullis, & Schlee, 2009). Research in the theory of Learning for Mastery has suggested that student participation in learning increases as instruction improves. The theoretical framework behind Learning for Mastery, which was developed by John B. Carroll, is that all students can master a concept or material if provided with appropriate instruction. Carroll developed a method to determine if a student was a fast or slow learner (Guskey, 1980).

Williams coined the term *Continuous Progress Curriculum* (CPC). CPC utilizes student data to organize students for appropriate instruction. Progress monitoring is used throughout the school year to ensure that academic achievement is increasing and to move students to appropriate instruction; in other words, students may start in a basic or low performing group and move to a proficient or average performing group before the end of the school year. Teachers must have resources to instruct each group appropriately (T. Williams, personal communication, April 14, 2011).

Research Questions

In 2007 four elementary schools in Mississippi implemented CPC; and in 2010 CPC was implemented in a Mississippi middle school. Each school is a Title I school with diverse demographics. This study pursued how CPC will disprove the four assumptions associated with homogeneous grouping:

1. Does homogeneous grouping increase academic achievement?
2. Does CPC help teachers manage instruction to close the achievement gap?

Research Hypotheses

H₀₁: Using CPC to homogeneously group students increases academic achievement.

H₀₂: Using CPC will improve instruction.

Definition of Terms

Homogeneous grouping- Tracking or the separation of students into ability groups is a common educational practice in the United States. Tracking may be accomplished either by the separation of students into whole classes of the same ability, within class groupings by the classroom teacher or the separation of students by ability in specific subject areas (Ansalone & Biarora, 2008).

Tracking- parents and students do have some choice in the programs of study. One should note that students' changing from one track to another is often difficult because of the prerequisites required for various courses (Bryson & Bentley, 1980).

Heterogeneous grouping- A method of grouping students with varying abilities, learning styles, backgrounds, and racial and ethnic groups in the same classes or work groups, with an emphasis on challenging curriculum and instruction for all students. Educators who practice heterogeneous grouping believe the diversity in their classes benefits every student and ensures equal access to valued knowledge (Wheelock, 1994).

Delimitations

1. This study is confined itself to students who attended a middle school in Mississippi from 2009-2010 to 2011-2012 school years.
2. This study does not determine if Mississippi students would have met academic growth without being placed in homogeneous grouping.

3. The study is limited to students who attended a middle school in Mississippi from 2009-2010 to 2011-2012 school year.
4. The study is limited to MCT2 scores.

Assumptions

For the purpose of this study, the following assumptions were applied:

1. All of the participants correctly read and understand the survey.
2. All of the participants answered the survey honestly.

Justification

The first purpose of this study was to determine if CPC increases student academic achievement. The potential benefit of this study is to allow administrators to use CPC to group students to improve student academic achievement. Based on existing literature, once a student is placed in a low ability group, there is a very small chance of the student ever moving into a higher ability group.

The second purpose of this study was to determine if teachers prefer to teach other ability groups besides just the advanced students. According to literature, teachers prefer to teach only the advanced students. The potential benefit of the study will help administrators with planning professional development to train and show teachers strategies to help educate lower performing students.

Summary

Educators will continue to debate the pros and cons of grouping students. Chapter I revealed the concerns of grouping students homogeneously. CPC uses different tactics for grouping students versus the traditional methods of grouping students. Chapter II will

cite literature that recommends that educators move students to a different group as the individual's academics improve.

CHAPTER II

REVIEW OF REALTED LITERATURE

Introduction

Benjamin Franklin could not have described the importance of an education better when he said,

Nothing can more effectively contribute to the Cultivation and Improvement of a Country, the Wisdom, Riches, and Strength, Virtue and Piety, the Welfare and Happiness of a People, than a proper Education of youth, by forming their Manners, imbuing their tender Minds with Principles of Rectitude and Morality, (and) instructing them in... all useful Branches of liberal Arts and Science.
(Hochschild & Scovronick, 2003, p. 9)

The United States of America spends more money and involves more people for education than any other government agency. Americans believe an education is the key to living the American dream. The American dream is described as people having enough money to support themselves and their family, the ability to choose their life path, have good interaction with family and friends, have a meaningful career, and feel like one is making positive contributions to society. Ninety percent of Americans believe that “equal opportunity for people regardless of their race, religion, or sex” is necessary for an individual to live the American dream, and almost all of the same believe that opportunities for people to succeed should be made available to everyone (Hochschild & Scovronick, 2003).

This chapter will discuss the general public’s concerns with education and one of the most debated controversial issues, which is ability grouping. Also, an explanation of

the historical background behind ability grouping, the types of grouping, the advantages and disadvantages, and legal issues will be provided.

Concerns

Education has always been a concern around the world (Cotton, 2003). According to Walberg and Greenberg (1997), the citizens of the United States have been concerned about student achievement in schools for years. There are two sides to the concern: one side says that students are learning more and doing better on standardized achievement tests, and the other side says students are learning less than they ever did; however, both sides agree that academic achievement is too low for one to compete in today's technologically advanced society, particularly among minority and poor students (Chall, 2000).

For the past several decades, achievement tests have shown that student achievement is on the decline. One of the first indicators that student achievement was too low began as early as 1960, particularly in the 1970s and 1980s when scores on the Scholastic Achievement Tests (SATs) began to decline. Another indicator was the low achievement, particularly among minority and impoverished students, on the National Assessment of Educational Process (NAEP) (Chall, 2000).

Grouping

How should educators assign students to classes to help address the public's concerns? Many schools have responded by homogeneous grouping students to better address students' individual needs. One of the hottest debates in education for decades has been homogeneous grouping of students. There have been over 1,000 studies from educators, psychologists, and sociologists on homogeneous grouping (Rogers, 2002).

According to Ansalone (2001), approximately 60% of elementary schools and 80% of secondary schools use some form of homogeneous grouping (Ansalone & Ming, 2006). The education system in the United States has often been viewed as promoting inequality, particularly for the disadvantaged population (Ansalone & Biafora, 2004). To quote Thomas Jefferson, “nothing is so unequal as the equal treatment of unequal people” (Fiedler, Lange, & Winebrenner, 2002, p. 2).

Heterogeneous Grouping

There are two types of grouping in schools: homogeneous grouping or ability grouping and heterogeneous-grouping or mixed-ability grouping. For the purpose of this research, heterogeneous grouping is defined as:

A method of grouping students with varying abilities, learning styles, backgrounds, and racial and ethnic groups in the same classes or work groups, with an emphasis on challenging curriculum and instruction for all students. Educators who practice heterogeneous grouping believe the diversity in their classes benefits every student and ensures equal access to valued knowledge. (Wheelock, 1994, p. 76)

Researchers urge schools to use heterogeneous grouping. However, there are some educators who warn of the dangers of teaching a heterogeneous group. A math teacher from California stated:

They have attempted some of this heterogeneous grouping. And they are finding that it is a disaster... . The fast students in the class are the ones that are controlling the class, in that they have all the answers. And the really slow students in the class are absolutely lost. They have no idea what's going on. And

they are causing mayhem in the classrooms... Teachers who have had good control in the classroom in the past are finding that they are ineffective in working with these heterogeneous groupings. (Hochschild & Scovronick, 2003, p. 166)

On the other hand, a middle school English teacher preferred a heterogeneous grouped class and stated,

Cooperative learning works better with heterogeneous classes. There's more to draw from. But, more importantly, we have not just that technique but a number of other techniques and things that we should have been doing for years but kind of gave up when we gave up one-room schoolhouses- peer tutoring, different grouping practices, flexible grouping practices, kids working in pairs. (Hochschild & Scovronick, 2003, p. 166)

Heterogeneous schools have common traits. The school has high expectations with clearly defined outcomes for all students. Schools that utilize homogeneous grouping implement a flexible schedule that allows time for remediation for struggling students. Teachers must use authentic instruction, which is defined as:

A method of alternative instruction that focuses on increasing students' problem-solving abilities in "real-life" situations. Common features of authentic instruction include an emphasis on developing students' higher order thinking skills, increasing their depth of knowledge, connecting class work and subjects to the world, encouraging substantive conversation of issues being studied, and providing needed social supports for student achievement. (Wheelock, 1994, p. 75)

However, many teachers disagree with heterogeneous grouping because of a lack of experience and training (Yates, 1966).

Homogeneous schools provide structure and support routines that promote individual learning. For example, a team composed of a special education teacher, core curriculum teacher, and other specialists collaborate during the common planning time to develop a lesson that meets the needs of individual students. In homogeneous secondary schools, the counselor works with students to select courses of interest. The College Board published the following recommendations for counselors in the publication *Keeping the Options Open*

1. Establish a broad-based process in each local school district for determining the particular guidance and counseling need of the students within each school and for planning how best to meet those needs.
2. Developing a program under the leadership of each school principal that emphasizes the importance of the guidance counselor as a monitor and promoter of student potential as well as a coordinator of the school's guidance plan.
3. Mounting programs to inform and involve parents and other influential family members in the planning, decision-making, and learning activities of the student.
4. Providing a program of guidance and counseling during the early and middle years of schooling, especially for students who traditionally have not been well-served by the schools. (Wheelock, 1994, p. 50)

Meeting the needs of high-achieving and low-achieving students in the same classroom seems to be an overwhelming challenge for a teacher. Professional development is necessary to prepare teachers on learning theory, instructional strategies, and classroom techniques to instruct a heterogeneous grouped class (Wheelock, 1994).

Definition

For the purpose of this research, the term homogeneous grouping instead of will be replaced with the term ability grouping. The terms homogeneous grouping and tracking are often used interchangeably but are considerably different. The term tracking is described as:

The practice of assigning students at the junior and senior school levels to a specific curriculum such as general, vocational, business, or college preparatory is known as tracking. The assignment may be based on intelligence tests, achievement tests, past performance, teacher judgments, or a combination of these. Tracking is different from the various grouping practices in elementary schools in that parents and students do have some choice in the programs of study. One should note that students' changing from one track to another is often difficult because of the prerequisites required for various courses. (Bryson & Bentley, 1980)

Homogeneous grouping can take many different forms--- the teacher may form groups within the classroom or students are placed in classes based on ability. For the purpose of this study, the definition of homogeneous grouping used in Ansalone and Biarora's (2008) study will be used:

Tracking or the separation of students into ability groups is a common educational practice in the United States. Tracking may be accomplished either by

the separation of students into whole classes of the same ability, within class groupings by the classroom teacher or the separation of students by ability in specific subject areas. (p. 593)

History

The practice of grouping students occurred before the birth of Christ. Students were grouped based on age and gender. During the Grecian era, education varied among the region. The classification of an individual, whether a slave, a woman, or a man, determined the form of education that was offered to the Greeks. For example, women in Athens had limited amounts of education, and women from Sparta were educated to birth children for military purposes. Children in upper classes only and some athletes were allowed to attend privileged schools (Kpinkpin, 2004). During Medieval times (500 through 1400 A.D.), females were allowed to receive an education, depending on the center of the individual's commitment to religion. The first sign of homogeneous grouping began in 1867 in the Missouri public school system that was known as the Harris Plan, which was in response to the migration of a large number of freed slaves. The practice of homogeneous grouping spread throughout the country as immigrants settled in the United States. As a result, the one-room schoolhouse was replaced with factory style schools so that immigrants and Blacks could become more Americanized. Researchers began to pressure schools to change the structure when studies showed that immigrant students were dropping out. The school system began to offer tracks for higher education and vocational education for disadvantaged students. In the 1920s in Detroit, Michigan, schools grouping students became more reliable with the introduction of the IQ exam. The practice spread over the next decade into other schools across the country

(Franklin, 1967). The Civil Rights Act of 1964 stated that separation of educational facilities was “inherently unequal.” Homogeneous grouping became an even more popular effort to segregate students based on race (Ansalone & Biafora, 2008). The general public became concerned with educational equality in the 1970s and 1980s. As a result, many schools discontinued homogeneous grouping. During the 1990s, the general public became concerned with academic achievement, which caused the pendulum to swing back into the direction of homogeneous grouping (Boaler, William, & Brown, 2000).

Why Group

Not all schools provide the same education; some schools provide an excellent education while others are in deplorable conditions. Some students come to school well-fed, clothed, and ready to learn while some students do not. In most schools almost all of the student population is at least second generation Americans while others have recently immigrated to the United States and do not speak any English. Some school districts have an influx of highly qualified teachers while some school districts cannot find someone to place in the classroom. Despite the efforts of state laws to provide equal funding for education, inequalities in spending still exist (Hochschild & Scovronick, 2003). A school’s culture is a determination to use or not to use homogeneous grouping (Hallam, 2002). Despite the amount of research that states homogeneous grouping does not increase student achievement, school systems continue the practice because the average educator is convinced that the strategy is best suited for education and children (Ansalone & Biafora, 2006).

History has shown that there are several reasons for homogeneous grouping. The main reason for grouping is to deal with the large masses of students who possess an array of skills and knowledge, are at different stages of development, and learn at different rates. Logically students should be grouped so that the instruction of a lesson can be more efficient (Slavin, 1987). Students need to develop a realistic view of one's own ability; therefore, an appropriate scale should be used for comparison (Fiedler et al., 2002).

A study conducted by Galton, Simon, and Croll (1980) discovered that about 70% of teachers use grouping or seating arrangements to manage behavior problems. According to Anderson (1986) a teacher's classroom management skills and instruction have a greater effect on student achievement than the type of grouping. Teachers must adapt instruction and resources to each group's needs (Pigford, 1990). According to Marzano (2000), the *opportunity to learn* (OTL) has the greatest effect on student achievement.

Types of Grouping

Slavin (1986) described two types of homogeneous grouping: between class and within class (Pigford, 1990). Between-class grouping is defined as the practice of grouping students with similar abilities into separate classes for the purpose of providing them with instruction targeted to their perceived abilities (Wheelock, 1994). There are different methods that are employed to assign students to the classes. Within class grouping is defined as an alternative to homogeneous grouping; these student groupings are flexible, temporary, skill-specific, and designed to support students' success in heterogeneous classes that emphasize challenging curricula and instruction (Wheelock,

1994). Cooperative learning is a strategy used in heterogeneous classrooms as well. Any of the types of grouping can be mixed and matched (Slavin, 1987).

Usually students are assigned to between-class grouping based on achievement, IQ, teacher judgment, and/or ability. This method produces high performing, average performing, or low performing classes. Slavin (1986) identified 14 research studies that found that there is no growth in standardized achievement with this form of homogeneous grouping. According to Borg (1965) and Flair (1965) found that there is some evidence of academic growth among advanced students (Slavin, 1987). The gifted and talented students showed significant gains in academic achievement when homogeneously grouped compared to the heterogeneously grouped gifted and talented students (Rogers, 2002).

Regrouping for reading and/or mathematics is another form of between-class grouping. Students are grouped based on achievement and/or ability in reading and mathematics while the other subjects are heterogeneously grouped. This form of grouping has three advantages: (a) reduces the labeling effect, (b) scheduling for two classes is simpler, and (c) students are not grouped on general achievement. Research has shown positive effects on regrouping as long as the instruction targets the students' performance level. However, Koontz (1961) found no significant gains in achievement if more than two subjects use homogeneous grouping (Slavin, 1987). Regrouping for reading and mathematics has shown significant gains in academic achievement for the gifted and talented students (Rogers, 2002).

Blatchford, Baines, and Kutnick (2002) completed a study on within class grouping in a live or real classroom. The study examined the following: size and

composition of the group, interactions between group members, the interaction of the teacher and the group, and the connection of the assignment and the curriculum. The study revealed that most groups consisted of four to six members, although there is no evidence to support the reason for the group size. In some instances, students, mostly boys, were unable to work with a group due to special needs or behavior problems. According to Cullingford (1988), groups of three should be avoided because one student will be left out. Many of the groups were assigned based on academic ability. The low achievers, mostly boys, needed attention from the adult who was not the teacher to help manage the group and help with the assignment. On the other hand, the teacher would work with the high-achieving group, mostly girls. Most groups consisted of an equal mix of boys and girls who did not have any friendships between the individuals. Despite the recommendation from Zajac and Hartup (1997) to place friends in the same group for support and cognitive interchange, teachers rarely followed the advice. Most of the assignments were for practice or application of the skill or knowledge to a new area. All of the classes had at least one teacher present and about 50% had a second adult such as a parent volunteer or a student teacher. Collaboration among the students was rare. About 25% of the students interacted with the teacher rather than the group members (Baines, et al., 2002).

The Joplin Plan is a form of regrouping that is closely related to non-graded plans. The Joplin Plan does not take into account grade levels. A reading class may contain third, fourth, and fifth graders. The teacher is allowed more time to spend on direct instruction with students rather than creating within class grouping. Also, the time of

unsupervised independent work is reduced greatly. Different studies have revealed a positive effect on reading achievement and mathematics achievement (Slavin, 1987).

Educators began grouping students by chronological age after large numbers of students began to enter school. However, teachers noticed that students may be the same age but are at different developmental stages. As a result, schools began nongraded plans, which is a form of between-class grouping (Franklin, 1967; Slavin, 1987). Nongraded plans are basically the same as the Joplin Plan, but they incorporate more subjects and accommodates regrouping within and between classes (Slavin, 1987). The term nongraded is defined as:

Schools or classes that group children together during the primary or elementary school years, without concern for their age or what grade the child is in, such as in, such as first, second, or third grade (not to be confused with the elimination of letter grades). (Wheelock, p. 76)

The teacher or teams of teachers individualize instruction for each student. In situations where true nongraded plans were practiced, studies found positive effects on student achievement (Slavin, 1987).

Gifted classes are a form of between-class ability grouping (Slavin, 1987). Studies consistently show that gifted and talented students benefit academically when homogeneously grouped (Armor, Rossell, & Walberg, 2002). Researchers have always questioned the validity and reliability of assessments used to identify gifted and talented students. Research has shown that minority students are by and large disproportionately represented in 30% to 70% of the gifted and talented programs (Artiles & Zamora-Duram, 1997). In elementary schools, gifted classes are offered for students who are

classified as gifted and talented. At the secondary level, accelerated classes or advanced courses are offered for gifted and talented students. The studies of the effects of grouping gifted and talented students are inconsistent. Atkinson and O'Connor (1963) found studies that courses for the gifted and talented student have been beneficial. On the other hand, Baldauf (1959), Becker (1963), and Cluff (1964) have not found significant advantages to homogeneously grouping the gifted and talented students (Slavin, 1987). Many of these studies produce unfair results because gifted students were compared to non-gifted students. The students may have had the same IQ but one was not accepted into the gifted program because of some other measure (Slavin, 1987, Fiedler et al., 2002). Some researchers fear that the gifted and talented students will form a superior complex when homogeneously grouped. Educators who work with gifted and talented students help develop an understanding and promote individual differences. A sense of superiority is enabled when a few gifted and talented students are a part of a heterogeneous group. According to Feldhusen, Hoover, and Saylor (1990) gifted and talented students' self-esteem is lowered when homogeneously grouped (Fiedler et al., 2002).

Special education classes for students with learning disabilities, emotional disabilities, and mental retardation are a form of between-class ability grouping. The same issues with studies of homogeneously grouping gifted and talented apply to homogeneously grouping special education students. There are a few studies that compare academic achievement of special education students to those in regular classes to special education classes. According to Goldstein, Moss, and Jordan (1966), special education students in special education classes showed the same amount of academic

achievement compared to special education students placed in regular education. Calhoun and Elliot (1977) found that when mildly retarded students and emotionally disturbed students showed academic growth compared to those placed in a special education class. Generally, studies have proven that special education students benefit when placed in regular education with accommodations and support (Slavin, 1987).

Another form of between-class grouping is departmentalization, which is normally seen in upper elementary and middle school level. Departmentalization can take different forms- a teacher may teach a single subject to five or six different classes or teach a set of subjects, such as reading and language arts. The teachers are able to focus instruction in the subject of interest. A shortcoming to departmentalization is some students may have a difficult time forming relationships with teachers. Like the other studies of between-class grouping, the results are inconsistent. Jackson (1953) found no evidence that departmentalization in elementary schools and middle school improves student achievement. To support this evidence, a study of self-contained seventh and eighth graders showed academic growth when compared to departmentalized seventh and eighth graders (Slavin, 1987). Some criticism of departmentalization is that *deep learning* is interrupted by a bell (Franklin, 1967, p. 231). For departmentalization to be effective, the teacher must know one's students' academic needs (Franklin, 1967). One study conducted by Case (1971) showed a positive effect on academic achievement when a group of fifth graders in a new middle school was compared to self-contained elementary school students (Slavin, 1987).

Most individuals remember being in first grade and being placed in a reading group, usually named blue birds, red birds, and so on. This strategy is known as within

class ability grouping to ameliorate instruction for students' achievement, ability, and learning rate. Most teachers use within class grouping for reading and mathematics. Good classroom management is essential for within class grouping. Supervision of students working on independent seat work is limited while the teacher is instructing other groups, which can lead to discipline issues in the classroom. Research of within class ability grouping has been restricted to mathematics, which supports the practice. Of the eight studies Slavin (1986) completed on within class ability grouping, one showed of the eight showed to some extent a higher gain for low achievers (median $ES = +.65$) than the average achievers and high achievers (Slavin, 1987).

A form of within class ability grouping exists for mastery learning (Slavin, 1987). Research in the theory of Learning for Mastery has suggested that student participation in learning increases as instruction improves. The theoretical framework behind Learning for Mastery, which was developed by John B. Carroll, is that all students can master a concept or material if provided with appropriate instruction. Carroll developed a method to determine if a student was a fast or slow learner (Guskey, 2001). The philosophy behind mastery learning is that each student should receive an instructional program that meets the individual's needs, which would be overwhelming for any teacher (Muse, 1998). There are different forms of mastery learning. The first form is group-based mastery learning. The whole class receives instruction on a lesson and then takes a formative assessment, and the students that score above the set criteria, which is usually 80%, complete enrichment activities while the students who did not meet the criteria receive direct instruction to correct the knowledge and/or skill. Another form of mastery learning is the individualized or continuous-progress form, which is usually used at the

college level. Students are allowed to take as much time as they need to complete lessons and take tests to cover the objectives of the course. Just like the research on all the other forms of homogeneous grouping, the conclusions are contradictory. Anderson, Scott, and Hutlock (1976) designed a study that compared the effect of traditional instruction to mastery learning in grades one through six. The study revealed that students who received traditional instruction performed better on standardized tests compared to students who received master learning ($ES = +.04$). The students who received mastery learning performed well on the assessments aligned with the mastery learning lessons. On the flip side, the study conducted by Jones, Monsaas, and Katims (1979) revealed that students that received instruction from a mastery learning reading program showed a small gain in reading comprehension on standardized tests when compared to students who received traditional instruction ($ES = +.09$) (Slavin, 1987).

Cooperative learning is a form of within class grouping. Cooperative learning is defined as:

A partner- or grouped-based instructional method where students work together on a project or assignment, with an emphasis on cooperation and team learning.

The students, who usually have varying abilities and backgrounds, assume well-defined roles as they work to complete the assignment. (Wheelock, 1994, p. 75)

The effects on cooperative learning depend on the strategy used to organize the group. There are different methods for organizing cooperative groups. The results of studies on cooperative learning are inconsistent. Some studies show that cooperative learning groups are beneficial in mathematics. However, other studies did not show any student achievement when cooperative learning groups had to complete tasks such as worksheets

or other products. When heterogeneous cooperative learning groups were used to complete a task, the grouping did not affect the student achievement, but the nature of the assignment and the rewards were the determining factor (Slavin, 1987).

Who Promotes Grouping

According to Ansalone and Biafora (2008), a study discovered that teachers are the main supporters of between class and within class homogeneous grouping because of the overwhelming task of teaching large classes composed of different academic abilities. Also, teachers are the main decision makers of assigning students into groups. Principals recognize the fact that homogeneous grouping does not improve student achievement, but they continue to employ the practice in an attempt to “save” the better students (Ansalone & Biafora, 2008). Another group of stakeholders that support ability grouping is White parents. In the case of *Hearn Independent School District v. State of Texas (2005)*, the superintendent dissolved all ability grouping in the school district which caused class assignments to be more racially mixed. As a result of the decision, White parents withdrew their children from school (*Hearn Independent School District v. State of Texas, 2005*). According to Payne, (2005) teachers may have difficulty addressing individual students’ instructional needs in a heterogeneously grouped class; therefore, students should be placed in subgroups by skill for reading and mathematics so that instructional support can be provided. A kindergarten through sixth grade elementary pre-tested every student in mathematics. The students were placed in groups based on skill level. Mathematics was taught at the same hour in every grade level. The students showed academic growth in two years (Payne, 2005).

Research of Grouping

There are many studies on the effects of grouping students. Despite the fact that there is no prevailing research that supports homogeneous grouping for every subject, schools continue to implement the practice. Slavin (1990) conducted a meta-analysis study of homogeneous grouping at the secondary level where he found no academic achievement for any particular group of students. Slavin (1990) explained the results by stating,

[It] is surprising to find that assignment to the low-ability group is not detrimental to students' learning. A substantial literature has indicated the low quality of instruction in low groups (e.g. Everston, 1982; Gamoran, 1989; Oakes, 1985) and a related body of research has documented the negative impact of ability grouping on the motivations and self-esteem of students assigned to low groups... Studies contrasting teaching behaviors in high- and low-track classes usually find that the low tracks have a slower pace of instruction and lower time-on-task (e.g. Everston, 1982; Oakes, 1982). Yet the meaning and impact of these differences are not self-evident. It may be that a slower pace of instruction is appropriate with lower-achieving students, or that a pace is relatively unimportant because a higher pace with lower mastery is essentially equivalent to a lower pace with higher mastery... In this regard, it is important to note that Everston, Sanford, and Emmer (1981) found time-on-task to be lower in extremely heterogeneous junior high classes than in less heterogeneous ones because teachers had difficulty managing the more heterogeneous classes. (Armor et al., 2002, p. 193)

However, research shows some evidence that homogeneously grouping students for mathematics and reading can be beneficial (Slavin, 1987). Ofsted (1998) said that the practice of reassigning students to groups knowing that the placement is not suitable occurs often (Hallam, 2002). A study conducted by Argys, Rees, and Brewer (1996) on homogeneous grouping concluded:

These estimates suggest that detracking schools would create winners and losers. Students currently in below-average classes would benefit, while students in the average and above average classes would be harmed. On net, these estimates suggest that detracking all students currently enrolled in homogeneous classes would produce approximately a 2 percent drop in the average mathematics test score. (Armor et al., 2002, p. 193)

According to Allan (1991), the studies conducted by researchers, especially Slavin, on ability grouping have not been misrepresented and misinterpreted. For example, in many studies gifted and talented students are not a part of the ability grouping. Also, there are individual differences, such as verbal comprehension, creativity, number factors, memory, induction, deduction, and space factor, to consider in a homogeneous group. One student may be high in verbal comprehension while another student is highly creative (Franklin, 1967). Most researchers address the question of whether ability grouping is the single factor that affects student achievement. The question researchers should be asking is does grouping along with effective instruction have an effect on student achievement (Allan, 1991).

Researchers do offer advice on how to manage homogeneous grouping (Hallam, 2002). Homogeneous grouping assignments should be fluid and assessed regularly

(Slavin, 1987). If homogeneous grouping is going to be utilized in a school, the placement of students should be monitored and evaluated periodically. Teachers should monitor every student's progress regularly and determine if the individual's placement is appropriate. Students should be moved into the appropriate group that will address the academics of each individual (Hallam, 2002).

According to Marzano (2000), the most important factor that impacts student achievement is a "guaranteed and viable curriculum," which is defined as time and the opportunity to learn (Marzano, 2003, p. 22). Teachers are expected to cover the content of the curriculum during the available instructional time (Marzano, 2003). The instructional strategies should target the performance level of the group (Slavin, 1987). The assessments and assignments should enable students to move to higher groups. Every student should have access to the same curriculum and be able to take the same exams as all of the other classmates. However, if a student does not have the capability for academic achievement, the school should provide the individual with opportunities to show success in other disciplines. Students should be placed in the appropriate group based on the individual's ability in that particular subject (Hallam, 2002). The grouping should be for the specific skill being taught (Salvin, 1987).

Before a school decides to use homogeneous grouping, the emotional well-being of the student should be considered. Dr. Julia w. Gordon, Director, Child and Youth Study, State Department of Education of New Jersey, said there are four things we need to understand about human processes: (a) the human being as an energy system, (b) perception and learning, (c) emotions, and (d) socialization (Franklin, 1967). Dr. Gordon stated:

The way we put children together in groups reveals how we regard human beings.

Do we believe that human welfare and the welfare of our democratic society are best served by developing to the maximum the potential within each individual?

Or do we believe that individuals are expandable. (Franklin, 1967, p. 432)

Dr. Gordon does offer advice from the perspective of a behavioral scientist. She listed eight factors that should be considered when grouping students:

1. Grouping should be flexible.
2. Grouping should be in terms of the purpose of the individual child.
3. The basic group with which the child spends most of his day should be as heterogeneous as possible.
4. The number in basic classroom groups should be small enough for face-to-face encounters.
5. The same group of students should remain together for a long enough time to develop a stake in each other's welfare and growth.
6. Each child should have time alone to strengthen trust in one self.
7. Each child should have opportunity to share what one has with peers and be challenged by them.
8. The position of adults concerned with grouping should be such that the other
9. aspects of grouping may be advanced. (Franklin, 1967, pp. 432-433)

Advantages

Homogeneous grouping makes the planning simpler and the delivery of the instruction more deliberate (Ansalone, 2010). Most teachers view homogeneous grouping as a necessity to target individuals in a classroom of vast, diverse learning

abilities. Teachers are able to offer remediation to struggling students and provide more challenging work to high-achieving students (Ansalone & Biafora, 2008).

Disadvantages

Homogeneous grouping promotes a separation of race, ethnicity, and socioeconomic lines. Many African American students and Hispanic students are disproportionately placed in low-achieving groups, which are usually characterized as substandard education that is not geared toward high paying careers (Ansalone, 2010). A study by Braddock (1990) showed that a school with a mix of African American students and white students has a tendency to track more than any other school composed of a different demographic. Another study by Lucas (1999) found the same results when socioeconomic diversity was applied (Berends & Lucas, 2002). Because poor children begin school with less money does not mean that they have less ability to learn (Hochschild & Scovronick, 2003). Rist (1970) discovered that within the first two days of school, kindergarten students were grouped based on dress, race, and parental employment. The disadvantaged students were placed in low-achieving groups (Ansalone, 2010). More recent studies from Haller & Davis (1983) and Haller (1985) found that teachers' perceptions of students played a role in assigning students into certain groups, but there was no proof that race or socioeconomic status affected the decision process (Rogers, 2002). The advantaged students, who are mostly Caucasian are placed in high-achieving groups that are geared toward preparation of white collar or professional careers (Ansalone, 2010). These studies suggest that socioeconomically disadvantaged students will be denied the American dream because of the injustice of the education system (Hochschild & Scovronick, 2003). The experiment from Holmes and Ahr (1994) supported Slavins (1987, 1990) findings that achievement and self-concept of

White high-achieving students were unaffected when grouped with low-achieving African American students who showed signs of growth in achievement (Holmes & Ahr, 1994). However, there are little data collected on classroom segregation in the United States because the desegregation is not reported by schools (Armor et al., 2002). Morgan and McPartland (1981) conducted a study of classroom segregation using data collected by the Office of Civil Rights (OCR) in 1976. The study found that most schools and classrooms were racially balanced because about 66% of the population was Caucasian. However, there was an imbalance at the secondary level and in schools located in the South.

Coleman, Campbell, Hobson, McPartland, and Mood (1966) first studied the differences in academic achievement among students to help understand and explain them. The research revealed that disadvantaged students begin school with small measurable amounts in academic skills when compared to students from traditional homes. However, the achievement gap increases as each school year passes. This dilemma can be blamed on homogeneous grouping (Ansalone & Biofaro, 2004). Qualitative studies by Fordham and Ogbu (1986), Ogbu (1978, 2003), and Suarez-Orozco (1987) showed that low expectations of schools and minimum effort by minority students contributed to underachievement. According to Marzano's (2003) research, students play a role in student achievement. Marzano (2003) has identified three student-level factors that affect student achievement which are: (a) home environment, (b) learned intelligence and background knowledge, and (c) motivation.

Common sense tells one that the more intelligence a person has the easier one can learn (Marzano, 2003). Data from the Iowa Test of Basic Skills (ITBS) show that African

American students scored lower on reading and mathematics when compared to other racial groups (Holmes & Ahr, 1994). Marzano (2003) provided three action steps to promote acquisition necessary to gain knowledge needed for academic achievement. The first action step is to expose students to more life experiences, which is very important for individuals that have limited exposure to life experiences. For example, field trips, if resources are available, if not, mentoring programs or guest speakers are encouraged. The second action step is to implement a school- wide reading program that develops vocabulary. There are different ways to design a school- wide reading program; however, there are procedures that should be followed:

1. A period of time is set aside during the school day for all students to engage in silent reading.
2. Students are expected to choose appropriate book to read.
3. Reading material is selected outside the reading time unless the teacher takes the class to the library to select reading material.
4. Teachers are encouraged to set aside a secure location in their room for students to leave books.
5. Students are not allowed to sleep or complete homework during reading time.
6. Reading time should not create extra work for teachers in terms of grading or record keeping (Marzano, 2003, pp. 141-142).

The third action step is to provide direct instruction in vocabulary terms and phrases that related to the content areas (Marzano, 2003).

Research has found that motivation plays a role in student achievement (Marzano, 2003). Ainsworth-Darnell and Downey (1998), Tach and Farkas (2003) used quantitative

research to examine teacher surveys and they revealed that white students put forth more effort than African American students. On the other hand, Cook and Ludwig (1998), Ferguson (2001), Marks (2000), and Smerdon (1999) used quantitative research to examine student surveys that suggest Caucasian students and African American students exert the same amount of effort in school (Carbonaro, 2005). Martin Covington (1992) explained motivation by stating,

Simply put, motivation deals with the *why* of behavior: *Why* for example, do individuals choose to work on certain tasks and not on others: *why* do they exhibit more or less energy in the pursuit of these tasks and *why* do some people persist until the task is completed, whereas others give up before they really start, or in some cases pursue more elegant solutions long after perfectly sensible answers have presented themselves? (Marzano, 2003, p. 144)

Marzano (2003) suggested four action steps to help motivate students. The first step is to provide students with feedback on their academic successes. Usually, teachers implement this strategy by giving students pretests and posttests. The second step is to provide students with engaging tasks and activities. Covington (1992) provides examples of using game-like assignments to complete different tasks. The third action step is to provide opportunities for students to design and complete long-term projects. The project will become personal to the students. The fourth action step is to teach students how motivation affects them. Research has shown that when students are taught that their efforts, not ability, have an effect on successes and failures, the problem-solving strategies of the individuals positively increased (Marzano, 2003).

Schools are unable to control home environment issues. However, the school can provide information to notify parents of techniques to use to promote academic success with their children. According to Parent Teacher Association (1997) the second standard of the National Standards for Parent/Family Involvement Programs encourages schools to promote parenting skills. Marzano (2003) suggested that schools should provide training and support to parents to enhance their communication with their children about school, their supervision of their children, and their ability to communicate expectations to their children within the context of an effective parenting style.

The curriculum and instruction at the lower level is usually boring and does not engage students. Homogeneous grouping develops curriculum inequity. High-achieving groups are exposed to an enriched curriculum that promotes critical thinking, which is denied to low-achieving students (Ansalone, 2010). Slavin (1990) pointed out that the cause and effect for low-achieving students not being exposed to as much curriculum when compared to high-achieving students cannot be determined by previous studies. Slavin stated:

Many studies find that there is less content covered in low-track classes. But is this by its nature an indication of low quality? Might it be that low-track classes need a slower pace of instruction? The whole idea of ability grouping is to provide students with a level and pace of instruction appropriate to their different needs. Similarly, time-on-task is found to be lower in low-track classes. Might it be that low-achieving students are more likely to be off-task no matter where they are? (Armor et al., 2002, p. 193)

Dr. Walter W. Cook, Dean, School of Education, University of Minnesota, studied homogeneous grouping and heterogeneous grouping. He found that there is heterogeneity to a degree in every homogeneous class. Dr. Cook said:

It is very important to know the limitations of such grouping. The harm resulting from homogeneous grouping is inherent in the assumption that the group *is* homogeneous and that instructional material and procedures can be adjusted to the needs of the group as a whole. (Franklin, 1967, p. 431)

According to Marzano (2003), there is a lack of classroom curriculum design, which is usually not addressed by administrators. There are two reasons why classroom curriculum design deserves attention: (a) student achievement may be lost due to inadequate classroom curriculum design, and (b) research says that classroom curriculum design can be an easy fix with simple suggestions. Marzano recommends five action steps to implement a successful classroom curriculum design:

1. Teachers should identify the important declarative and procedural knowledge in the topics that are to be the focus of instruction.
2. Teachers should present new content multiple times using a variety of input modes.
3. Teachers should make a distinction between those skills and processes students are to master versus those they are not.
4. Teachers should present content in groups or categories that demonstrate the critical features of the content.
5. Teachers should engage students in complex tasks that require addressing content in unique ways. (pp. 116-118)

Generally, teachers like to teach homogeneous groups. The high-achieving groups are the preferred group that teachers enjoy instructing. Research shows that the more qualified and experienced teachers teach the high-achieving groups. Over time, teachers become discouraged by teaching low-achieving groups (Hallam, 2002). Teachers have low expectations for low-achieving students but high expectations for high-achieving students. Research has proven that teacher expectations do influence student achievement (Ansalone, 2010).

A study conducted on the effects of ability grouping in elementary schools by the Talented Youth Project in 1953 was able to measure a teacher's effectiveness based on student achievement scores. The research was able to determine that if a teacher was "strong" in one subject then the individual was "strong" in all subjects, and if a teacher was successful with one ability group, then the individual was also successful with the other ability levels. The results found:

1. Some teachers were more successful than others in the general attainment of all pupils across several subjects and across several ability levels.
2. Most teachers were more successful in handling several ability levels in one or two subjects than they were in handling all subjects for a particular ability level.
3. Comparing results in several subjects for the brightest, least difficult for the slowest students was more difficult.
4. Some subjects, such as arithmetic and social studies, were more readily taught with comparable results to several ability levels simultaneously than was a subject such as science. (Franklin, 1967, p. 440)

The achievement was influenced by the teacher's instruction and the group differences rather than by the ability grouping (Franklin, 1967).

The following statements were written by fifth grade students who have been homogeneously grouped for most of their school career:

"I am in the low fift Grade I am dom."

"I happened to be a little smarter than the rest." (Franklin, 1967, p. 425)

During childhood and adolescence, people's awareness of themselves helps an individual develop a general self-concept. There are several parts to an individual's self-concept, such as social, emotional, and physical self-concepts. Another part of an individual's self-concept is academic self-concept, which is how a person perceives one's own competency. The terms self-concept and self-esteem are closely related but have different meanings. According to Byrne (1988, 1996), self-concept is expansive, which includes an individual's cognitive and behavioral characteristics, and self-esteem is narrower and includes how an individual evaluates one's self. An individual forms an academic self-concept by comparing one's own abilities to others. Therefore, when students are placed in a group that has the same abilities, an individual has a strong frame of reference to make comparisons of one's abilities and academics. Students who have a low academic self-concept lack the desire to continue learning (Hallam & Ireson, 2003).

Homogeneous grouping may impact a student's self-concept (Ansalone, 2010). According to Barker-Lunn (1970) and Ireson and Hallam (1999) heterogeneous grouping is healthier for students' self-concept (Ansalone, 2010). Studies reveal that when students are supported by the teacher and have a sense of belonging to the school, academic achievement increases. Students perception of school may be affected due to being

homogeneously grouped. British studies show that low-achieving students have a negative perception of school and lack positive relationships with teachers, which could lead to one feeling isolated. In British primary schools, average students and low-achieving students who were heterogeneously grouped had positive feelings towards school.

Other studies have found positive impact on student's sense of self-worth. A study examined student perception in schools that used homogeneous grouping and heterogeneous grouping and found no difference in attitude toward school. Kulik and Kulik (1992) discovered that homogeneous grouping had a negative effect on high-achieving students' self-esteem while low-achieving students' self-esteem was positively affected. A survey of Year Nine British students showed a little evidence that students who attended schools that utilized homogeneous grouping had lower self-esteem compared to students who attended schools that used heterogeneous grouping. Ireson, Hallam, and Plewis (2001) discovered that students in schools that used average levels of homogeneous grouping generally had a positive self-concept compared to students who attended schools that had high levels of homogeneous grouping. Most likely, a student's perception of school is affected by classroom experiences (Hallam & Ireson, 2003).

Normally, students are placed in homogeneous groups based on the previous year's academic achievement and ability. Barker Lunn (1970) studied elementary schools that used homogeneous grouping and discovered that by the end of the school year, 15% of the students were placed in the wrong group. Troman (1988) discovered an inconsistency in the methods used to place students into groups. There was a difference between test scores and teacher judgment. Teachers used a variety of qualities of each

student to assign groups such as prior performance, family history, physical appearance, discipline issues, and motivation problems. Students who displayed behavior problems and lacked motivation were placed in low-achieving groups for management purposes. There were some cases in which the parents placed pressure on the school to assign children to certain groups (Hallam, 2002). Parents of high-achieving students are the stakeholders that insist schools homogeneously group students based on achievement (Holmes & Ahr, 1994).

Legal Issues

Almost 50 years ago the United States Supreme Court ruled in *Brown v. Board of Education* that public schools had to desegregate with “all deliberate speed” (Ancheta, 2003, p. 1). The ruling did not set a timeline of when or how the desegregation should take place (Howard, 2007). In another distinguished case, *Green v. County School Board of New Kents County*, the Supreme Court ruled that the segregated school system must be dismantled “root and branch” The case looked at racial balance among schools, which includes student body composition, facilities, staff, faculty, extracurricular activity, and transportation (Ancheta, 2003 p. 1). Since then, the “Green Factors” have been used to determine if a school meets unitary status (Howard, 2007). According to Orfield and Yun (1999), many schools that are no longer under a court order to desegregate are beginning to resegregate (Ancheta, 2003).

The concept of homogeneous grouping was first studied for the effects on academic achievement; instead, inequality among certain demographics became the focus. The courts have been hesitant to become involved in dictating how educators should educate students. In 1967, a federal court maintained that ability grouping is

unconstitutional because minority students and low income students are deprived of the right to an equal educational opportunity. From 1968 through 1973, the practice of homogeneous grouping and racial intent was questioned by the courts. The federal courts consistently ruled that homogeneous grouping was unconstitutional if the grouping was based on racially-biased tests or if the practices resulted in overrepresentation of minority students in the same classes. *Hobson v. Hansen* is a famous tracking and grouping landmark case. Judge J. Skelly Wright ruled that schools must establish that tracking or homogeneous grouping will improve educational opportunities for low-achieving students. However, the practice of tracking or homogeneous grouping is not unconstitutional. The litigation questioning the practice of homogeneous grouping in schools has diminished, but there has been an increase in lawsuits from parents questioning the due process and equal protection clauses of the United States Constitution. Due Process questions whether an individual student is receiving procedural safeguards, which ensure one is assigned to the proper group (Bryson & Bentley, 1980).

According to Nolte (1974) J.M. Rice developed the first achievement test used by schools in 1894. The results of standardized tests, which measure how much a student learned in a particular subject, are used by educators for numerous reasons: promotion, retention, graduation, accountability, curriculum changes, planning for instruction, and grouping and/or tracking. Courts have been uncertain about tackling the issue of the fairness of standardized tests. However, courts have rescinded decisions about using standardized tests to group or track students. In the case of *Moses v. Washington Parish School Board*, the court ruled that the results from one reading achievement test could not be used to group students in all subjects. Courts also use expert testimony from the

testing field, when making decisions that are related to testing. The testing experts recommend the following conclusions about relying on test scores:

1. Excessive reliance on intelligence test scores can result in giving a child an incorrect label which can follow one throughout life.
2. Group intelligence tests are not infallible because they can only test the narrow ranges of abilities which lend themselves to standardized testing methods.
3. Most of the group intelligence tests used by schools have been standardized for a normative population; thus, children from low socioeconomic homes predictability will score lower on such tests than will students from average and above average socioeconomic homes.
4. Standardized intelligence tests are not “culture-free” tests and therefore measure present ability rather than potential ability.
5. Standardized intelligence tests are in reality vocabulary tests which contain many items not familiar to many non-white students; thus, these tests are not valid measures of intellectual capacity or for predicting future success.
6. Grouping for all subjects based on obtained scores on a reading achievement test is a misuse of test data; there is no direct correlation between achievement scores on reading and ability in math or some other skills area.
7. There are many variables which affect the student’s scores on a particular test- the physical environment of the testing room, the examiner’s attitude toward the procedure, the student’s physical and emotional health, and the student’s motivation for taking the test. Since any one of these variables can

cause the student top score lower on the test, school officials should use additional criteria when making decisions regarding placement. (Bryson & Bentley, 1980, pp. 35-36)

Hobsen v. Hansen 269 F. Supp. 401 (D.D.C. 1967)

Carl Hansen, Director of Instruction for the District of Columbia School System, developed a four track system where students were assigned to classes based on scores from academic and achievement tests. When Mr. Hansen became superintendent, minority parents sued based on the fact that their children were denied an equal educational opportunity because the tracking system discriminated against African American students and low socioeconomic students. The suit contained the following allegations: (a) no remediation for low-achieving students, (b) the curriculum for the low tracks was limited, (c) the standardized tests were bias, (d) students' self-concept in low tracks was damaged, and (e) teachers did not challenge the low track students. Judge Wright stated his ruling and constitutional opinion, "The sum result, when tested by the principles of equal protection and due process, is to deprive the poor and a majority of the Negro students in the District of Columbia of their Constitutional rights to equal educational opportunities." (Bryson & Bentley, 1980, p. 106)

McNeal v. Tate County School District 508 F.2d 1017 (5th Cir. 1975)

Tate County School District had approval for the desegregation plan, which included practicing ability grouping from the United States District Court for the Northern District of Mississippi. Tate County School District assigned students to classes based on teacher recommendation, and the principal gave the final approval. At the time, there were 2,152 African American students and 1,367 students enrolled in the five

schools in the Tate County School District. In first through sixth grade there were one to four all-Black advanced classes and a few all-Caucasian advanced classes in each elementary school. Also, there was an African American teacher for the all-African American classes. Parents of the African American students filed suit against the school district asking that the ratio in each classroom display the same ratio in the respective grade. The Fifth Circuit Court of Appeals reversed the lower court's decision because the school district was not a unitary system; therefore, ability grouping could not be practiced until the lower groups' underachievement was proven not to be caused by educational disparities from prior segregation. In addition to the ruling, the court reviewed the decisions from two cases, *Singleton v. Jackson* (1970) and *Lemon v. Bossier* (1971). Educators could not use tests to assign students to classes until the school had operated as a unitary system for several years. In this case, the court did not make any educational decisions. Basically, if the school has been a unitary system for several years, the school could use ability grouping that resulted in segregated classrooms as long as educational opportunities were improved. A portion of the rationale for the decision is:

Ability grouping, like any other non-racial method of student assignment, is not constitutionally forbidden. Certainly educators are in a better position than courts to appreciate the educational advantages or disadvantages of such a system in a particular school or district. School districts, ought to be, and are, free to use such grouping whenever it does not have a racially discriminatory effect. If it does cause segregation, whether in classrooms or in schools, ability grouping may nevertheless be permitted in an otherwise unitary system if the school district can demonstrate that its assignment method is not based on the present results of past

segregation or will remedy such results through better educational opportunities.

(Bryson & Bentley, 1980, p. 119)

Hearne Independent School District v. State of Texas (2005)

In the 1990s, the Hearne School District disbanded the practice of ability grouping in exchange for mixed-ability grouping. As a result, most Caucasian students were placed in high-achieving groups and African American students were placed in low-achieving groups. As a result, Caucasian parents withdrew their children and enrolled them in Mumford School District. The *white flight* from the school district changed the racial demographics. The Texas Education Agency (TEA) funded Mumford even though a prior desegregation order was being violated. The court found TEA and Mumford school district in violation (*Hearne Independent School District v. State of Texas, 2005*).

Shernika Holton, Spencer Wilson, et al. v. City of Thomasville School District (2005)

African American parents sued Thomasville School District because of the claim that the school district's practice of ability grouping to assign students to classrooms caused a racial imbalance in individual classrooms. The United States Court of Appeals for the Eleventh Circuit found that there was a racial imbalance in different areas of the school district, but the racial imbalances could not be traced back prior to *de jure* segregation. On the other hand, the court did find that the practice of ability grouping did discriminate minority students who are classified as low-income students. The Court stated:

Regrettably, a disproportionate number of low income children (most of whom happen to be black) are placed in the lower ability groups. The Court finds that these placements are not being made due to the race of the

student. Many of these low income students are simply perceived as not being prepared with they first arrive at school. Due to their impoverished environment, they do not receive the background and support that is often so critical for being ready to learn. Tragically, it appears that for many of these children, the "die is cast" as early as kindergarten. These children do not appear to be reevaluated (and thus potentially "re-tracked") during their progression through the system. The inevitable result therefore is that they remain in the "lower ability" track for the duration of their educational careers, absent parental intervention. (p. 9)

The elementary students were ability grouped based on teachers' perceived abilities and middle school students were grouped based on standardized test scores and teacher recommendations. High school students chose classes with the help of parents and school officials. The school district appealed the decision. On the appeal the Court applied the *McNeal* standard, which is a result of the *McNeal v. Tate County School District* case. The Court ruled that the ability grouping was not based on past segregation (*Shernika Holton, Spencer Wilson, et. al. v. City of Thomasville School District, 2005/2007*).

Schools are allowed to group students based on ability even if class assignments are racially imbalanced. However, the school must be able to show how ability grouping provides a better educational opportunity for all students. When school officials decide to practice homogeneous grouping, one must be ready to educationally justify the reason to prevent lawsuits. The constitutional rights of all students need to be considered before

assigning one to certain groups. There are guidelines that educators should follow when grouping students to avoid litigation:

1. What are the major educational issues regarding grouping and tracking?
2. Which of these issues are likely to be included in court cases related to grouping and tracking practices?
3. Which of the legal principles established by the “landmark” cases regarding racial segregation and due process are applicable to legal issues involving grouping and tracking?
4. Can school officials continue to use the results of standardized tests for purposes of assigning students to various tracks or groups?
5. Based on the results of recent court cases, what specific issues related to grouping and tracking currently are being litigated?
6. Can any specific trends be determined from the analysis of the court cases?
7. Based on the established legal precedents, what are the legally acceptable criteria for grouping decisions? (Bryson & Bentley, 1980, p. 165- 167)

When schools attempt to organize into heterogeneous grouped classrooms, strong opposition from stakeholders, especially from wealthy parents, follows (Hochschild & Scovronick, 2003).

Continuous Progress Curriculum

Continuous Progress Curriculum (CPC) addresses grouping and exists in many schools throughout the United States. CPC has been called different names such as Continuous Progress Format, Advancement Based on Competency, Continuous Progress Schools, and Continuous Progress Education. The concept behind CPC is that all students

are able to learn new material as they become developmentally able to do so with the teacher's help. The student begins each new school year in the ending place of the previous school year. Students are accountable for one's own learning because of the varying levels of each individual. The format of CPC varies from school to school. The basic principles of CPC consist of flexibility and fluidity within grouping, constant monitoring of individual student progress through the curriculum, use of portfolios, and sense of "community" within the school. All stakeholders, teachers, students, and parents must have faith in the plan because of the understanding that is needed between all three parties on curriculum decisions (Mack, n.d.). The use of portfolios is a necessity for monitoring student academic progress. There are several types of portfolios that a teacher can use: (a) *student portfolios* inform the student and document student self-reflection, (b) *working portfolios* are designed for the teacher's daily use and as a primary tool for developing and modifying instruction on a short-term basis, (c) *showcase portfolios* inform the parents and surrounding educational community, and (d) *cumulative portfolios* are designed for accountability and evaluative purposes (Artiles & Zamora-Duran, 1997, p. 13). Research supports the following reasons for using portfolios:

1. Inform students before assessment takes place of what constitutes a good performance.
2. Plan scoring or rating procedures prior to assessment.
3. Think carefully prior to assessment about which level of student performance would be considered adequate.
4. Where possible, plan assessment around multiple rather than single observations.

5. Keep records so that the evaluation of individual performance is not based on memory alone.
6. Avoid portfolios as a tool for “going through the motions,” but rather use them to shape instructional decisions especially for the lowest performing students.
7. Use portfolios to help shift responsibility from the teacher to the student.
8. Realize that there may sometimes be a conflict between the data being collected from the portfolio assessments and the traditional data valued by administrators.
9. Although there may be an initial struggle to find ways to collect and manage data in view of scarce time and resources, most teachers successfully integrate portfolios into their classrooms.
10. Portfolios should be seen as an important instructional tool. There is some evidence that portfolio data can lead to more numerous, more specific, and more detailed recommendations and judgments about students than traditional tests.
11. Portfolios are especially useful in identifying strengths of students rather than only deficits.
12. Portfolios are not neutral tools. How one uses portfolio data is filtered by basic beliefs about general issues such as learning or specific issues such as bilingualism or literacy.

These underlying beliefs, perspectives, and assumptions are important influences on the use of portfolio and other performance-based assessment practices. (Artiles & Zamora-Duran, 1997, p. 15)

There are two elementary schools in Edina, Minnesota, Highland Elementary and Countryside Elementary, that use CPC. Highland Elementary uses multi-age classes and looping, parent-involvement, and portfolios to address student academic needs. In New York, there is Lake George Elementary has used CPC since 1971. The school uses multi-age grouping- self-directed learning, with an emphasis on Language Arts. All three of these schools use portfolios as the main evaluation instrument to monitor student progress (Mack, n.d.).

Because schools are mandated to use data to make decisions about instruction, progress monitoring systems are being used to track academic achievement rather than portfolios. Progress monitoring systems help teachers identify which students need interventions and/or if the instruction needs to be improved (Spinelli, 2011). There are 10 steps to implementing progress monitoring:

1. Determine student's current level (baseline) performances.
2. Identify student's learning goals.
3. Establish the teacher's instructional goals.
4. Implement the instructional program.
5. Measure the student's performance regularly (e.g., biweekly, weekly, monthly)
6. Construct a system for plotting progress points (e.g., a graph)
7. Chart student's progress

8. Use established cutoffs for determining whether the student's performance is improving, decreasing, or staying the same.
9. Based on results, plan and implement program and/or instructional modifications.
10. Continue with monitoring, charting, and analysis. (Spinelli, 2011, p. 6)

Progress monitoring systems have been referred to as curriculum-based assessment (CBA), curriculum-based measurement (CBM), or curriculum-based evaluation. Tucker (1985) described CBA as a system that monitors a student's progress or instructional needs in a single course. Black and William (1998), Deno (1985), and Fuchs and Fuchs (1988) describe CBM as a system that evaluates a student's performance over a time period so that instruction can be individualized to meet one's needs. According to Wren (2004), teachers find that using multiple assessments to gather information on academic performance is beneficial because of age level, skill level, and culture of individual students. According to the Individuals with Disabilities Education Act (IDEA) (2004), an assortment of tests must be given in "the language and form most likely to yield accurate information of what the child knows and can do academically, developmentally, and functionally, unless it is not feasible to provide or administer" (Spinelli, 2011, p. 7). Also, the National Education Association (NEA) strongly recommends using multiple assessments to evaluate student achievement (Spinelli, 2011).

Yseldyke and Bolt (2007) conducted a study to find out if a progress monitoring system would improve student achievement in mathematics. The study found that when teachers utilized a progress monitoring system, the students greatly outperformed

students who were not evaluated through a progress monitoring system. Using data from a progress monitoring system to direct instruction does improve academic achievement in mathematics.

Tracey Williams applied the principles of CPC and the latest trend of using data to direct instruction to organize the school so that the students' academic needs can be addressed. The main goal of CPC is to move students into the proficient level that MDE has defined. CPC does this through a process that:

1. Enables schools to organize around the needs of the students and accelerate learning.
2. Enables each student to enter into the curriculum at one's own starting point.
3. Designed for on-going progress monitoring (T. Williams, personal communication, April 14, 2011).

Because of federal and state guidelines, schools are dictated what to teach and how to assess the learning. CPC provides the organizational structure needed to achieve the goals set in NCLB. Also, CPC works hand-in-hand with the requirements of the Tier Process. The Tier Process uses progress monitoring to check for student achievement throughout the school year (T. Williams, personal communication, April 14, 2011).

The Mississippi Department of Education (MDE) uses an achievement model and a growth model to measure accountability for each school. The achievement model uses Quality Distribution Index (QDI) to measure a school's achievement or performance. The QDI may change from year to year based on student performance on the Mississippi Curriculum Test Two (MCT2). The growth model measures growth from year to year. Growth is defined as a measurement to ensure that a student receives at least one year's

worth of learning in one year. CPC uses the growth model provided by MDE to guide the organization. Based on the growth model, if a student receives the one year of learning, then the school will meet Annually Yearly Progress (AYP) (T. Williams, personal communication, April 14, 2011). MDE has created four levels: advanced, proficient, basic, or minimal- to classify student' performance on the MCT2 (Mississippi Department of Education, n.d.).

In order for a school to meet the challenges mandated by MDE's accountability model, a school must be organized to meet the academic needs of every student. The leadership of the school is left with the task of assigning students based on the level of performance on multiple assessments to appropriate classes. Scores from past assessments are turned into Z-scores so that the data points are on the same scale as the MCT2. Then an average of the test scores is calculated and grouped based on the following:

1. high, medium, or low advanced
2. high, medium, or low proficient
3. high, medium, or low basic
4. high, medium, or low minimum

Next, the groups are assigned to teachers. The CPC model organizes the school so that teachers can meet the academic needs of students (T. Williams, personal communication, April 14, 2011). The nonprofit group Re-Inventing Schools Coalition (RISC) supports grouping students based on performance rather than age-level or grade-level. RISC stated that students should be able to progress through the curriculum based on mastery or performance (McLester, 2011).

At Hancock Middle School, the teacher ratio to students is kept low for the basic and minimal classes so that individualized instruction can take place. On the first day of professional development, each teacher receives a copy of each student's MCT2 scores. An analysis of each performance strand is conducted and a diagnosis is prescribed to each student. Each performance strand is composed of a skill and provides a score. The teachers plan the instruction based on the prescriptions for the students (D. Aube', personal communication, July 25, 2011).

Progress monitoring is used throughout the school year to ensure academic achievement is increasing and to move students to appropriate instruction; in other words, students may start in a basic or low-performing group and move to a proficient or average performing group before the end of the school year. Teachers must have resources to instruct each group appropriately. Teachers will use teacher tests and progress monitoring assessments to determine if a student is academically ready to be moved to a different performance level. (T. Williams, personal communication, April 14, 2011).

At Hancock Middle School during Teacher Support Team (TST) meetings, student achievement is analyzed and discussed among teachers, administration, and counselors. The performance of the students that the teachers identified as "pressure point" students is scrutinized by the TST team. "Pressure point" students scored five points above or below a performance level on the MCT2. The decision to move or leave the student is determined at this point (D. Aube', personal communication, July 25, 2011).

Homogeneous Grouping Highlights

If a school is planning on using homogeneous grouping there are several points to remember:

1. Research studies are not conclusive at this time regarding the effects of ability grouping on academic achievement.
2. Ability grouping does not appear to have either a positive or a negative effect on academic achievement of students in any groups. (Some studies, however, did conclude that ability grouping resulted in a slightly increased achievement for those students in the high groups.)
3. Students in low groups or low tracks generally have low self-concepts; research studies are not conclusive as to the effect of ability grouping on student self-concepts.
4. Grouping usually results in the isolation of ethnic minorities and low socioeconomic students from the mainstream of the school.
5. Grouping has a tendency to result in a “self-fulfilling prophecy” whereby teachers expect less of certain groups, and the students perform according to expectations.
6. When standardized tests have been used as the major criteria for assigning children to classes, and where this has resulted in racially identifiable classes, the courts have consistently mainstreamed that tests cannot be used for this purpose.
7. The over-dependence on test results for classifying and placing students in special education classes has resulted in numerous court decisions and in the

passage of numerous state and federal laws designed to protect students from being misclassified.

8. School systems must ensure that all students are afforded appropriate due process procedures before they are labeled and assigned to any special education classes.
9. The question of whether or not students should be afforded due process before being assigned to low tracks or groups has not been legally tested and it continues to be a debatable issue among educators.
10. Equal educational opportunity is not enhanced by the practice of ability grouping as evidence by the following facts: (a) that low groups often are taught by the most inexperienced teachers; (b) that low tracks generally lead to low paying jobs; (c) that compensatory educational programs designed to help students in low groups “catch up” seldom are effective; (d) that low achievers of all sorts are placed together and thus denied stimulation of middle-class children as helpers and learning models; (e) and that nonacademic goals of the schools, such as building good citizens, are actually subverted by ability grouping plans in many instances.
11. Effective alternatives to ability grouping which would enhance learning by students include tutoring, team teaching, individually programmed instruction and stratified heterogeneous grouping (Bryson & Bentley, 1980, pp. 179-181).

Summary

Since the beginning of schools, educators have been grouping students using a variety of methods. Research does not clearly define if homogenous grouping improves

academic performance. However, there is a lack of research that determines if quality instruction is occurring when students are homogeneously grouped.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to investigate the effects of Continuous Progress Curriculum (CPC) on academic growth of students, particularly low-income and minority students. Also, the study investigates teachers' the use of instructional strategies used with each performance level.

Research Design

The study was a quantitative research. There were two parts used in the study: (a) archival data, and (b) survey methodology.

The archival data are casual comparative and were used to answer two research questions. The first part compared academic growth from three years of Mississippi Curriculum Test Two (MCT2) scores. The first condition was that the students were that randomly assigned to receive instruction. The second condition was that the students were assigned to a specific class to receive instruction based on performance. The second part of the study was descriptive. Survey methodology was used to gather demographic information about the teachers, the use of CPC, and how often teachers use the instructional strategies with each performance level.

Participants

The population for this study was over 1,000 sixth, seventh, and eighth grade students from the Gulf Coast region of Mississippi. The school is identified as a Title I school by MDE. Approximately 73% of students receive free or reduced lunch. The student demographics is composed of 94% white students, 4% African American

students, 1% Hispanic students, and 1% Asian students. Fourteen percent of the school population is made up of special education students. According to Federal definition, 147 students are classified as homeless. There are four elementary schools that are classified as Title I schools that feed into the middle school. Inclusion students were included in the investigation. The students are organized by Advanced, Proficient, Basic, and Minimum based on three years of data from the MCT2.

There are 62 teachers. The teachers are divided into teams who share the same students. The teachers' experience ranges from new to veteran. In sixth grade, there are four math teachers, four reading teachers, and four language arts teachers who teach regular education. In seventh grade and eighth grade there are two math teachers, two reading teachers, and two language arts teachers who teach regular education teachers. In addition, there is a teacher who teaches math to seventh and eighth grade students, and a teacher who teaches reading and language arts to seventh and eighth grade students. On each team there is a science and social studies teacher. For each grade level there is a team composed of a math, reading, and language arts special education teacher who teaches sections of skills students and provide inclusion services.

Instrumentation

Two different types of instruments will be used to collect data for this study-- archival data and a survey. The data showed an increase or decrease in academic achievement. The survey is a five point Likert scale for teachers.

Archival Data

In order to determine if CPC increases academic achievement, the MCT2 scores from 2009, 2010, 2011, and 2012 were used to measure academic growth. Every students

Mississippi Student Information System (MSIS) number and Reading, Language Arts, and Math test scores from the MCT2 from 2009, 2010, 2011, and 2012 were entered into a data file. The MCT2 Language Arts scores from each year were averaged together to determine if academic achievement increased since the implementation of CPC. The MCT2 math scores from each year were averaged together to determine if academic achievement increased since the implementation of CPC. In order to protect the confidentiality of each student, each MSIS number was replaced with an assigned five digit number. Until all of the data were finalized, all of the information was stored under lock and key in a file cabinet. All of the information will be disposed of one year after finalization of the data.

Archival data were used to demonstrate which performance level benefits academically the most from CPC. The Math and Language Arts scores from the MCT2 from 2009, 2010, 2011, and 2012 were averaged together. The average score was compared to the elementary school, who uses heterogeneous grouping, score to determine if CPC is improving academics. Until all of the data are finalized, all of the information will be stored under lock and key in a file cabinet. All of the information will be disposed of after one year after finalization of the data.

Survey Data

A committee of three administrators developed a survey, The Continuous Progress Curriculum Survey (CPCS) (see Appendix A). The purpose of the CPCS is to determine if CPC improves instruction. Each committee member wrote five to seven questions for each instrument. The questions were pooled together. The committee

members met and reviewed the pool of questions. After discussing all of the questions, the final questions in the survey were agreed upon by all committee members.

There are three parts to the survey- (a) the demographics of the participants, (b) perspective of utilizing CPC, and (c) gauge how often instruction strategies are implemented with each performance level. The anonymous survey is composed of 23 questions that rate the responses on a scale of one to five, one being the least likely to occur and five being the most likely to occur.

The first three questions ask the teacher about the number of years of experience, subjects taught, and if the subject is tested. Numbers 4 through 7 ask questions that determines the teachers' perception about grouping students. The first part of CPCS measures teachers' ability to apply the concept of CPC. Questions 8 through 14 gauge if the teacher is implementing the concepts of CPC. The questions ask the teacher to determine the number of students who are moved, who initiates the move, the information that is used to determine the move, how often the students are moved, and when the students are moved to a more appropriate group.

The third part of the CPCS asks teachers to rate the instructional techniques for each performance level. Question 15 determined if the teacher perceives that instruction has improved since the implementation of CPC and is rated on a Likert scale of one to five, one being the least likely to occur and five being the most likely to occur. To determine if teachers used instructional strategies such as reteaching, practice time, scaffolding, checking for understanding, and differentiating instruction to meet the academic needs for each performance level, questions 16 through 21 rates the responses on a Likert scale of one to five- one being least often and five being the most often.

Scores from questions 16 through 21 were added together to determine if the teachers adjust instruction based on the performance level of each group. The advanced group was represented with an “A,” the proficient group were represented with a “B,” the basic group was represented with a “C,” and the minimum group was represented with a “D.” The scores from each group were added together to obtain an overall score. Each performance group received a score ranging from 3 to 15, 3 being the lowest score and 15 being the highest score. The average of each performance group’s score determined if the teachers are using instructional techniques to meet the academic needs of each performance level. Questions 22 and 23 are open-ended questions to provide the researcher with examples of how each teacher differentiates instruction and scaffolds instruction.

A pilot test was be given to 11 teachers randomly chosen from a school. The superintendent granted permission to conduct the pilot survey during a Professional Learning Community (PLC). The purpose of the piloting CPCS is to ensure that participants are able to read the survey and understand the directions of the survey. Before completing the survey, the participants will be instructed to read the directions, questions, and answer choices carefully. Next, the participants were instructed to complete the survey. Last, the participants will be instructed to write down any and all concerns they may have when completing the CPCS. The CPCS were returned to the researcher and placed in a large envelope.

The data was collected from the pilot survey and entered into a SPSS data file to calculate the reliability of the survey instrument. A Cronbach’s alpha test was used to

determine the reliability of all of the CPCS. The reliability of the Cronbach alpha test was .919.

Data Collection Procedure

The MCT2 scores were retrieved from each student's cumulative folder. At least three years of scores are collected and recorded next to each student's MSIS number to determine if each student has demonstrated academic growth. The scores are entered into a data file. The information was recorded into a data file.

The CPCS was dispersed to the teachers by the principal at a Professional Learning Community meeting. Data were collected from the surveys completed by the teachers. The surveys were completed anonymously so that the researcher would not know the individual teachers' opinion of performance grouping. Each teacher returned the survey in a sealed envelope.

The researcher sent letters to the superintendent of the school district to obtain permission to conduct research with the teachers and administrators. The researcher sent a letter to the superintendent of Hancock County School District requesting permission to collect information for two different studies within the district- (a) to use data about students' MCT2 scores and (b) to conduct a survey of teachers' implementation of CPC and use of instructional strategies.

Analyses of Data

For Hypothesis 1, using CPC to homogeneously group students increases academic achievement, a *t* test was used to compare each student's academic achievement after implementation of CPC. A repeated measures ANOVA test was used to determine if CPC improves instruction.

H₀₁: Using CPC to homogeneously group students increases academic achievement.

H₀₂: Using CPC will improve instruction.

Summary

A middle school in Mississippi was studied to determine if CPC increases student academic achievement. The teachers' instructional strategies were examined to determine if each performance level was receiving appropriate instruction. In addition, the study examined the implementation of CPC by the staff and faculty.

CHAPTER IV

ANALYSIS OF DATA

The purpose of the study was to determine if grouping students homogeneously by implementing Continuous Progress Curriculum (CPC) standards will have an effect on student achievement and improve instruction in a middle school in South Mississippi. There were two parts to this study. The first part of the study was to determine if CPC improves academic growth. Mississippi Curriculum Test Two (MCT2) Test math and language arts scores from sixth, seventh, and eighth graders were used in the study. The participants had been in the same school district for at least four years. A total of 262 sixth grade students have scores from third, fourth, fifth, and sixth grade. These students have been grouped using CPC for one school year. The seventh grade students have scores from fourth, fifth, sixth, and seventh grade. The seventh grade students have been grouped using CPC for two school years. The eighth grade students have scores from fourth, fifth, sixth, seventh, and eighth grade. The eighth grade students have been grouped using CPC for three years. Any student with missing scores for a 4 year period was not included in the study.

The second part of the study was a survey that collects demographic information about the participants who are middle school teachers, determines if CPC is being implemented, and if instructional strategies are being varied to meet the academic needs of each performance level.

Descriptive Statistics

The following are descriptive statistics of the CPC survey. Questions one through five provided demographic information about the participants in the study. Participants

were asked to provide information about: (a) subject taught, (b) whether or not subject is tested or not, (c) years of experience, (d) preference of ability grouping, and (e) current grouping of students. Table 1 displays the frequencies and percentages.

A total of 42 teachers completed the CPC survey: Nine of the teachers are Elective teachers who teach Information and Communication Technology (ICT), 26% are Language Arts teachers, 16.7% are Math teachers, 14.3% are Science teachers, 19% are reading teachers, and 14.3% are History teachers. Out of the 42 participants, 73.8% of the teachers teach a tested subject opposed to 26.2% teachers who teach a nontested subject. The years of teaching experience vary widely among the participants: 11.9% of the participants have been teaching for zero to five years, 33.3% of the teachers have been teaching for six to 10 years, 28.6% of the teachers have been teaching for 10 to 15 years, 9.5% of the teachers have been teaching for 16 to 20 years, 2.4% of the teachers have been teaching for 21 to 25 years, 9.5% of the teachers have been teaching for 26-30 years, and 4.8% of the teachers have been teaching for over 30 years. A majority (81%) of the teachers prefer students to be homogeneously grouped opposed to 19% of the teachers who prefer students to be heterogeneously grouped. All of the teachers stated that the students are homogeneously grouped.

Table 1

Frequencies of Participants' Demographics (N= 42)

Variable	Frequencies	Percentages
Subject taught		
Elective	4	9.5
Language Arts	11	26.2
Math	7	16.7
Science	6	14.3
Reading	8	19.0
History	6	14.3
Tested Subject		
Tested	31	73.8
Non-tested	11	26.2
Years of Experience		
0-5	5	11.9
6-10	14	33.3
11-15	12	28.6
16-20	4	9.5
21-25	1	2.4
26-30	4	9.5
Over 30	2	4.8

Table 1 (continued).

Variable	Frequencies	Percentages
Grouping preference		
Homogeneous	34	81
Heterogeneous	8	19
Grouping Type		
Homogeneous	42	100
Heterogeneous	0	0

The second portion of the CPCS determines if participants are implementing the CPC concepts. Participants were asked to provide information about: (a) analysis of student test data, (b) grouping within the classroom, (c) determination of student placement, (d) movement of students, (e) number of students moved to different performance group, (f) who initiates movement, (g) information used move students, (h) how often students are moved, and (i) when students are moved. Frequencies and percentages are displayed in Table 2.

Table 2

Frequencies of Participants' Implementation of CPC (N= 42)

Variable	Frequencies	Percentages
Analysis of Student Data		
Start of School	25	17.1
First Term	39	26.7
Second Term	27	18.5
Third Term	29	19.9
Fourth Term	26	17.8
Grouping within Classroom		
Yes	27	64.3
No	14	33.3
No Answer	1	2.4
Information used to place students		
Test Data	32	76.2
Teacher Recommendation	4	9.5
Grades	5	11.9

Table 2 (continued).

Variable	Frequencies	Percentages
Ability to		
Move Students		
Yes	41	97.6
No	1	2.4
Number of students		
Moved in School Year		
0-5	21	47.7
6-10	18	40.9
11-15	3	6.8
16-20	1	2.3
21-25	1	2.3
Who initiates student		
Movement		
Guidance	7	10.1
Administration	7	10.1
Team Teachers	37	53.6
Yourself	14	20.3
Parent	4	5.8

Table 2 (continued).

Variable	Frequencies	Percentages
Instruments used to Initiate move		
Common		
Assessment	19	17.9
Teacher made		
Tests	34	32.1
Daily quizzes	27	25.5
Progress Monitoring	19	17.9
Other	7	6.6
How often a student Moves		
0-5	24	55.8
6-10	16	37.2
11-15	1	2.3
16-20	1	2.3
21-25	1	2.3
Time of year Of movement		
First Term	33	41.8
Second Term	27	34.2
Third Term	14	17.7
Fourth Term	5	6.3

Throughout the school year, student test data are analyzed. First term is when majority (26.7%) of the teachers analyze student test data opposed to professional development at the start of school (17.1%). During the second term, 18.5% of the teachers responded that student data are analyzed, and 19.9% of the teachers continue to analyze student test data. Almost 18% of the teachers continue to analyze student test data into the fourth 9 weeks.

All of the participants' students are homogeneously grouped. In addition, 64.3% of the teachers use some form of grouping within the classroom. On the other hand, 33.3% of the teachers do not use any grouping within the classroom.

Almost 98% of the teachers stated that students are able to move within performance groups. A majority (76.2%) of the teachers use test data to determine which performance group students should be placed. Also, 9.5% of the teachers use teacher recommendation; and 11.9% of the teachers use grades to determine student placement in performance groups.

According to the responses of the teachers, 97.6% of the students are able to be moved to different performance groups. A majority (32.1%) of the teachers use teacher-made tests to determine if a student needs to be moved to a different performance group. In addition, 25.5% of the teachers use daily quizzes, and 17.9% of the teachers use common assessments and progress monitoring to determine student movement. When determining if a student should be moved to a different performance group, 53.6% of the teachers make the decision with the team teachers; 10.1% of the participants also responded that guidance and administration are a part of the decision to move a student to a different performance group. In addition, when deciding to move a student to a different

performance group, 20.3% of the teachers make the decision themselves, and 5.8% of the teachers involve the parents in the decision process.

Participants responded to questions to determine how many students are moved to a different performance group and how often and when the movement occurs. According to the results, 47.7% of the teachers move zero to five students during the year, and 40.9% of the teachers move six to 10 students during the year. In addition, 6.8% of the teachers move 11 to 15 students, and 2.3% of the teachers move 15 to 20 and 20 to 25 students during the year. A majority (41.8%) of the teachers responded that first term is when the students are moved to a different performance group opposed to 6.3% of the teachers who responded that students are moved during the fourth 9 weeks. According to the results, 55.8% of the teachers reported moving students zero to five times a year, 37.2% of the teachers moved students 6 to 10 times a year, and 2.3% of the teachers moved students 11 to 15, 16-20, and 21-25 times a year.

The third portion of the survey determined if CPC has improved instruction. Table 3 displays the results. Participants were asked to rate the effectiveness of one's instruction since the implementation of CPC. On a scale of one to five, one being least and five being the most, an average response of 4.05 and a standard deviation of .94 was given by the teachers.

Participants were asked to rate the use of differentiated instruction for each performance level-- Advanced, Proficient, Basic, and Minimal. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show that a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely to differentiate instruction for the performance

levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.29 with a standard deviation of 1.04. For the Basic level, the average score is 4.14 with a standard deviation of 1.05. Teachers scaffold instruction for the Proficient level an average of 3.60 with a standard deviation of 1.01. For the Advanced group, an average score of 3.55 with a standard deviation of 1.29 was given by the participants.

The next question determined how often teachers scaffold instruction for each performance level. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show that a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely to scaffold instruction for the performance levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.33 with a standard deviation of 1.41. For the Basic level, the average score is 4.19 with a standard deviation of 1.15. On average, teachers scaffold instruction for the Proficient level was 3.69 with a standard deviation of 1.22. For the Advanced group, an average score of 3.64 with a standard deviation of 1.46 was given by the participants.

The next question determined how often teachers check for understanding for each performance level. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show that a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely to scaffold instruction for the performance levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.50 with a standard deviation of .94. For the Basic level the average score is 4.43 with a standard deviation of .94. On average, teachers scaffold instruction for the Proficient level was 4.24 with a standard

deviation of 1.06. For the Advanced group, an average score of 4.12 with a standard deviation of 1.13 was given by the participants.

The next question determined how often teachers allow for practice time on a new skill for each performance level. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely to allow for practice time on a new skill for the performance levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.64 with a standard deviation of .91. For the Basic level, the average score is 4.52 with a standard deviation of .92. On average, teachers allow for practice time on a new skill for the Proficient level was 3.90 with a standard deviation of 1.08. For the Advanced group, an average score of 3.62 with a standard deviation of 1.17 was given by the participants.

The next question determined how often teachers identify prior knowledge or skills of a concept before planning instruction for each performance level. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely to identify prior knowledge or skills of a concept before planning instruction for the performance levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.12 with a standard deviation of 1.09. For the Basic level, the average score is 4.10 with a standard deviation of 1.10. On average, teachers identify prior knowledge or skills of a concept before planning instruction for the Proficient level was 3.83 with a standard deviation of 1.17. For the

Advanced group, an average score of 3.83 with a standard deviation of 1.15 was given by the participants.

The next question determined how often teachers reteach a concept before planning instruction for each performance level. The responses are rated using a Likert scale with one being the least often and five being the most often. The results show a minimum score of zero and a maximum score of five was given by the participants. The teachers are more likely teachers reteach a concept for the performance levels Basic and Minimal. Out of 42 participants, the average score for the Minimal level is 4.19 with a standard deviation of 1.15. For the Basic level, the average score was 3.95 with a standard deviation of 1.22. On average, teachers reteach a concept for the Proficient level was 2.79 with a standard deviation of 1.09. For the Advanced group, an average score of 2.38 with a standard deviation of 1.23 was given by the participants.

Table 3

Descriptive Statistics for Instruction (N= 42)

Variable	Mean	SD
Improvement of Instruction	4.05	.94
Use of Differentiated Instruction		
Advanced	3.55	1.29
Proficient	3.60	1.01
Basic	4.14	1.05
Minimal	4.29	1.04

Table 3 (continued).

Variable	Mean	SD
Scaffolding		
Advanced	3.64	1.46
Proficient	3.69	1.22
Basic	4.19	1.15
Minimal	4.33	1.14
Check for Understanding		
Advanced	4.12	1.13
Proficient	4.24	1.06
Basic	4.43	.941
Minimal	4.50	.944
Practice Time		
Advanced	3.62	1.17
Proficient	3.90	1.08
Basic	4.52	.91
Minimal	4.64	.906
Planning for Instruction		
Advanced	3.83	1.15
Proficient	3.83	1.17
Basic	4.10	1.10
Minimal	4.12	1.09
Re-teach		
Advanced	2.38	1.23
Proficient	2.79	1.09
Basic	3.95	1.23
Minimal	4.19	1.15

Statistical Tests

In the research of CPC, the domains of instructional strategies, the implementation of CPC, and student academic growth were studied in a middle school. The study attempted to determine if CPC has an effect on student academic achievement. In order to answer the research questions and hypotheses, data were collected and analyzed.

RQ1 Does homogeneous grouping increase academic achievement?

H01 Using CPC to homogeneously group students increases academic achievement.

Table 4 contains the results of the descriptive analysis for the Math MCT2 scores. The first variable was 262 third grade math scores with an average of 154.58 and the median of 155.0. The results show that the lowest score in third grade was 108 and the highest score was 180. The standard deviation was 12.05. Twenty-five percent of the scores were 148, which are considered high basic, and 75% of the scores were 161, which is high proficient.

The second variable was 262 fourth grade math scores with an average of 153.53 and the median score of 154. The standard deviation was 10.55. Twenty-five percent of the scores were 147, which is high basic, and 75% of the scores were 161, which is high proficient. The results show that the lowest score was 113, and the highest score was 183.

The third variable was 262 fifth grade math scores with an average of 154.67 and a median score of 156.67. The standard deviation was 11.56. Twenty-five percent of the scores were 148, which is high basic, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 110, and the highest score was 190.

The fourth variable was 262 sixth grade math scores with an average of 155.68 with a median of 156. The standard deviation was 9.79. Twenty-five percent of the scores were 149, which is high basic, and 75% of the scores were 162, which is high proficient. The results show that the lowest score was 115, and the highest score was 180.

Table 4

Descriptive Statistics for Sixth Grade Math MCT2 Scores (N= 262)

Variable	Mean	SD	Median
Third Grade	154.58	12.05	155
Fourth Grade	153.53	10.55	154
Fifth Grade	154.67	11.56	156
Sixth Grade	155.68	9.79	156

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 Math scores over a 4 year time period were used. In the sixth grade students were grouped using CPC. CPC appears to improve student achievement in mathematics. Results indicate that on average the MCT2 scores were higher in sixth grade compared to third, fourth, and fifth grade MCT2 scores. The null hypothesis was accepted based on statistical results of the Pillai's Trace test, which report $F(2, 259) = 5.29, p = .001$. The results indicate a statistically significant difference between the sixth grade and the fourth grade ($p < .001$). The comparisons between sixth grade to third grade and sixth grade to fifth grade were not significant.

Table 5 contains the results of the descriptive analysis for the Language Arts MCT2 scores. The first variable was 262 third grade math scores with an average of 151.77 and the median is 152. The results show that the lowest score in third grade was 118 and the highest score was 176. The standard deviation was 9.99. Twenty-five percent of the scores were 145, which is considered high basic, and 75% of the scores were 159, which is high proficient.

The second variable was 262 fourth grade Language Arts with an average of 152.37 and the median score of 152.5. The standard deviation was 10.49. Twenty-five percent of the scores were 146, which is high basic, and 75% of the scores were 160, which is high proficient. The results show that the lowest score was 115, and the highest score was 185.

The third variable was 262 fifth grade Language Arts scores with an average of 151.36 and a median score of 153. The standard deviation was 10.79. Twenty-five percent of the scores were 113, which is high basic, and 75% of the scores were 174, which is high proficient. The results show that the lowest score was 113 and the highest score was 174.

The fourth variable was 262 sixth grade math scores with an average of 155.89 with a median of 157. The standard deviation was 10.34. Twenty-five percent of the scores were 150, which is high basic, and 75% of the scores were 162, which is high proficient. The results show that the lowest score was 109, and the highest score was 177.

Table 5

Descriptive Statistics for Sixth Grade Language Arts MCT2 Scores (N= 262)

Variable	Mean	SD	Median
Third Grade	151.77	9.99	152
Table 5 continued			
Fourth Grade	152.50	10.49	152.50
Fifth Grade	151.36	10.79	153.36
Sixth Grade	155.89	10.34	157

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 Language Arts scores over a 4 year time period were used. The sixth grade variable was the first year CPC was implemented for the cohort. CPC appears to improve student achievement in Language Arts. When the sixth grade mean score was compared to third grade, fourth grade, and fifth grade, the average MCT2 score increased for the sixth grade. The null hypothesis was rejected based on statistical results of the Pillai's Trace test, which report $F(2, 259) = 31.15, p < .001$. The results indicate a statistically significant difference between sixth grade and third grade ($p < .001$), sixth grade and fourth grade ($p < .001$), and sixth grade and fifth grade ($p < .001$).

Table 6 contains the results of the descriptive analysis for seventh grade Math MCT2 scores. The first variable was 189 fourth grade math scores with an average of 151.53 and the median is 152.0. The results show that the lowest score in fourth grade

was 108 and the highest score was 180. The standard deviation was 10.86. Twenty-five percent of the scores were 146, which is considered high basic, and 75% of the scores were 158, which is proficient.

The second variable was 189 fifth grade math with an average of 155.46 and the median score of 156. The standard deviation was 10.61. Twenty-five percent of the scores were 149, which is high basic, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 117, and the highest score was 185.

The third variable was 189 sixth grade math scores with an average of 155.26 and a median score of 156. The standard deviation was 10.59. Twenty-five percent of the scores were 150, which is low proficient, and 75% of the scores were 161, which is high proficient. The results show that the lowest score was 119, and the highest score was 185.

The fourth variable was 189 seventh grade math scores with an average of 158.14 with a median of 158. The standard deviation was 10.46. Twenty-five percent of the scores were 151, which is low proficient, and 75% of the scores were 164, which is high proficient. The results show that the lowest score was 113, and the highest score was 193.

Table 6

Descriptive Statistics for Seventh Grade Math MCT2 Scores (N=189)

Variable	Mean	SD	Median
Fourth Grade	151.53	10.86	152
Fifth Grade	155.46	10.60	156
Sixth Grade	155.26	10.58	156
Seventh Grade	158.14	10.46	158

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 math scores over a four year time period were used. The seventh grade variable was the second year the cohort was grouped using CPC. CPC appears to improve student achievement in mathematics. After being grouped using CPC, the average MCT2 math score increased. The null hypothesis was rejected based on statistical results of the Pillai's Trace test, which report $F(2, 186) = 44.65, p = .001$. The results indicate a statistically significant difference between seventh grade and fourth grade ($p < .001$), and seventh grade and fifth grade ($p < .001$).

Table 7 contains the results of the descriptive analysis for the Language Arts MCT2 scores for students who have been grouped by CPC for 2 years. The first variable was 189 fourth grade Language Arts scores with an average of 151.04 and the median is 152. The results show that the lowest score in fourth grade was 105, and the highest score

was 174. The standard deviation was 10.58. Twenty-five percent of the scores were 144, which is considered high basic, and 75% of the scores were 158, which is high proficient.

The second variable was 189 fifth grade Language Arts scores with an average of 152.75 with a median of 155. The standard deviation was 12.65. Twenty-five percent of the scores were 151, which is low proficient, and 75% of the scores were 161, which is high proficient. The results show that the lowest score was 107, and the highest score was 173.

The fourth variable was 189 sixth grade Language Arts scores with an average of 155.80 with a median of 157. The standard deviation was 10.44. Twenty-five percent of the scores were 151, which is low proficient, and 75% of the scores were 162.50, which is high proficient. The results show that the lowest score was 112, and the highest score was 182.

The fifth variable was 189 seventh grade Language Arts scores with an average of 156.89 with a median of 159. The standard deviation was 9.52. Twenty-five percent of the scores were 152, which is low proficient, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 118, and the highest score was 173.

Table 7
Descriptive Statistics for Seventh Grade Language Arts MCT2 Scores (N= 189)

Variable	Mean	SD	Median
Fourth Grade	151.04	10.58	152
Fifth Grade	152.75	12.65	155
Sixth Grade	155.80	10.44	157
Seventh Grade	156.90	9.52	159

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 Language Arts scores over a 4 year time period were used. The seventh grade variable was the second year the cohort was grouped by CPC. CPC appears to improve student achievement in Language Arts. The average MCT2 score for seventh grade increased compared to fourth grade and fifth grade. The null hypothesis was rejected based on statistical results of the Pillai's Trace test, which report $F(2, 186) = 50.32, p < .001$. The results indicate a statistically significant difference between seventh grade and fourth grade ($p < .001$), and seventh grade and fifth grade ($p < .001$).

Table 8 contains the results of the descriptive analysis for the eighth grade Math MCT2 scores. The first variable was 201 fifth grade math scores with an average of 153.43 and the median is 154.0. The results show that the lowest score in third grade was 101 and the highest score was 184. The standard deviation was 12.21. Twenty-five

percent of the scores were 147, which are considered high basic, and 75% of the scores were 160, which is high proficient.

The second variable was 201 sixth grade math scores with an average of 155.89 and the median score of 156. The standard deviation was 10.76. Twenty-five percent of the scores were 150, which is low proficient, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 125, and the highest score was 183.

The third variable was 201 seventh grade math scores with an average of 159.52 and a median score of 159. The standard deviation was 10.27. Twenty-five percent of the scores were 153 proficient, and 75% of the scores were 159, which is high proficient. The results show that the lowest score was 137, and the highest score was 188.

The fourth variable was 201 eighth grade math scores with an average of 159.02 with a median of 160. The standard deviation was 9.63. Twenty-five percent of the scores were 152 which is proficient, and 75% of the scores were 160 which is high proficient. The results show that the lowest score was 116, and the highest score was 186.

Table 8

Descriptive Statistics for Eighth Grade Math MCT2 Scores (N= 189)

Variable	Mean	SD	Median
Fifth Grade	153.43	12.21	154
Sixth Grade	155.89	10.76	156
Seventh Grade	159.52	10.27	159
Eighth Grade	159.02	9.63	160

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 math scores over a 4 year time period were used. The eighth grade variable is the third year the cohort was grouped by CPC. CPC appears to improve student achievement in mathematics. After being grouped using CPC, the students' average MCT2 math score increased when compared to fifth grade. The null hypothesis was rejected based on statistical results of the Pillai's Trace test, which report $F(2, 186) = 43.87, p < .001$. The results indicate a statistically significant difference between eighth grade and fifth grade ($p < .001$).

Table 9 contains the results of the descriptive analysis for the Language Arts MCT2 scores. The first variable was 201 fifth grade Language Arts scores with an average of 151.13 and the median is 152.0. The results show that the lowest score in fifth grade was 106 and the highest score was 183. The standard deviation was 10.58. Twenty-

five percent of the scores were 145, which are considered high basic, and 75% of the scores were 158, which is high proficient.

The second variable was 201 sixth grade Language Arts with an average of 155.48 and the median score of 157. The standard deviation was 10.75. Twenty-five percent of the scores were 150, which is proficient, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 114, and the highest score was 180.

The third variable was 201 seventh grade Language Arts scores with an average of 156.16 and a median score of 158. The standard deviation was 11.5610.72. Twenty-five percent of the scores were 151, which is proficient, and 75% of the scores were 163, which is high proficient. The results show that the lowest score was 109, and the highest score was 178.

The fourth variable was 201 eighth grade Language Arts scores with an average of 155.14 with a median of 156. The standard deviation was 10.87. Twenty-five percent of the scores were 148, which is high basic, and 75% of the scores were 162. which is high proficient. The results show that the lowest score was 108, and the highest score was 175.

Table 9

Descriptive Statistics for Eighth Grade Language Arts MCT2 Scores (N= 189)

Variable	Mean	SD	Median
Fifth Grade	151.13	10.58	152
Sixth Grade	155.48	10.75	157
Seventh Grade	156.16	10.72	158
Eighth Grade	155.14	10.87	156

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 1. To determine if CPC has an effect on academic growth, a comparison of the students' MCT2 Language Arts scores over a 4- year time period were used. The eighth grade variable is the third year the cohort was grouped by CPC. CPC appears to improve student achievement in Language Arts. After being grouped by CPC, the average MCT2 Language Arts score increased when compared to fifth grade. The null hypothesis was rejected based on statistical results of the Pillai's Trace test, which report $F(2, 198) = 42.07, p = .001$. The results indicate a statistically significant difference between the eighth grade and the fifth grade ($p < .001$).

RQ2. Does CPC help teachers manage instruction to close the achievement gap?

H₀₂ Using CPC will improve instruction.

The third portion of the study examined how often teachers implement instructional strategies for each level group. To answer research question 2, the participants rated how often instructional strategies were implemented for each level- Advance, Proficient, Basic, and Minimal. Likert scale of one to five, one being least often

and five being most often, was used to rate differentiated instruction, scaffolding, check for understanding, practice time, identify prior knowledge or skill, and reteach a concept. The scores from each group were summed up to get a score-- three being the lowest and 15 being the highest. The average of each performance level explained whether the participants are using instructional techniques to close the achievement gap. Table 10 displays the data. According to the results, teachers are more likely to use differentiated instruction, scaffolding, reteaching, allow practice time, and identify prior knowledge and skills when instructing the Basic level (M= 4.22, SD= .90) and Minimal levels (M= 4.35, SD= .88). On average of 3.67 times with a standard deviation of .85, teachers use instructional strategies for the Proficient level. When instructing the Advanced level, the teachers use instructional techniques an average of 3.52 with a standard deviation of .91.

Table 10

Descriptive Statistics for Instructional Strategies (N= 42)

Variable	Mean	SD
Advance	3.52	.91
Proficient	3.67	.85
Basic	4.22	.90
Minimal	4.35	.88

A multivariate analysis of variance (MANOVA) was used to address Hypothesis 2 to determine if CPC helps teachers better manage instruction to close the achievement gap. The teachers are more likely to use differentiated instruction, scaffolding, reteaching, and check for understanding with the Minimal level and Basic level when

compared to the Advanced level and Proficient level. The null hypothesis was accepted based on statistical results of the Pillai's Trace test, which report $F(2, 39) = 17.87, p = .001$. The results indicate a statistically significant difference between the Minimal level and the Proficient level ($p < .001$) and Minimal level and Advanced level ($p < .001$) but not between the Minimal level and the Basic level ($p = .06$). Mean scores were statistically significantly different between the Basic level and Advanced level ($p < .01$) and Basic level and Proficient level ($p < .001$).

Qualitative Components

Participants were asked how literature and activities are varied with the difference performance levels. According to a history teacher, less time is spent on remediation with the Advanced and Proficient level; therefore, enrichment activities are supplemented. A Language Arts teacher stated that information is read to the Basic and Minimal level and provides more hands-on activities along with skill and drill. Another Language Arts teacher focuses on tested information with the Basic and Minimal levels. One Reading teacher uses novels on the reading level of each performance level. The Advanced and Proficient levels are given more independent projects opposed to the minimal group who sits one-on-one with the teacher and completes projects in the classroom as a group. A math teacher stated that when reading math problems with the Basic and Minimal levels, students are instructed to highlight key words. One science teacher varies the length and difficulty of the literature based on the performance level. When completing labs and activities, the Basic and Minimal levels may have more steps in order to guide students along opposed to the Advanced and Proficient level that tend to work independently.

Summary

The study of CPC has revealed several findings. The teachers are implementing the CPC concepts to group and move students to appropriate performance levels. Also, teachers did express that CPC has improved the quality of instruction. When instructing the Minimal level and Basic level, teachers are more likely to use instructional strategies such as differentiated instruction, scaffolding, reteaching, and checking for understanding. Students who are grouped using CPC have shown academic growth when compared to heterogeneous grouping. This may be due to the improved quality in instruction, especially for the lower performing groups.

CHAPTER V

DISCUSSION

Summary

An Analysis of the Impact of Continuous Progress Curriculum on Student Achievement analyzed the effects of homogeneous grouping on student achievement and teacher instruction and the effective use of CPC. CPC is a model for grouping students based on performance on multiple assessments. Students' progress on assessments and assignments are analyzed by teachers throughout the school year. Teachers are allowed to move students to the appropriate performance group to address skill deficits.

The first part of the study examined the academic growth of middle school students who were grouped using CPC methods using four years of Mississippi Curriculum Test Two (MCT2) data. The second part of the study was a survey of teachers who teach in a middle school that implemented CPC three years ago. The survey collected information on (a) teacher demographics, (b) implementation of CPC, and (c) utilization of instructional strategies.

Summary of Procedures

The data for the first part of this study came from student academic growth and were obtained from 652 middle school students in Mississippi. For this quantitative study, test data were analyzed using descriptive statistics, and a multivariate analysis of variance (MANOVA) was used to address the corresponding hypothesis.

The data for the second part of this study came from 42 middle school teachers in Mississippi. For this quantitative study, responses from the survey were analyzed using

descriptive statistics, and a multivariate analysis of variance (MANOVA) was used to address the corresponding hypothesis.

The University of Southern Mississippi's Institutional Review Board (IRB) granted permission for the study to be conducted. A letter from the superintendent granted permission for the study to be conducted in the middle school. A letter was provided to the participants in the survey explaining the protection of privacy and informed consent. All subjects were provided with sufficient privacy protection of confidentiality during the study. A Cronbach's alpha test analyzed the data from a pilot test of the CPC survey to check for reliability of the question.

Conclusions and Discussions

For decades, parents and politicians have been concerned about the education of children in the United States of America. Since 1970, student achievement on standardized tests has steadily decreased, especially among minority and low-income students. Technology has quickly provided educators with data that tell which students are progressing toward learning goals and if students are succeeding academically. The data provide enough feedback for educators to utilize in determining which instructional practices help students learn (Sindelar, 2006). The question for educators to consider now is, "what do we do with all of this information?" According to the U.S. Government Accountability Office (2009), the data should be used to drive instruction, make decisions about curriculum, target skill deficits, and track students' academic progress.

Educators have based the development of curricula on Piaget's cognitive development theory. The cognitive development theory explains that not everyone develops and learns to solve problems at the same rate (McInerney, 2005). Because all

children do not develop at the same rate, homogeneous grouping occurs in many schools despite the fact that research has shown this practice has small benefits to academic achievement (Chall, 2000).

John B. Carroll developed the theory of Learning for Mastery, which suggests that students will master a concept if instruction is delivered properly. In other words, learning increases as the instruction improves (Guskey, 2001). Re-Inventing Schools Coalition (RISC) is a nonprofit organization that supports grouping students based on performance rather than age-level or grade level. Grouping students based on performance level would allow students to progress through the curriculum based on mastery or performance (McLester, 2011).

According to Ansalone (2010), teachers prefer homogeneous grouping for the ease of planning for instruction, and the grouping makes remediation and enrichment possible. Research has shown that a teacher's classroom management skills and instruction has the most impact on student achievement rather than any form of grouping (Anderson, 1986). Pigford (1990) suggested that teachers must adjust instruction and materials to meet the needs of each group. Marzano (2000) coined the term *opportunity to learn* (OTL), which has the greatest impact on student achievement.

Researchers who study the effects grouping offer advice on management homogeneous grouping to ensure that students are succeeding academically. Students should be placed in groups to address academic needs (Hallam, 2002). Slavin (1987) suggested that students who are homogeneously grouped should be assessed regularly and placed in the appropriate group. Allan (1991) suggested that research should examine the impact of grouping along with quality instruction on student achievement.

In order to help educators have a better understanding of how to improve education, this study investigated the impact of CPC on instruction and student academic achievement. Three years of MCT2 data were collected to determine if CPC has an impact on student academic achievement. The grade levels in which the individual students were grouped by CPC methods were compared to grade levels in which the individuals were heterogeneously grouped. The data were used to answer the following research question:

RQ1 Does homogeneous grouping increase academic achievement?

H01 Using CPC to homogeneously group students increases academic achievement.

The results indicate that CPC does increase student achievement. The average MCT2 score increased each year the students were grouped using the CPC method when compared to the years the students were heterogeneously grouped. In addition, the achievement gap between minimal students and advanced students. The standard deviation is decreasing each year the students are grouped by CPC.

The sixth grade was the first year students were grouped using CPC. The average MCT2 math score in sixth grade increased and the standard deviation noticeably decreased when compared to the previous grades. In addition, the median score has increased since third grade. There was a statistically significant difference between sixth grade and fourth grade; however, there was not a significant difference between sixth grade and third grade and sixth grade and fifth grade.

The seventh grade students had been grouped by CPC for two years. The average MCT2 math score increased and indicated a slight decrease in the standard deviation. The median score has noticeably increased since fourth grade. There was a significant difference between seventh grade and fourth grade and seventh grade and fifth grade.

The eighth grade students had been grouped by CPC for three years. The average MCT2 math score considerably increased since fifth grade. The standard deviation noticeably decreased since fifth grade as well. Since fifth grade, the median score has drastically increased. There was a significant difference between eighth grade and fifth grade.

The sixth grade was the first year students had been grouped by CPC. The average MCT2 Language Arts score considerably increased the sixth grade year when compared to the school years the students were heterogeneously grouped. In addition, the standard deviation has decreased since fifth grade. The median score has drastically increased since third grade. When sixth grade is compared to third grade, fourth grade, and fifth grade there was a significant difference.

The seventh grade students had been grouped by CPC for two years. The average MCT2 Language Arts score considerably increased since fourth grade. The median score has increased considerably since fourth grade. The standard deviation noticeably decreased since fourth grade also. There was a significant difference between seventh grade and fourth grade and seventh grade and fifth grade.

The eighth grade students had been grouped by CPC for three years. The average MCT2 Language Arts score considerably increased since fifth grade. The standard deviation had slightly increased since fifth grade. In addition, the median score has

increased since fifth grade. There was a significant difference between eighth grade and fifth grade.

To determine if CPC improves instruction to close the achievement gap, teachers who taught students grouped by CPC methods were surveyed about instructional strategies for each performance level. Data were collected and analyzed from responses about how often teachers scaffold lessons, used differentiated instruction, reteach skills and content, allow for practice time, identify prior knowledge, and check for understanding for each performance level. The data were used to answer the following research question:

RQ2. Does CPC help teachers manage instruction to close the achievement gap?

H₀₂ Using CPC will improve instruction.

Piaget (1990) suggested that teachers should adjust instruction and materials to the needs of the students' academic needs. According to the results from the data, the teachers are implementing Piaget's suggestions. CPC helps teachers manage instruction to help close the achievement gap. Using CPC methods, teachers are most likely to scaffold lessons, differentiate instruction, reteach skills and content, allow for practice time, identify prior knowledge, and check for understanding for the Minimal groups and Basic group when compared to the Proficient group and Advanced group. When the Minimal level was compared to the Proficient level and the Advanced level, there was a significant difference. In addition, there was a significant difference when the Basic level was compared to the Proficient level and Advanced level.

Limitations

The purpose of the study was to determine if CPC increased student achievement and if CPC helped teachers improve instruction. There are several factors that may limit the findings of the study. The study was confined to students who attended a middle school in Mississippi from 2009-2010 to 2011-2012 school year. The findings from the study may not be generalized to all schools. Some schools may not offer professional development to teachers for implementing instructional strategies. The participants in the survey were restricted to one middle school. The teachers have been offered professional development on how to scaffold instruction and differentiated instruction.

Recommendations for Future Policy and Practice

Research urges educators to use data to drive instruction. With student data readily available, administrators and teachers are able to determine each student's academic needs. By implementing CPC in a school, administrators are able to be true instructional leaders and assist teachers with meeting the academic needs of all students. Administrators should provide teachers with professional development for improving instruction and strategies for meeting all performance levels, particularly the Advanced and Proficient groups. In addition, professional development should be provided for teachers to become more fluent in instructional strategies that are research based to improve the learning of the Basic and Minimal performance level.

Recommendations for Future Research

There is an abundance of research on the effects of ability grouping. The majority of the study's results are inconclusive about whether ability grouping improves student

achievement. The following list of recommended future studies would be beneficial to have a better understanding of the benefits of homogeneous grouping.

1. Future studies should consider comparing homogeneous grouping and the evaluation process administrators use to determine if all students' academic needs are met.
2. Future studies should include the involvement of the administration with grouping students.
3. Future studies should include professional development that is provided for teachers when students are ability grouped.
4. Future studies should consider comparing heterogeneous grouping and homogeneous grouping to classroom discipline.
5. Future studies should consider investigating students' perspective about one's academic progress who was grouped by CPC compared to students who are heterogeneously grouped at the middle school level.
6. Future studies should evaluate CPC in elementary schools.
7. Future studies should compare the instruction used with heterogeneous groups to homogeneous groups.
8. Future studies should consider the instruction of teachers instructing students who are grouped using CPC compared to teachers instructing students who are heterogeneous grouped.

Summary

Most literature suggests that homogeneous grouping has little to no effect on student academic achievement. However, since the implementation of CPC, a middle school in Mississippi has shown student academic growth. To answer Allan's (1991)

suggestion for a study to examine the effects of instruction along with grouping, quality instruction, along with performance grouping, does increase student academic achievement.

APPENDIX A

CPC SURVEY

<p>Circle the answer that applies.</p> <p>1. What subject do you teach?</p>	<p>Elective Language Arts Math Science Reading History</p>
<p>Circle the answer that applies.</p> <p>2. Is it a tested subject?</p>	<p>Yes No</p>
<p>Circle the answer that applies.</p> <p>3. How many years have you been teaching?</p>	<p>0-5 6-10 10-15 16-20 21-25 26-30 Over 30</p>
<p>Circle the answer that applies.</p> <p>4. How do you prefer to have your students grouped?</p>	<p>Homogeneously (same ability) Heterogeneously (mixed ability)</p>
<p>Circle the answer that applies.</p>	

5. How are your students grouped?	Homogeneously (same ability) Heterogeneously (mixed ability)
May circle more than one. 6. When do you analyze individual student's test data?	During professional development at start of school First nine weeks Second nine weeks Third nine weeks Fourth nine weeks
Circle the answer that applies. 7. Do you group your students within the classroom?	Yes No
Circle the answer that applies. 8. How do you determine who is placed in each group?	No grouping Test data Teacher recommendation Grades
Circle the answer that applies. 9. If your students are grouped, do they have the potential to move to a higher performing group?	Yes No
May circle more than one. 10. On average, how many students do you move to a more appropriate group?	0-5 6-10 11-15 15-20

	20-25 Other
<p>May circle more than one.</p> <p>11. When you decide to move a student to a different group, who initiates the move?</p>	<p>Guidance Administration Team teachers Yourself Parent</p>
<p>May circle more than one.</p> <p>12. What information is used to initiate a move?</p>	<p>Common assessments Teacher made tests Daily/quiz grades Progress Monitoring assessments (Star test) Other</p>
<p>May circle more than one.</p> <p>13. How often do you move students to a different performance group?</p>	<p>0-5 6-10 11-15 15-20 20-25 Other</p>
<p>May circle more than one.</p> <p>14. At what time of the school year do you first move students to a more appropriate group?</p>	<p>First nine weeks Second nine weeks Third nine weeks Fourth nine weeks</p>
<p>15. On a scale of 1(least) to 5(most) how effective is your</p>	<p>1 2 3 4 5</p>

instruction since the implementation of CPC?	
16. On a scale of 1 (least often) to 5 (most often) do you use differentiated instruction for each performance level?	
Advanced	1 2 3 4 5
Proficient	1 2 3 4 5
Basic	1 2 3 4 5
Minimal	1 2 3 4 5
17. On a scale of 1 (least often) to 5 (most often) how often do you scaffold your instruction for each performance level?	
Advanced	1 2 3 4 5
Proficient	1 2 3 4 5
Basic	1 2 3 4 5
Minimal	1 2 3 4 5
18. On a scale of 1 (least often) to 5 (most often) how often do you check for understanding for each performance level?	
Advanced	1 2 3 4 5

Proficient	1	2	3	4	5
Basic	1	2	3	4	5
Minimal	1	2	3	4	5
19. On a scale of 1(least often) to 5 (most often) how often do you allow practice time on a skill or concept for each performance level?					
Advanced	1	2	3	4	5
Proficient	1	2	3	4	5
Basic	1	2	3	4	5
Minimal	1	2	3	4	5
20. On a scale of 1(least often) to 5 (most often) how often do you identify knowledge or skill(s) of a concept before planning instruction for each performance level?					
Advanced	1	2	3	4	5
Proficient	1	2	3	4	5

Basic	1	2	3	4	5
Minimal	1	2	3	4	5
21. How often do you reteach each performance level?					
Advanced	1	2	3	4	5
Proficient	1	2	3	4	5
Basic	1	2	3	4	5
Minimal	1	2	3	4	5

Please answer the following questions?

22. How do you vary literature?

23. How do you vary activities?

APPENDIX B
PROCEDURE LETTER

To: Hancock Middle School Teachers

From: Jessica Taylor

Re: Survey

Date: May 2012

I am requesting for your voluntary participation to complete a survey about Continuous Progress Curriculum (CPC). The study is being conducted to fulfill the requirements to be for the doctoral program in Education Leadership and Counseling at the University of Southern Mississippi. There are few risks in completing the survey. The survey will take approximately 15 minutes to complete. The questions on the survey measure the effectiveness and the usefulness of CPC on instruction. All answers on the survey will be anonymous by being sealed in an envelope and placed in a box in the mailroom. All surveys will be locked in a file cabinet until the study is completed. You may discontinue participation in the study without any penalty. There are no benefits for completing the survey.

Please read all directions. After completing the survey place the survey in the sealed envelope. Place the envelope in the box labeled survey in the mailroom.

This project has been reviewed by the Human Subjects Protection Review Committee, which assures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 394060001, (601) 2666820.

I greatly appreciate your time and effort for completing the survey.

Thank you,

Jessica Taylor

APPENDIX C
PERMISSION LETTER

To: Alan Dedeaux

From: Jessica Taylor

Re: Research permission

Date: February 14, 2012

Currently I am completing a dissertation on Continuous Progress Curriculum (CPC). The experience with CPC at Hancock Middle School has been beneficial to student academic growth. I would like to share what Hancock Middle School has accomplished with the world of academia. I am requesting permission to collect information on the following:

1. 2009, 2010, 2011, and 2012 MCT2 scores from students from cumulative folders.
2. Survey teachers about the implementation of CPC and instruction.

Instead of using individual students' names, the MSIS number will be used to identify each participant. All information will be locked in a file cabinet. The data will be disposed of after all statistical tests are finalized.

If possible I would like a response on district letterhead by March 1, 2010. I appreciate your attention to this matter.

Thank you,

Jessica Taylor

APPENDIX D
IRB APPROVAL



INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board 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: **12041801**
PROJECT TITLE: **An Analysis of the Impact of Continuous
Progress Curriculum on Student Achievement**
PROJECT TYPE: **Dissertation**
RESEARCHER/S: **Jessica Taylor**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Educational Leadership & School Counseling**
FUNDING AGENCY: **N/A**
IRB COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF PROJECT APPROVAL: **05/31/2012 to 05/30/2013**

Lawrence A. Hosman, Ph.D.
Institutional Review Board Chair

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