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# Classroom Organizational Structure in Fifth Grade Math Classrooms and the Effect on Standardized Test Scores

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CLASSROOM ORGANIZATIONAL STRUCTURE IN FIFTH  
GRADE MATH CLASSROOMS AND THE EFFECT  
ON STANDARDIZED TEST SCORES

by

Dallas Marie Lane

A Dissertation  
Submitted to the Graduate School  
and the Department of Educational Research and Administration  
at The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

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ABSTRACT

CLASSROOM ORGANIZATIONAL STRUCTURE IN FIFTH  
GRADE MATH CLASSROOMS AND THE EFFECT  
ON STANDARDIZED TEST SCORES

by Dallas Marie Lane

May 2017

The purpose of this study was to determine if there is a relationship between the classroom organizational structure and MCT2 test scores of fifth-grade math students. The researcher gained insight regarding which structure teachers believe is most beneficial to them and students, and whether or not their belief of classroom organizational structure differs based on the number of years of classroom experience and/or degree held.

The results of this study showed no significant difference in the standardized test scores of students in a self-contained classroom compared to the students in a departmentalized classroom. Though there was no significant difference in teachers' beliefs relative to differences and possible benefits between the self-contained and departmentalized classrooms, teachers did display optimism in regard to departmentalization in the fifth-grade math classroom.

No significant difference was found in teachers' beliefs about classroom organizational structure based on years of classroom experience or current classroom structure, however, there was a significant difference in regards to teachers' beliefs about classroom organizational structure and their certification

level. No significant difference in the classroom organizational structure and standardized test scores was found, but teachers were more optimistic in regard to the departmentalized classroom.

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## DEDICATION

This dissertation is dedicated to my daughters, Katie and Paisley Lane. Never give up and always know that you can reach any goal you set...though it may sometimes take longer than you planned. I hope you both follow your dreams and this life becomes all that you want it to. I love you both so very much!

To my husband, Chris Lane, thank you for your love and encouragement throughout this process. To my parents, Bobby and Jeannette Jordan, thank you for your love and support in everything I've always done and continue to do. I love y'all!

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## CHAPTER I - INTRODUCTION

John Dewey was a major contributor to the theory of constructivism. He believed student experiences were dependent on the individual, therefore, the teaching and curriculum should be designed in ways that allow for individual differences (Neill, 2005). Dewey argued, "We learn something from every experience, whether positive or negative and one's accumulated learned experience influences the nature of one's future experiences" (Neill, 2005, p. 2). Thus, our interactions with events are greatly affected by our experiences. Departmentalization is a technique used throughout middle and high schools in which teachers work as a team and specialize in one to three subject areas (Delviscio & Muffs, 2007). Students change classes to receive subject area instruction from a teacher in a specialized area (Chan & Jarman, 2004).

Elementary school teachers are more familiar with a traditional, self-contained classroom setting in which the teacher delivers all subject area instruction to the same students throughout the school day. Many parents, teachers, and students prefer self-contained classes to departmentalization due to a feeling of security. This type setting is beneficial for lower elementary grades. According to Chan, Terry, and Bessette (2009), self-contained classrooms may serve as a transition for the students from home to school.

Departmentalization is relatively new to elementary schools but is growing in popularity, especially since the establishment of the No Child Left Behind (NCLB) Act in 2001 and the Common Core initiative. The number of upper elementary teachers specializing in one to two subject areas has increased

greatly (Black, 2008). As the need for high scores in subject area testing continues to increase, education consultant Steve Peha stated the implementation of departmentalization will take place in several more elementary schools (Hood, 2010). NCLB requires highly qualified teachers for every child (NCLB, 2006). Implementing departmentalization in the elementary schools, especially fourth through sixth grades, assists administrators and teachers in meeting the NCLB requirements. However, the support of the teachers is vital to the success of transitioning from self-contained to departmentalized classrooms (Chan et al., 2009).

Departmentalization reduces the amount of planning that is required to teach all subject areas. Instead, teachers are able to focus on a few subjects and plan in-depth, high-quality lessons that are more effective, interesting and meaningful to the students. Many times the teachers are able to teach the subject area(s) that they enjoy and in which they are most knowledgeable. Having fewer subjects for which to plan, the lesson and material preparation can be more efficiently accomplished (Gerretson, Bosnick, & Schofield, 2008).

#### Statement of the Problem

One of several topics in education that continues to be debated is classroom organizational structure. Self-contained and departmentalized settings each have benefits and drawbacks for teachers and students. Since so much emphasis and pressure are put on teachers and students when it comes to standardized test scores, the classroom structure that students benefit from most should be the one implemented in each school. Therefore, the problem

addressed is what effect does classroom structure have on the standardized math test scores of fifth-grade students.

### Purpose of the Study

The purpose of this study was to determine if there is a relationship between the classroom organizational structure and MCT2 test scores of fifth-grade math students. The researcher was able to gain insight regarding which structure teachers believe is most beneficial to them and students, and whether or not their belief of classroom organizational structure differs based on the number of years of classroom experience and/or degree held.

### Research Questions and Null Hypotheses

#### *Research Questions*

1. Are there differences in the fifth grade MCT2 math scores of students taught in self-contained classrooms and students taught in departmentalized classrooms?
2. What are elementary teachers' beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms?
3. Do elementary teachers' beliefs about classroom organizational structures differ based on demographic characteristics: years of teaching experience, highest degree earned, current classroom structure?

### *Null Hypotheses*

1. There is no difference between the classroom organizational structure and math standardized test scores.
2. Teachers' perceptions of classroom organizational structure will not differ based on the demographic characteristics: years of teaching experience, highest degree earned, current classroom structure.

### Definitions of Terms

#### *Accountability*

The process which holds schools and teachers responsible for students' achievement; using the scores on standardized assessments to measure achievement.

#### *Common Core State Standards (CCSS)*

These are the state standards developed and implemented in the common core initiative.

#### *Common Core Initiative*

An initiative in education that requires fewer standards to be mastered, but requires that the standards be understood on a deeper level (Dessoiff, 2012).

#### *Departmentalization*

A classroom organizational structure whereby students are taught by several teachers who specialize in one or more core content areas, such as math, science, and/or language arts. Students generally change

classrooms to receive instruction. Departmentalization has been widely used throughout middle and high schools (DeViscio & Muffs, 2007).

*Mississippi Curriculum Test, Second Edition (MCT2)*

Includes a series of criterion-referenced tests that are part of the Mississippi Statewide Accountability System created to fulfill the federal testing requirements set forth by NCLB 2001. It is comprised of Language Arts and Mathematics, is administered to all third through eighth graders in the state, and is used to assess student achievement.

*No Child Left Behind Act of 2001 (NCLB)*

This is an educational reform that placed a great amount of emphasis on standardized assessment. This act forced schools to be held accountable for their students meeting the performance standards set forth in each subject area. The purpose of this act was to ensure children of all races, socioeconomic status, or learning disability would have the opportunity to receive equal education based on test performance outcomes.

*Partnership for Assessment of Readiness for Colleges and Careers (PARCC)*

*PARCC* is a group that developed the Common Core assessments. This group uses a series of assessments throughout the school year and uses the average of the assessments to obtain a score to be used for accountability purposes (Dessoiff, 2012).

*Self-Contained*

A classroom organizational method that refers to a particular group of students being assigned to a certain teacher and that teacher teaching all

subject areas to his/her assigned group. There is no changing of classes (Chan & Jarman, 2004).

### *Smarter Balanced Assessment Consortium (SBAC)*

SBAC is a group that is responsible for developing the Common Core assessments. This group proposed using a single end-of-the-year assessment for accountability purposes but administering several tests throughout the year to serve as a guide to monitor students' progress. These tests will use appropriate questions that will be based on the preceding answer (Doorey, 2012).

### *Standardized Assessment*

This assessment is administered and scored systematically. Each student's score is compared to a set of standards, instead of the scores of his/her peers.

### *Theory of Constructivism*

An approach to teaching and learning based on the premise that learning is the result of prior knowledge, therefore, students learn by combining new knowledge with their previous knowledge (Piaget, 1950).

### Delimitations

Delimitations imposed on this study include:

1. The measure of student achievement used in this study is delimited to fifth-grade MCT2 math scores for a single year, 2012-2013.
2. The study of teacher perceptions was delimited to a single online survey.

3. The study was delimited to twelve select public school districts in the state of Mississippi.
4. Participants in this study were delimited to fifth-grade teachers from participating public school districts who teach math. Teachers included those who teach in self-contained classrooms and those who teach in departmentalized classrooms.

#### Assumptions

The assumptions made during this study were teachers would truthfully complete the survey, the test data used would provide a true relationship between the test scores and the classroom organizational structure, and the test data was accurately entered in the website.

#### Justification

This study is important because it provides data that can be used in determining whether or not there is a relationship between the classroom organizational structure and math standardized test scores of fifth-grade students. Determining whether or not there is a relationship between the classroom organizational structure and math standardized test scores of fifth-grade students can assist administrators in deciding the classroom organizational structure that is best for students and teachers.

#### Summary

Through this study, the researcher hoped to determine whether or not there is a relationship between the classroom organizational structure and the math standardized test scores of fifth-grade students at various schools in

Mississippi. The researcher also hoped to determine which classroom organizational structure teachers feel is most beneficial to them, in planning and teaching, and most beneficial to students in mastering the content delivered. Lastly, the researcher was interested to see if teachers' perceptions of classroom organizational structure differ based on classroom experience or certification.

## CHAPTER II – REVIEW OF RELATED LITERATURE

### Introduction

Discussed within this review of literature is the Theory of Constructivism, which is an approach to teaching and learning based on the premise that learning is the result of prior knowledge, therefore students learn by combining new knowledge with their previous knowledge. Further literature reviews will focus on classroom organizational structures used in the elementary setting, with emphasis on self-contained and departmentalized classrooms. A focus on the pros and cons of departmentalization for teachers and students will be reviewed along with the effect of departmentalization on teacher's planning and focus, student achievement, and teacher-student relationships in the upper elementary classroom.

The final literature reviews will focus on standardized assessments, the Mississippi Curriculum Test, second edition, and the implementation, information, and pros and cons of the up and coming Common Core initiative.

### Theoretical Framework

Constructivism is a philosophy of learning which is based on the concept that learning is the connection of prior knowledge based on experiences to new information received (Piaget, 1950). The teacher's role in constructivism is to provide information and situations in which the students piece together information to form their own conclusions. Through teacher questioning, the students become effective critical thinkers. Instead of forming opinions based on

information presented, or accepting the ideas of others, the students are exposed to various sources of information as well as the interaction with other students to form their own opinions. This method of instruction allows students, at all levels, to evaluate the information provided, discover solutions or support about issues at hand, and then formulate their own words and actions. Several leading theorists in the area of constructivism include John Dewey, Jerome S. Bruner, Maria Montessori, L.S. Vygotsky, and Jean Piaget.

John Dewey was a major contributor to the theory of constructivism. According to Richard Rorty, Dewey was one of “the three most important philosophers of our century” (Westbrook, 1991, p. 539). Dewey believed student experiences were dependent on the individual; therefore, the teaching and curriculum should be designed in ways that allow for individual differences (Neill, 2005). Dewey believed a child began school with personal ideas and interests, and it was the job of the teacher to use this prior knowledge and incorporate it so that the child would end with positive results (Westbrook, 1991). Dewey argued, “We learn something from every experience, whether positive or negative and one’s accumulated learned experience influences the nature of one’s future experiences” (Neill, 2005, p. 2). Therefore, our interactions with events are greatly affected by our past experiences. In order for teachers to teach in the way Dewey deemed appropriate, each teacher would be a highly skilled professional, would have a background in child psychology, and would have an in-depth understanding of the subject he/she was teaching (Westbrook, 1991).

According to Jerome S. Bruner, learning is an “active process in which learners construct new ideas or concepts based upon their current/past knowledge,” and he used this idea as a major focus of his constructivist theory (1960, p. 97). Bruner developed a theory of cognitive growth and was highly involved in the development of cognitive understanding, most notably in the field of education. Using the cognitive structures or mental processes, the learner pushes past the given information to construct new concepts. The learner organizes past knowledge and experiences to make sense of what he knows, then bases future ideas and solves additional problems based upon a combination of what he has already learned and what he thinks should be processed next. The teacher’s role is to communicate with the learner, key concepts, noting the students’ progressions, and frustrations, and guiding them in the learning process. Bruner believed children were active problem solvers and eager to explore material that was more challenging than was normally presented (Bruner, 1961).

According to Maria Montessori, “Education should no longer be mostly the imparting of knowledge, but must take a new path, seeking the release of human potentialities” (Peterson, 2010, p. 23). Montessori believed teachers should act as facilitators as they guide learners to reach their own understanding of content. As a facilitator, the goal of the teacher is to support the learner in becoming an effective and independent thinker (Peterson, 2010).

L.S. Vygotsky (1978) created the phrase zone of proximal development that gave educators a reference point at which students need help. He stated knowledge was important, but students should be encouraged to go beyond and use past occurrences to solve new problems and opportunities. He also states “the teacher must provide educational materials that go beyond the child’s current knowledge base” (Vygotsky, 1978).

Piaget’s research has contributed greatly to the understanding of child development. His general theoretical framework is known as “genetic epistemology.” Some of the principles of his “genetic epistemology” include the idea that children will provide different explanations of reality at different stages of cognitive development, that learning materials and activities should involve the appropriate level of motor or mental operations for a child of given age, and use teaching methods that actively involve students and present challenges (Valsiner, 2005).

Jean Piaget’s theory of constructivism reasoned that people produced knowledge and formed meaning as it related to their individual experiences. His theory was based on two key concepts that help to build a person’s new knowledge. The first concept is accommodation, which involves examining new experiences using prior knowledge, and the second concept is assimilation, which causes the student to relate new experiences with their old experiences. Assimilation causes a person to develop new outlooks, rethink views, and evaluate what is important, using his new information. Accommodation is

rethinking new experiences and fitting it into the present situation. The role of the teacher is to facilitate the student to come to his own understanding by providing thought-provoking situations and opportunities in which the students must discover their individual answers (Valsiner, 2005).

With today's access to the internet's instant information and communication, students can be exposed to many ideas from a variety of sources, which allows them to interact with others and formulate their ideas and opinions based on the most current information. The use of the internet and its supporting programs has proven invaluable in subjects such as math and science. These programs allow the students to view sketches, make changes to the sketches, and test their theories on the computer. The use of the current technology has allowed the theory of constructivism to continue and expand, as the events of today and yesterday, are readily available for students to access (Bereiter & Scardamalia, 2010).

### Classroom Organizational Structures

Educators have discussed the classroom organizational structure of the elementary classroom since the beginning of the twentieth century (McGrath & Rust, 2002). The number of subject areas covered by the teacher in a self-contained classroom is one aspect of the classroom organizational structure. The teacher is responsible for all subject areas throughout the day. The self-contained teachers are able to have a close relationship with their students. The teacher knows the strengths and weaknesses of their students, as well as their

personality traits, therefore allowing the teacher to better accommodate the individual learning styles of each student. In a departmentalized classroom setting, teachers cover fewer subject areas while the students change teachers for instruction in different subject areas. More emphasis is placed on each subject area in the departmentalized setting and the teachers are more confident and are better prepared for their subject areas.

Elementary school teachers are more familiar with a traditional, self-contained classroom setting in which the teacher delivers all subject area instruction to the same students throughout the school day. Many parents, teachers, and students prefer self-contained classes to departmentalization due to a feeling of security. This type setting is beneficial for lower elementary grades. According to Chan (2009), self-contained classrooms may serve as a transition for the students from home to school.

While there are a multitude of positive reasons for teachers and students to enjoy taking part in departmentalization, several teachers, students, and parents do not believe departmentalization is a good classroom structure for elementary students. Those in opposition believe self-contained classrooms at the elementary level provide more of a “home-like” environment, with the teacher fulfilling the image of a parent. Some believe self-contained classrooms are a good transition from home to school. Other critics believe some opposition comes from students and parents who are not familiar with the departmentalized setting (Chan et al., 2009).

Hood (2010) states the traditional model, also known as self-contained classrooms, makes it easier for a teacher to make connections between subjects using a single theme. Also stated in the article is the fact that students should be taught to think critically in all subject areas and to have the ability to make connections across the subject areas, not isolating their knowledge to individual subject areas. Inlay (2005) states that students will respond better to the academic challenges they face when a climate of safety is nurtured. This is the reason it is important to develop a sense of community and belonging among all grade levels in the school.

According to Black (2008), self-contained classrooms provide the opportunity to teach a curriculum that is both integrated and interdisciplinary. Teachers are able to be flexible when it comes to scheduling, especially for special activities or school programs. In a self-contained classroom, subjects are not usually taught in isolation, but instead, students are able to participate in cross-disciplinary activities and more authentic learning experiences and assessments.

Chan and Jarman (2004) found that while most self-contained teachers are not interested in or well-rounded enough to teach all subject areas, departmentalized teachers have a more focused workload and greater satisfaction with their job, which in turn leads to a higher teacher retention rate. Teacher support is fundamental in the success of departmentalization. Instructional planning time can be more efficient by utilizing the best teacher

resources on certain subject areas. This leads to more efficient instructional time and fewer discipline problems. The teachers felt students had a common goal to achieve while also receiving positive academic and social experiences (Chan et al., 2009).

According to Gess-Newsome (1999), the elementary teacher preparation usually follows a generalist model in which the teacher takes methods classes in all subject areas, therefore, it is assumed that the teacher has sufficient knowledge to design and deliver a curriculum that covers each subject area in a self-contained classroom. The teacher is able to organize the class time and allocate what he/she believes to be a sufficient amount of time to teach a subject area. An in-depth understanding of student development and interests, integrated or interdisciplinary instruction, the efficient use of planning time, the flexibility to plan thematically, and the need for no additional personnel are some of the advantages to self-contained classrooms. However, limited content knowledge, dispersed material resources, and limited curricular knowledge are disadvantages experienced by self-contained classroom teachers. The amount of time dedicated to instruction due to multiple teaching responsibilities, accountability measures, low levels of interest or self-confidence, the decrease in knowledge of the students, and the lack of opportunities to integrate the subject areas are also some of the disadvantages.

According to Black (2008), studies favor self-contained classrooms where students have a higher achievement rate. Parents worry about students because

of the stress they are under in a departmentalized setting. The students are frazzled and stressed due to some of the effects of departmentalization, including the amount of homework assigned and the different rules of the classrooms. Another concern of the parents is the possible lack of nurturing the students may experience because of moving to different classrooms throughout the day and losing time with one teacher. The communication between parents and teachers regarding the progress of the student is also a concern (Dropsey, 2004). Scheduling conflicts and an increased rate of theft and vandalism also play a role against departmentalization.

“Providing every student with the best possible instruction in every subject, every day is the primary goal of the education system” (Nelson & Landel, 2006, p. 72). During this time of budget cuts and the implementation of NCLB, administrators are implementing various teaching strategies in order to take advantage of available resources and make the best use of instructional time. After reviewing the literature, I found that many administrators have concluded that departmentalization is advantageous to both students and teachers since this allows teachers to be “an authority” on a particular subject, thus allowing them to give the students all of the attention in a focused area. Some of the teachers involved in departmentalization were excited to be able to put more time and effort into the subject areas that they found most interesting which were usually the subjects they were in charge of teaching (DeViscio & Muffs, 2007).

Departmentalization is a technique used throughout middle and high schools in which teachers work as a team and specialize in one to three subject areas (Delviscio & Muffs, 2007). Students change classes to receive subject area instruction from a teacher in a specialized area (Chan & Jarman, 2004). While most teacher education programs do not prepare future elementary school teachers to be content specialists (Gerretson et al., 2008), the U.S. Department of Labor has seen an increase in the number of teachers specializing in subject areas (Black, 2008). As pressure for high achievement scores continues to increase, the need for departmentalization will continue to grow and become more common in the upper elementary classrooms (Hood, 2010). Curriculum standards are met more efficiently if a teacher specializes in one subject area. Departmentalization has been credited with achievement test scores being substantially higher.

With the continued pressures of the importance of standardized achievement test scores, administrators are becoming more interested in research that shows the correlation between departmentalization and higher test scores. The amount of preparation involved plays a large part in the success of departmentalization in elementary schools. When departmentalization is implemented, teachers are able to maximize their preparation time and resources. This allows them to devote more time to the standards they are required to teach (Flick & Lederman, 2004).

Since departmentalization is becoming more popular, teachers are no longer expected to be generalists, and therefore are able to specialize in their subject areas delivering classroom instruction and content that is of a higher quality. When a teacher is only responsible for teaching one subject area, he is responsible to record standards for only that area. The content should be presented more “effectively and efficiently” because the teacher has fewer subject areas for which to plan. Planning for fewer subject areas allows the teachers to utilize more resources and plan lessons that are more focused, in-depth, and meaningful to the students. In the departmentalized setting, teachers find more time to communicate more effectively with the teachers within and between grade levels. The professional development offered provides content that is more focused on the needs of the teachers in each content area (Gerretson et al., 2008).

In many situations, teachers are able to teach the subjects that they most prefer and are usually more enthusiastic in teaching. Relying on teachers’ strengths assists in increasing student achievement. Since the teacher has fewer subject areas for which to prepare, they are able to be more focused and to use their strengths more effectively. The reduction in lesson preparation may play a part in the stress reduction of some teachers, thereby leading to the increase in teacher retention (Gerretson et al., 2008).

Black et al. (2008) are convinced the risk is worth taking when it comes to departmentalization. Departmentalization enables some teachers to teach the

subject they most prefer while improving teacher satisfaction and leading to teacher retention. Less time is spent on lesson preparation but the teacher is able to spend more time focusing on standards and methods that would be most effective in presenting the material to students. Departmentalization also allows subjects such as science and social studies to receive the same amount of time and intensity as other subject areas such as language arts and math. Some teachers believe departmentalization in upper elementary is the most effective way to prepare students for middle school and beyond. Making the change to departmentalization may mean more work with a variety of tasks for the teachers and administrators, but it is their obligation to put the students first (Nelson & Landel, 2006).

When implementing departmentalization, several steps should be taken into account according to Dropsey (2004). School administration and teachers should plan together to ensure the success of departmentalization and professional development and in-service should be provided for all teachers and staff. Teachers should monitor scheduling and effective use of time and should examine procedures to determine their effectiveness. A review of student progress should be assessed frequently to determine the effectiveness of departmentalization. All parents and students should be well informed about departmentalization, parents should be included in some parts of the organizational strategies, and teachers should be consistent in communicating

with parents in a timely manner. Departmentalization should be continued for an extended period of time in order for the effectiveness to be researched.

Transition is a difficult time for most people, regardless of their age. The transition from elementary school to middle school is especially difficult for the students due to the onset of adolescence. A positive student-teacher relationship is essential due to the influences on students' attitudes, self-perceptions, and motivational levels (Parker, 2009).

Departmentalization offers many benefits to students, as well as teachers. A main reason many elementary schools departmentalize is to prepare students for their transition to middle school (Black, 2008). The elementary schools that departmentalize align with the organization of the middle school. According to Chan and Jarman (2004), the instruction received by students is more specialized, the students are able to move among ability groups, and they are exposed to more than one teacher. Having the opportunity to work with more than one teacher could be beneficial to students in preparing for the transition to middle school (Nelson & Landel, 2006). The transition time between classes allows students a chance to move around without getting into trouble (Hood, 2010). Gains in science and social studies (Black, 2008), improvement in student achievement (Gerretson et al., 2008), and students having the opportunity to benefit from more than one teaching style are also advantages to departmentalization (Hood, 2010).

According to Chan et al. (2009), it is important that educators understand that the transition to middle school begins in the elementary grades. Some of the advantages to departmentalization include students appreciating the chance to move from class to class, academic specialization by teachers, and a change in academic organization, which will help them in the transition to middle school.

Platooning, also known as departmentalization in Denver, can be cost effective in the areas of professional development and in upgrading instruction. According to Deborah Ball, the hiring of new teachers would not be necessary and the professional development could be offered to fewer teachers, targeting those in each subject area. Classrooms are set up to focus on one subject instead of several, which could be beneficial to students who have trouble concentrating. Resources are maximized and teachers are able to focus on fewer subject areas and can become experts in their field. Departmentalization is also beneficial in that a set amount of time is devoted to each subject area, instead of focusing more on certain subject areas. Collaborating and sharing thoughts and ideas with teachers who focus on the same subject area is another benefit of departmentalization (Hood, 2010). It is a sensible idea to change the school structure to develop and implement teachers' content expertise to assist students in making gains in student learning (Nelson & Landel, 2006).

Departmentalization also ensures subject areas have the same amount of time devoted to each subject. Some schools place an emphasis on reading and writing causing math and science to take a backseat to the time devoted to each.

“When a choice has to be made, student learning comes first--period.” (Nelson & Landel, 2006, p. 72).

Cohen (2001) determined the environment of a departmentalized classroom is a necessary component for the success of the students as well as the classroom organizational structure. The relationships elementary students develop with teachers and other significant adults have a great effect on them. The relationships the students establish with their peers and adults set the foundation for transitions they make later in life.

The relationships students form with teachers have a great impact on the students' behavior, achievement, and learning. The climate of an elementary classroom should be positive and nurturing with adults who are caring and supportive of the children. Students should feel free to talk to the teacher regarding any concern or problem they might have and should have a feeling of trustworthiness and respect. An elementary school that chooses to implement departmentalization must also be willing to work toward achieving and maintaining a positive school climate (Cohen, 2001).

As written by Black (2008), it was noted that getting students settled and beginning class on time became a problem for some teachers. This caused both teachers and students to lose some of the valuable time needed for each class. In some cases, it also resulted in an increase of problems in classroom management and discipline problems. Sometimes were very chaotic due to students forgetting their books and homework. Some teachers feel that too

much time is devoted to being organized and planning for such a large number of students, even though it did reduce the number of subjects in which each teacher had to plan. According to Tomlinson and Doughty (2005), p. 12 “Success lies in establishing a connection with students as individuals.” However, it is also stated that teachers are not able to know their students more than superficially due to the pressure of high test scores and the limited amount of time the teachers and students are together in a departmentalized setting.

Some feel the biggest disadvantage to departmentalization is that teachers lose touch with their students, while at the same time others feel the needs of the whole child are better addressed in self-contained classrooms in elementary schools (Gerretson et al., 2008). Hood (2010) states that stability and continuity are beneficial for younger students and comes from having the same teacher all day throughout the school year. Other drawbacks include scheduling issues, such as special education and enrichment classes and time wasted by younger students during transition. Having several sets of classroom rules and expectations could be confusing to younger students, thereby causing unnecessary uncertainty (Gerretson et al., 2008).

Akos (2002) mentions contextual transitions, which include unfamiliar students, school, and staff. Classroom rules and expectations are also unfamiliar to students, thereby causing more stressful situations. “Everyone in society must work toward creating a healthier culture for our adolescent learners” (Pope & Simon, 2005, p. 37). In an effort to reduce student stress, teachers develop

curriculums around student interests and make an effort to create culminating projects to use as assessments instead of traditional exams. These changes play a large part in reducing student stress and foster academic engagement and integrity (Pope & Simon, 2005). Transition is a difficult time for most people, regardless of their age. The transition from elementary school to middle school is especially difficult for the students due to the onset of adolescence (Parker, 2009).

Departmentalization is often implemented in upper elementary school as a way to help ease the transition to middle school by using different classroom organizational structures. Among the changes students face are the desire for independence, decision-making opportunities, problem-solving capabilities, and the need for a close, personal relationship with adults. The use of departmentalization is beneficial to teachers in allowing them content specialization and planning efficiency. Some of the negative aspects of departmentalization are characterized by teachers not having a whole-child orientation, but instead a subject-matter orientation. A typical departmentalized teacher teaches about five short periods each day to a classroom of students with like abilities. This approach makes it more difficult for teachers to make curriculum connections through integration, create an environment that is both caring and supportive, and develop a student-teacher relationship; all of which are key recommendations for a middle school. A positive student-teacher relationship is essential due to the influences on students' attitudes, self-

perceptions, and motivational levels. The increase in accountability pressures and standardized testing pressures for self-contained teachers most likely has an effect as to why there has been an increase in departmentalized instruction, especially at the elementary school level (Parker, 2009).

Engaging students with relative content, assuming joint responsibility of classrooms, and fewer lesson plans are associated with departmentalization. Being extremely knowledgeable of the subject they teach assists teachers in planning lessons that are more meaningful for their students. As found in this article, teacher effect is an important factor of student gain (Nelson, 2006). Departmentalization is relatively new to elementary schools but is growing in popularity, especially since the establishment of the No Child Left Behind (NCLB) Act in 2001. The number of upper elementary teachers specializing in one to two subject areas has increased greatly (Black, 2008). As the need for high scores in subject area testing continues to increase, Steve Peha believes the implementation of departmentalization will take place in several more elementary schools (Hood, 2010). NCLB requires highly qualified teachers for every child (NCLB, 2006). Implementing departmentalization in the elementary schools, especially fourth through sixth grades, assists administrators and teachers in meeting the NCLB requirements. However, the support of the teachers is vital to the success of transitioning from self-contained to departmentalized classrooms (Chan et al., 2009).

Although departmentalization began many years ago, it is not a widely practiced teaching technique used in elementary schools. It is a technique, which involves a team of teachers who work together where each teacher is responsible for teaching a core content area. Instead of the students being in a self-contained classroom, they rotate to meet with each teacher for instruction in the content area (Garcia, 2007).

Students attending schools in which the upper grades are departmentalized enjoyed being able to change classes (Chan et al., 2009). Allowing students the chance to be involved in a variety of differentiated teaching styles at a younger age is also an advantage to departmentalizing in upper elementary school (DeViscio & Muffs, 2007). Teachers begin developing bonds due to the amount of time involved in planning the schedules and making certain that even though they are teaching different subjects, the curriculum is still being addressed in a manner that is appropriate (DeViscio & Muffs, 2007). Content specialization and more time devoted to planning are also benefits teachers will appreciate (Parker, 2009).

Departmentalization reduces the amount of planning that is required to teach all subject areas. Instead, teachers are able to focus on a few subjects and plan in-depth, high-quality lessons that are more effective, interesting and meaningful to the students. On several occasions, the teachers are able to teach the subject areas that they not only enjoy but in which they have the most knowledge. Thus having fewer subjects for which to plan, the lesson and

material preparation can be more efficiently accomplished (Gerretson et al., 2008).

Some ways that students benefit from departmentalization include receiving a variety of instruction, working with several teachers, and moving about frequently, thereby breaking up the boredom of their day (Gerretson et al., 2008). Departmentalization in the elementary school gives students an idea of what middle school will be like and may, therefore, help to ease the transition between elementary and middle school (Black, 2008). Departmentalization lends itself to leveled instruction, which is also a benefit to students because each student can receive the help he or she may need in each subject area (Chan & Jarman, 2004).

Most of the opposition to departmentalization comes from those who believe that departmentalized class settings are too different from the traditional self-contained classes. The traditional self-contained classroom is the norm; therefore parents and students are more familiar and comfortable with this setting. Some critics also believe departmentalization can lead to a decrease in instructional time due to the time spent in transitioning (Chan et al., 2009). Making curriculum connections, not having the time to develop a close teacher-student relationship, and focusing on subject matter instead of the “whole child” are other areas which some may believe are drawbacks to departmentalization (Parker, 2009).

Studies which have been completed on the effects of departmentalization and the transition from elementary to middle school reported that departmentalization does ease the transition for students (Chan et al., 2009).

Departmentalization can be beneficial to the students if all involved are in support of this type of teaching. Before implementing departmentalization in the elementary school, it would be important to provide all groups involved, i.e. administrators, teachers, students, and parents, with information regarding the positive and negative aspects resulting from departmentalization in elementary school. Although all involved are important to the success of departmentalization, teacher support and attitude are the vital components in ensuring the success of the program (Chan et al., 2009).

Cohen (2001) determined the environment of a departmentalized classroom is a necessary component for the success of the students as well as the classroom organizational structure. The relationships elementary students develop with teachers and other significant adults have a great effect on them. The relationships the students establish with their peers and adults set the foundation for transitions they make later in life.

The relationships students form with teachers have a great impact on the students' behavior, achievement, and learning. The climate of an elementary classroom should be positive and nurturing with adults who are caring and supportive of the children. Students should feel free to talk to the teacher regarding any concern or problem they might have and should have a feeling of

trustworthiness and respect. An elementary school that chooses to implement departmentalization must also be willing to work toward achieving and maintaining a positive school climate (Cohen, 2001).

### Standardized Assessments

Standardized assessment is defined by Wang, Beckett, and Brown (2006) p. 306 “as a large-scale, externally developed and mandated, uniformly administered and scored evaluation of student learning.” Standardized assessment focuses on comparing a student’s score to a set of standards versus a student’s score compared to the scores of his/her peers (Wang et al., 2006). This form of assessment has been a debate, as well as a distinct part, of the education reform over several years.

The National Defense Education Act in the 1950s, the Elementary and Secondary Education Act of 1965, A Nation at Risk in 1983, The Goals 2000 in 1994, and the No Child Left Behind Act of 2001 are all movements in education. With the incorporation of each movement, the implementation of standardized assessment became more evident and was used as a “reform catalyst and quality control mechanism” p. 306 (Horn, 2002; Linn, 2000). The NCLB Act of 2001 was the reform movement that placed the most emphasis on standardized assessment. This act forced schools to be held accountable for their students’ meeting the performance standards set for each subject area. The purpose of this act was to ensure children of all races, socioeconomic status, or learning disability would have the opportunity to achieve equal education based on test

performance outcomes. Meeting the needs of all students and closing the gap in their performance gained political and public support (Crocker, 2003; Hamilton, Stecher, & Klein, 2002).

According to Henning (2006), standardized assessment scores had three primary uses. The first was to use the outcome of the assessments in order for teachers and parents to determine a student's achievement in relation to that of their peers. The second purpose was to use the scores to determine placement of students in particular classes or programs. Lastly, the scores of the standardized assessments were used to uphold the decision of where funds would be distributed. However, now that times have changed and technology is playing a vital role in education, the scores of standardized assessments are not being used in the ways they were originally designed. Using the scores to determine grade promotion and basing teacher and student performance on the outcome of the standardized assessment are some of the negative ways standardized assessments are being used. Based on Popham (2001), these uses can have a negative impact on student learning, and they are not valid. "It is only through assessment that we can find out whether instruction has had its intended effect because even the best-designed instruction cannot be guaranteed to be effective." (William, 2010, p. 107).

As found in Wang et al. (2006), some questions in this controversial debate include:

- Should there be state or national standards?

- Who has the authority to determine content and performance standards?
- Do externally imposed standards undermine teacher autonomy and student creativity?
- Should all students be held against the same set of rigorous standards?
- Proponents agree that standardized assessments must be designed to correlate with the curriculum and instruction in the classroom in order for the assessments to have a positive outcome. Also agreed upon is a common core of knowledge should be taught by teachers and learned by students. A number of teachers and educators agree with the idea of implementing common-core standards, even though the diversification of students and the independence some teachers are accustomed to are threatened (Wang et al., 2006).

Controversy over standardized assessments in education dates back several decades. As noted in a study conducted by Wang et al. (2006), controversy centers around the idea that a common set of standards be mastered by all students, regardless of disability, race, or socioeconomic status. Intellectual freedom, teacher empowerment, and student diversity are some of the issues at the heart of arguments against standardized assessment. As found in *The Testing Trap; How State Writing Assessments Control Learning*, by Hillocks (2002), oversimplifying knowledge and not testing higher order thinking

skills are two more controversial issues of standardized testing. Gandal and McGiffert (2003) found a number of tests are not balanced, meaning lower level standards were tested in abundance and higher level standards were not tested enough.

The “one-size-fits-all” standards created by the NCLB Act of 2001 is controversial because all students (with the exception of a few) are taught and tested on the same standards, regardless of their ability level. An argument made by Koretz (1995) states that students are different in their abilities and giving all students the same information in the same manner and testing them on it, would include “either dumbing instruction down to the lowest common denominator or condemning low-ability students to frequent failure.” Leonardo (2003) challenged the fairness of the reform process in whether or not it was “democratic in nature” to place the accountability on the schools even though input from all groups was not taken into consideration.

Test makers (e.g., Hoover et al., 2003) suggest “That by comparing the student, classroom, or building scores with local and national norms, teachers can identify individual or group strengths and weaknesses for the purpose of adjusting the curriculum.” However, Popham (2001) views this negatively because he states that a focus for improving instruction cannot be provided because the descriptions of the skills and knowledge on the assessments are not clear enough and that the most reliable data for informing classroom instruction comes from the classroom assessments.

William (2010) argues “that the systems currently in use have significant shortcomings that call into question some of the interpretations that are routinely based on the scores yielded by these tests.”

Holding students, teachers, and/or schools accountable for standardized test scores is referred to as assessment centered accountability. Since the 19<sup>th</sup> century, the idea of holding schools accountable by correlating test scores with reform efforts has become a common practice. In England in 1861, a report was published asserting the amount of public money allocated to each elementary school should depend on the quality of the school buildings, student attendance, and the performance of the students attending the school in an oral exam. The exam would be administered by one of the national school inspectors, to every child in every school that received grants (William, 2010). Placing the pressures of accountability on the schools and educators through use of standardized tests were imperative in order to show investors how their money was spent. Implementing the use of standardized tests was necessary so those who invested money in the schools could gauge the effectiveness of the instruction at the school where their money was invested.

While it is the responsibility of the teacher and administrator to provide students with the best education possible, there is much debate regarding the amount of responsibility the educator should have, considering outside influences such as socioeconomic status and home life.

As found in an article written by Wang (2006),p. 315, Ravitch, author of Testing and accountability, historically considered, stated “The accountability movements promote the idea that those involved in teaching and learning must answer for children’s outcomes to the legislative bodies that allocate tax revenues to education and to the government agencies that provide funding”. While maintaining that schools be held responsible for student achievement is agreed upon by many, using standardized assessment as a means of accountability is criticized. The variation of test scores is due to the nature and presentation of material to students. When tests are viewed in this manner, teachers and administrators should not be held accountable for their students because the tests measure nothing more than socioeconomic status (Popham, 2000).

Assessment-centered accountability, sometimes referred to as high stakes testing, also draws criticism because test scores do not reflect only what a child has learned throughout the year, but also from previous years. Therefore, “it seems difficult to justify holding a fourth-grade teacher accountable for her students’ test scores when those scores reflect all that has happened to the children before they even arrived at her class” (Kohn, 2000, p. 20).

A relationship between an increase in student dropout rate, decrease in teacher morale, and preparing for tests improperly has been linked to the initiation of high-stakes testing, as well as a decrease in students entering the teacher profession (Amrein & Berliner, 2002). The demoralization of teachers

and unnecessary pressure placed on students are a portion of an identified group of inadvertent outcomes of standardized tests (Cizek, 2005). Clotfelter, Ladd, Vigdor, and Diaz (2005), state it has been proven that high stakes accountability testing makes it increasingly difficult to retain teachers in the profession.

Popham, Keller, Moulding, Pellegrino, and Sandifer (2005) made several suggestions in a report that intended to revamp high-stakes accountability testing. Giving the tests so the outcomes can be used to plan instruction accordingly is one suggestion. This would enable teachers to be informed of the standards students have mastered and the standards that need more instruction time devoted to them. Secondly, it was suggested that each standard be included a minimum of two times on each test, and instead of focusing on skills, it is more important to focus on the proficiency of concepts. Standardized tests are not the most pertinent tools to use when teachers, schools, and districts are being held reliable for high stakes testing because the differences between schools play such a minute role in the discrepancy in students' scores (William, 2010).

Before the pressures of testing became so overwhelming in education, many schools used a model in which the focus was placed on excellence in education for all students and let the numbers fall where they may when everyone was striving for excellence. Education was geared towards all students and focused on educating the whole student, instead of teaching to the test as many teachers do today. Students need to be involved in a curriculum that

includes physical education, the arts, and music. It is necessary that special programs are offered to meet the diverse needs of students, including students who are gifted and those with developmental disabilities. Teaching students to be effective, productive citizens in today's world should be a main focus of educators. As said by Sternberg (2008) p.19, "We need to educate students, not merely prepare them for tests."

#### Mississippi Curriculum Test, Second Edition (MCT2)

The Mississippi Curriculum Test, Second Edition (MCT2), was the standardized test currently used in school districts throughout Mississippi. The MCT2 was created to fulfill the federal testing requirements set forth by the NCLB 2001. The MCT2 was used to assess student achievement. It was comprised of Language Arts and Mathematics and was administered to all third through eighth graders in the state. The test items, which varied in difficulty level, coordinate with the academic content standards that are set forth in the curriculum frameworks. The competencies were comprised of the frameworks that were organized into guidelines of continuing instruction and were the learning standards required for all students.

In third through seventh grades, general mathematics were measured. The mathematics portion of the MCT2 measured grade and content specific curriculum. The math competencies included: number and operations, algebra, geometry, measurement, and data analysis and probability. As found on the MS Department of Education website (MCT2 2011 Interpretive Guide for Teachers

and Administrators, 2011, p. 2), student mastery of grade-level curriculum was measured based upon the following competencies:

- Number and Operations: Analyze relationships among numbers and the four basic operations. Compute fluently and make reasonable estimates.
- Algebra: Explain, analyze, and generate patterns, relationships, and functions using algebraic symbols, demonstrate an understanding of the properties of the basic operations, and analyze change in various contexts.
- Geometry: Develop mathematical arguments about geometric relationships and describe spatial relationships using coordinate geometry.
- Measurement: Develop concepts and apply appropriate tools and techniques to determine units of measure.
- Data Analysis and Probability: Formulate questions that can be addressed with data and select and use appropriate statistical methods to analyze data. Apply basic concepts of probability.

The MCT2 was not scored on a pass/fail scale but was instead scored using performance level descriptors. The performance levels provided additional information to detail the subject and courses of action that students at each level should be able to perform on a mastery level. Descriptors were organized into four levels: advanced, proficient, basic, and minimal. As found on the Mississippi

Department of Education website (MCT2 2011 Interpretive Guide for Teachers and Administrators, 2011, p. 4), the levels were as follows:

- **Advanced:** Students at the advanced level consistently perform in a manner clearly beyond that required to be successful in the grade or course in the content area. These students are able to perform at a high level of difficulty, complexity, or fluency as specified by the grade-level content standards
- **Proficient:** Students at the proficient level demonstrate solid academic performance and mastery of the knowledge and skills required for success in the grade or course in the content area. These students are able to perform at the level of difficulty, complexity, or fluency specified by the grade-level content standards. Students who perform at this level are prepared to begin work on even more challenging material that is required in the next grade or course in the content area.
- **Basic:** Students at the basic level demonstrate partial mastery of the knowledge and skills in the course and may experience difficulty in the next grade or course in the content area. These students are able to perform some of the content standards at a low level of difficulty, complexity, or fluency as specified by the grade-level content standards. Remediation is recommended for these students.
- **Minimal:** Students at the minimal level inconsistently demonstrate the knowledge or skills that define basic level performance. These

students require additional instruction and remediation in the knowledge and skills that are necessary for success in the grade or course in the content area.

With the Common Core initiative, the MCT2 was phased out of schools. Teachers have fewer standards to teach, but must be prepared to teach standards with more rigor and on a deeper level. Though teachers were held accountable to some degree based on the scores of the MCT2, the Common Core should have brought accountability to a higher level.

#### Common Core State Standards and Assessments

The Department of Defense, the District of Columbia, and 46 states comprise the thousands of school districts across the country that were preparing for the implementation of Common Core State Standards (CCSS) (Rothman, 2012). The Common Core was the newest wave in education reform and was projected to be fully implemented by the 2014-2015 school year (Dessoiff, 2012). The new initiative requires fewer standards to be mastered but requires the new standards be understood more in depth. William Barnes, the Howard County district's secondary math coordinator, describes the new standards as "very different" and "much more rigorous" than the previous standards (Robelen, 2012), while the Common Core State Standards Initiative website proclaims the standards to be "robust" and "relevant to the real world" (Brooks, 2012).

Along with the new standards come new assessments. The CCSS replaced the standards and assessments that were currently in place in each

state and also measured student growth and provided feedback that would help teachers determine the areas which needed to be taught. The states who were part of the Common Core initiative may have added state-specific standards as long as these standards totaled no more than 15 percent of the total standards (Doorey, 2012).

Prior to CCSS, each state had their own set of standards mandating what students should accomplish and be able to perform. When state standards were compared with the CCSS, there was much discrepancy in the quality from state to state. This discrepancy made it difficult for students who move to a different school to adjust to the new curriculum (Doorey, 2012).

The need for the United States to improve overall in mathematics has played a primary role in the Common Core initiative, as well as previous educational reforms (Schmidt, 2012). Several states who were part of the new reform believed combining their resources would produce a better outcome than working separately (Rothman, 2012). The standards were based on a variety of previous standards (Alberti, 2012). States having few to no common standards made the transition to a different state very complicated for students. A prominent feature of CCSS is most states would have the same set of standards, so there should not be much of a difference in the curriculum from a student's previous school to their new school (Rothman, 2012). If CCSS was implemented correctly, the majority of public school students in first through fifth grades would be presented the same material. Implementing a common set of expectations, or

standards, in the majority of the states in the country would ensure students from these states would graduate with the necessary preparation to continue their education.

The Trends in International Mathematics and Science Study (TIMSS) indicated rigor, focus, and coherence are characteristics of the highest-achieving nations in the world. The rigorous curriculum focused on grade-appropriate content, the focused curriculum targets a select few standards at a time, and the coherent curriculum stays true to the bare bones of mathematics in that it begins with simple topics and progresses to those that are more complex (Schmidt, 2012). The rigorous content was prominent in the CCSS. This common set of standards not only required a different approach to teaching several math skills but also required textbooks to present material and include tests that assessed these standards at a deeper level.

It was the hope of the creators of CCSS that teachers would work together in planning and implementing the new standards. This would assist in continuity in the manner mathematical topics are presented and assessed in a school. The new standards could also lessen some of the inequalities within a state in content instruction. Focusing on fewer topics would be advantageous to teachers because they will be able to present and focus on material at a deeper level. The Common Core initiative discouraged the tracking of students by presenting all students with the same content and standards in all communities (Schmidt, 2012).

Though there are many things that the CCSS could do, there are some things the CCSS don't do. The CCSS didn't hold teachers accountable for students' poor math scores. As noted by Schmidt (2012) p. 57, "The fact that the greatest source of variation in opportunity to learn is in the classroom doesn't mean that teachers are to blame for curricular inequality." Neither the support nor the preparation needed to make effective decisions regarding the curriculum is received by teachers. One of the main objectives of the Common Core initiative was to help relieve this problem; to enable teachers to receive the guidance, necessary planning, and materials to make this initiative successful. Although some opponents believe otherwise, the CCSS didn't eliminate the creative freedoms that come with teaching. The initiative defined what was to be taught, not how it was to be taught. Because the CCSS would save teachers time in not having to decide what to teach and in what order, efforts could be placed on the most effective ways to teach the competencies to help ensure students meet the standards.

The National Council of Teachers of Mathematics (NCTM), the Council of Chief State School Officers, and the Association of State Supervisors have formed the Math Common Core Coalition. The focus of the coalition was to provide expertise and recommendations concerning the new standards. As found in *Big Shifts Anticipated For Math Instruction*, Robelen (2012) The Eight Standards for Mathematical Practice provide an outline of the standards and a

description of ways students should be involved and learn the subject matter.

The standards are:

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning.

According to Schmidt (2013) p. 54, “the mediocre quality of mathematics learning and unequal opportunity in U.S. schools” are problems in U.S. education that were addressed by these new standards. While the new mathematical standards were a more centralized set of standards, it remained essential that the students were able to cultivate a strategy for interpreting and understanding the mathematical concepts. Even though students would still have some trouble understanding the concepts, the teacher should be tolerant because understanding parts at a time of what is presented is part of the learning process (Burns, 2012). The new standards would raise the level of learning for the students. CCSS required students to have a deeper understanding of the new standards, while also using problem-solving skills and application. Along with

CCSS came the expectation that students would be able to comprehend increasingly harder texts year after year (Rothman, 2012).

Implementing the new math standards required teachers to significantly understand the three core shifts. The first shift was greater focus on fewer topics. This meant there were fewer topics to cover over the course of the year, but the topics must be mastered by students at a deeper level. The major topics in third through fifth grades were “concepts, skills, and problem-solving related to multiplication and division of whole numbers and fractions” (Alberti, 2012, p. 26).

The second shift was linking topics and thinking across grades. Vertical alignment was the key factor to this shift. Topics linked, or connected, from one grade level to the next allowed children to build upon prior skills. The third shift is rigorous pursuit of conceptual understanding, procedural skill, and application. Conceptual understanding allowed teachers and students to have an adequate amount of time to learn about, discuss, and have a deep understanding of the standards that required mastery by the end of the year. Procedural skill and fluency focus on speed and precision of calculations that are required by the standards. Class time and homework should be organized so students have ample time to routinely review the core functions, which will help them in the future when working with concepts that are more complex. Application can be intriguing and encouraging. This required the students to make connections in everyday life to the world of mathematics. Teachers had to incorporate the new standards into routine classroom work while making certain the material was

comparable to that of the material found at the state level. The shift for mathematics emphasized, “the idea that a few things done well will have significant positive impact on our students” (Alberti, 2012, p. 27).

While forty-six of the fifty United States, the District of Columbia, and Department of Defense schools were on board with CCSS, others disagreed with the educational reform. A great debate concerning CCSS is while it aimed to improve the overall quality of education, not much was done to ensure greater equality in curriculum among students. Much of the mathematical content students learn varied not only by states but also by districts and schools (Schmidt, 2012). As found in *The Dangers and Opportunities of Common Core* p. 66, “Meaningful education reform is not something you can mandate, standardize, or easily measure. It requires a collegial culture in which teachers are continually advancing their practice and making adjustments on the basis of their students’ current levels of understanding, readiness, and responses to inquiry-based instruction. This is what good teachers have always known—and what good leaders encourage through shared leadership and shared accountability for student learning.” CCSS reduced the creativity and individualism of teachers, places boundaries on the amount of supplemental material learned by students, and isolates thinking (Brooks, 2012).

Other opponents felt the CCSS alienated diversity and cultural experiences that may have been brought into the lesson otherwise (Fine, 2010). Zhao (2013) agreed with this, in that teachers will face the pressures to teach to

the tests, as well as agreeing that standardization will greatly reduce the creativity teachers once brought to the classroom. While the United States has not always successfully produced students who ranked extremely high on standardized tests, students' creativity and ambitious attitudes were always sustained and were thought of as the traditional strengths of the United States education (Zhao, 2013). The success of the Common Core initiative depended on how effectively it was implemented (Schmidt, 2012).

## CHAPTER III – METHODOLOGY

### Introduction

The purpose of this study was to determine if there is a relationship between the classroom organizational structure and MCT2 test scores of fifth-grade math students. The researcher was able to gain insight regarding which structure teachers believe is most beneficial to them and students, and whether or not their belief of classroom organizational structure differs based on the number of years of classroom experience and/or degree held.

Upon receiving approval from IRB, the researcher gathered data for this study using results from the Mississippi Curriculum Test second edition from the 2012-2013 school year. The researcher used the MCT2 scores in this study because the teachers had been teaching the standards and were familiar with the format of the assessment. A survey was disseminated to fifth-grade math teachers, which gave the researcher results on the views of classroom teachers concerning their preference of classroom organizational structure and which they believe is most beneficial to teachers and students, as well as information regarding their teaching licensure and years of classroom experience.

### Research Design

This study was quantitative, and a causal-comparative design was used in determining whether there is a relationship between the organizational classroom structure of fifth-grade math classrooms and the results of the fifth-grade math MCT2 test scores. The dependent variable was the MCT2 scores from the 2012-

2013 school year. The independent variable was the classroom organizational structure; self-contained or departmentalized. Survey methodology was used to determine teachers' perceptions of the classroom organizational structure he/she prefers, as well as what he/she believes are the pros and cons of each classroom organizational structure.

### Participants

The participants in this study were fifth-grade math teachers from fifty-seven schools located in twelve school districts. The schools were located throughout the state of Mississippi and varied in size, demographics, and socioeconomic status.

### Instrumentation

The questionnaire that was used in the study was developed by Watts (2012) and adapted with permission (Appendix B). The researcher modified the survey to more accurately fit the needs of this study. Some of the original questions in the survey that focused on basic demographic questions were retained, but others were modified to reflect the views of fifth-grade math teachers on classroom organizational structure. There was no information regarding the reliability or validity from this study. Since this was a newly modified survey, the researcher conducted a pilot study to determine the validity and reliability of the survey instrument.

Questions 1-5 focused on teaching experience, the classroom organizational structure(s) in which the teacher has taught, and teaching

certification level. The remaining questions focused on beliefs about classroom organizational structure. These items were measured using a five-point Likert Scale. The selection “I strongly agree” was a five, while “I strongly disagree” was a one.

Research question number one, which reads “What are the differences in the fifth-grade standardized test scores in math between students in self-contained and departmentalized classrooms?”, was assessed through data provided on the MCT2 test score report. The scores of fifth-grade students in self-contained math classrooms were compared to the scores of fifth-grade students in departmentalized math classrooms. Before collecting data, the researcher determined the classroom structure of the fifth-grade classrooms at the schools being used in the survey. The test data was taken from archival data from the 2012-2013 school year.

A descriptive survey was used to assess research question number two. This question reads, “What are elementary teachers’ beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms?” The descriptive survey allowed the researcher to gather information from fifth-grade math teachers to determine which classroom organizational structure they felt is most beneficial to students and which structure allowed them to teach most effectively.

Lastly, a one-way ANOVA was used to assess research question three, which reads, “Do elementary teachers’ beliefs about classroom organizational

structures differ based on demographic characteristics: years of teaching experience, highest degree earned, current classroom structure?” The researcher analyzed the results of the factorial ANOVA to determine if teachers’ beliefs about classroom organizational structure differed based on demographic characteristics.

### Procedures

The researcher contacted the superintendents of each of the six school districts requesting their participation in the study. Upon receiving written confirmation from the superintendents of these school districts (Appendix C), the researcher submitted necessary paperwork to the Institutional Review Board (IRB) of The University of Southern Mississippi (Appendix A) to receive permission to conduct the study.

After all, permissions were received, the researcher began the collection of archival data through the MS Department of Education’s website. The researcher then disseminated a copy of the questionnaire to the fifth-grade teachers at select schools in the manner preferred by the superintendent of the district. If the superintendent preferred the surveys to be hand delivered or mailed, the researcher included the following documentation along with the surveys: permission forms from the superintendent, a letter providing the participants with a brief explanation of the study, and a self-addressed stamped envelope for the voluntary participants to anonymously submit their questionnaire once it was completed. If the superintendent preferred the surveys to be

delivered electronically, a brief explanation of the study was provided to the participants, as well. Within the explanation of the study, voluntary participation was explained to the teachers. The researcher requested the email addresses of the fifth-grade math teachers of the participating schools and asked that the survey be completed within one week.

Once all data had been collected, the researcher began analyzing the scores of students who were in fifth-grade self-contained math classrooms and compared the data to the scores of students who were in fifth grade departmentalized math classrooms. Once the deadline for the survey had been met, the researcher began analyzing the information from the survey to the students' test scores.

After the data were collected and entered into the SPSS program, the surveys were destroyed by shredding. The researcher began the analysis of data that had been entered into the SPSS program and reported the results of the tests that were conducted. The results of the study were available to any participant at their request.

### Data Analysis

The first research question, which focused on MCT 2 test scores, was analyzed using an independent samples t-test. Research question two, which focused on teacher beliefs of classroom organizational structure, was also analyzed using an independent samples t- test. Research question three, which

focused on teachers' years of teaching experience, highest degree earned, and current classroom structure was analyzed using a one-way ANOVA.

## CHAPTER IV – RESULTS

### Introduction

The purpose of this study was to determine whether or not there is a difference in the fifth-grade math MCT2 scores of students taught in self-contained classrooms and students taught in departmentalized classrooms. All superintendents requested that the survey link be emailed to fifth-grade math teachers in the twelve school districts throughout the state of Mississippi. The survey included questions relating to teachers' classroom organizational preference and demographic characteristics. The results from this survey are also discussed in this chapter. The researcher received a 41% return rate on these questionnaires.

### Data

The teachers who participated in this survey are fifth-grade math teachers from twelve school districts throughout Mississippi. The demographic characteristics included years of teaching experience, highest degree earned, and current classroom structure. There were also several questions relating to the teachers' beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms. Sixty-one fifth grade math teachers participated in the survey.

The first research question focused on whether or not there are differences in the MCT2 math scores of students taught in self-contained classrooms and students taught in departmentalized classrooms. Fifth-grade

math MCT2 test data from the 2012-2013 school year was taken from the Mississippi Department of Education's website. The test data were from 23 schools that have fifth-grade math self-contained classrooms and 162 schools that have fifth-grade math departmentalized classrooms. The data were entered into SPSS and an independent samples t-test was used to analyze this data (Table 1). Before beginning the ANOVA and t-tests, the homogeneity of variance was checked for all tests and was not violated.

While the departmentalized classrooms had more minimal and basic scores (departmentalized minimal = 14.01 with std. deviation of 10.66, self-contained minimal = 10.32 with std. deviation of 7.24, departmentalized basic = 24.62 with std. deviation 10.69 and self-contained basic = 21.37 with std. deviation of 8.82), the self-contained classrooms had higher proficient and advanced scores (self-contained proficient = 49.71 with std. deviation 8.96, departmentalized proficient = 45.40 with std. deviation 10.22, self-contained advanced = 18.60 with std. deviation 13.31, and departmentalized advanced = 15.96 with std. deviation 12.30). These numbers represent the percentage of test scores in each category.

More students in a departmentalized classroom scored basic ( $M = 24.62$ ,  $SE = .84$ ) than students in a self-contained classroom ( $M = 21.37$ ,  $SE = 1.84$ ). The difference was not significant  $t(123) = -1.40$ ,  $p = .166$ . The trend continues as more students in a departmentalized classroom scored minimal ( $M = 14.01$ ,

$SE = 1.51$ ) than students in a self-contained classroom ( $M = 10.32$ ,  $SE = 1.51$ ). This difference was not significant  $t(123) = -1.60$ ,  $p = .110$ .

The majority of students scoring proficient were in a self-contained classroom ( $M = 49.71$ ,  $SE = 1.87$ ) compared to the students who were in a departmentalized classroom ( $M = 45.40$ ,  $SE = .80$ ). This difference was not significant  $t(123) = 1.9$ ,  $p = .56$ . A greater number of students scoring advanced were in a self-contained classroom ( $M = 18.6$ ,  $SE = 2.77$ ) compared to those in a departmentalized classroom ( $M = 15.96$ ,  $SE = .97$ ). This difference was not significant  $t(123) = .98$ ,  $p = .342$ .

Table 1

*Classroom Organizational Style and Test Scores*

Variable	Mean for MCTII Test Scores	Std. Deviation
Minimal		
Self Contained	10.32	7.24
Departmentalized	14.01	10.66
Basic		
Self Contained	21.37	8.82
Departmentalized	24.62	10.69
Proficient		
Self Contained	49.71	8.9
Departmentalized	45.40	10.22
Advanced		
Self Contained	18.60	13.31
Departmentalized	15.96	12.30

The second and third research questions were analyzed using a survey designed to gauge teachers' beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms, as well as teachers' beliefs about classroom organizational structures based on demographic

characteristics. Participants responded to survey items using a Likert Scale, where 1 = *strongly disagree* and 5 = *strongly agree*. This data can be found in Table 2.

Research question two focused on teachers' beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms. A belief average was calculated and a t-test was run in order to determine whether or not there was a significant difference, but no significant difference was found.

Table 2

*Survey Results of Teachers in Regards to Classroom Structure*

Survey Question	Mean	Std.Deviation
*Q7 – Teachers have less planning time.	2.39	.947
Q8 – Teachers deliver better lessons.	3.83	.950
*Q9 – Differentiated instruction is less effective.	2.39	.965
Q10 – Students learn more.	3.71	.767
*Q11 – Teaching is more stressful.	2.27	.887
Q12 – Teachers are better able to “master” their subject area.	4.37	.786
Q13 – Students are able to master content on a deeper level.	3.86	.730
Q14 – Teachers form strong student/teacher relationships.	3.29	1.035
Q15 – Students benefit from the variety of teachers they are exposed to.	3.71	.852
*Q16 – Teachers have more discipline problems.	2.42	.814
Q17 – Students gain more responsibility and organizational skills.	3.81	.840
Q18 – Teachers work collaboratively.	3.78	.892

*Q19 – This has a negative effect on standardized test scores.	2.34	.843
Q20 – This helps prepare students for transition to middle school.	4.31	.534

---

\* These items were reverse scored to get an average.

Research question three focused on teachers' beliefs about classroom organizational structures differing based on demographic characteristics (Table 3). An analysis of variance (ANOVA) was conducted and the results show there is not a significant difference in teachers' beliefs about classroom organizational structure and years of classroom experience  $F(4,54) = 2.098, p = .094$ , nor is there a significant difference in their beliefs and current classroom structure  $F(1, 57) = .446, p = .507$ . There was, however, a significant difference in regard to teachers' beliefs about classroom organizational structure and their certification level  $F(1,56) = 8.003, p = .006$ . The demographic characteristics can be found in Table 4.

Table 3

*Frequency and Percentages of Demographic Variables*

Variable	Frequency	Percentage
<b>Years Experience</b>		
0 – 2 Years	4	6.6
3 – 5 Years	10	16.4
6 – 10 Years	17	27.9
11 – 15 Years	13	21.3
16 + Years	15	24.6
<b>Certificate Level</b>		
A	22	36.1
AA	36	59
<b>Current Classroom Structure</b>		
Self-Contained	5	8.2
Departmentalized	54	88.5

Table 4

*Demographic Characteristics*

Variable	Mean	Std. Deviation
<b>Classroom Experience</b>		
0 – 2 Years	3.20	.216
3 – 5 Years	3.06	.371
6 – 10 Years	3.33	.330
11-15 Years	3.44	.456
16 + Years	3.47	.400
<b>Current Classroom Structure</b>		
Self-Contained	3.15	.455
Departmentalized	3.35	.390
<b>Certificate Level</b>		
A	3.15	.418
AA	3.44	.346

Summary

The 2012-2013 MCT2 fifth-grade math test scores were retrieved from the MDE website. The data was entered into SPSS and an independent samples t-

test was used to analyze the data. No significant difference in the standardized test scores was found based on the classroom organizational structure. Questionnaires were completed by fifth-grade math teachers and this information was used to determine their beliefs relative to the classroom organizational structure and whether or not their beliefs differed based on various demographic characteristics. The results showed that there is no significant difference in teachers' beliefs about classroom organizational structure and the years of classroom experience, nor is there a significant difference in their beliefs and current classroom structure. However, there is a significant difference in teachers' beliefs about classroom organizational structure and their certification level.

## CHAPTER V – DISCUSSION

### Summary

The purpose of this study was to determine if there was a difference in the fifth-grade math scores of students who were in a self-contained classroom compared to those students who were in a departmentalized classroom. The researcher also wanted to learn the beliefs of fifth-grade math teachers relative to differences and possible benefits between self-contained and departmentalized classrooms. Lastly, the researcher wanted to learn how the elementary teachers' beliefs about classroom organizational structure differed based on some demographic characteristics.

The participants in this study were fifth-grade math teachers from twelve school districts throughout the state of Mississippi. The data used in this study was retrieved from the Mississippi Department of Education's website and a survey was completed by fifth-grade math teachers from districts throughout Mississippi. The researcher used this data to conduct a t-test for research questions one and two and an analysis of variance (ANOVA) for research question three.

### Discussion

As previously stated, classroom organizational structure is one of several topics that continues to be debated. Both self-contained and departmentalized classroom settings provide advantages and disadvantages for both teachers and students. Since so much emphasis and pressure are put on teachers and

students when it comes to standardized test scores, the classroom structure that students benefit from most should be the one implemented in each school.

The purpose of this study was to determine if there is a relationship between the classroom organizational structure and MCT2 test scores of fifth-grade math students. The researcher was also able to gain insight regarding which structure teachers believe is most beneficial to them, in planning and teaching, and most beneficial to students in mastering the content delivered. Lastly, the researcher was able to determine if teachers' perceptions of classroom organizational structure differed based on classroom experience or certification.

Research question one asked, "Are there differences in the fifth grade MCT2 math scores of students taught in self-contained classrooms and students taught in departmentalized classrooms?" The researcher retrieved 2012-2013 MCT2 fifth-grade math test scores from the Mississippi Department of Education's website and compared the scores of the students who were in a self-contained classroom to the students who were in a departmentalized classroom. Standardized assessment focuses on comparing a student's score to a set of standards versus a student's score compared to the scores of his/her peers (Wang et al., 2006). An argument made by Koretz (1995) states that students are different in their abilities and giving all students the same information in the same manner and testing them on it, would include "either dumbing instruction

down to the lowest common denominator or condemning low-ability students to frequent failure.”

The data was analyzed using an independent samples t-test and no significant difference was found in the test scores between the students who were in a self-contained classroom compared to those who were in a departmentalized classroom. Though no significant difference was found, more students scoring minimal and basic were from a departmentalized setting, while more students scoring proficient and advanced were from a self-contained setting.

Research question two asked, “What are elementary teachers’ beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms?” The results of this survey show that teachers believe they are better able to “master” their subject area and are able to deliver better lessons. Content specialization and more time devoted to planning are also benefits teachers will appreciate (Parker, 2009). The results also showed teachers worked collaboratively more often and formed strong student/teacher relationships. This is consistent with collaborating and sharing thoughts and ideas with teachers who focus on the same subject area as a benefit of departmentalization (Hood, 2010).

According to the survey results, teachers believe students learn more, are able to master content on a deeper level, and benefit from a variety of teachers in a departmentalized setting. Allowing students the chance to be involved in a

variety of differentiated teaching styles at a younger age is an advantage to departmentalizing in upper elementary school (DeIViscio & Muffs, 2007).

Teachers also believe students gain more responsibility and organizational skills and are better prepared for a transition to middle school. Departmentalization offers many benefits to students, as well as teachers. A main reason many elementary schools departmentalize is to prepare students for their transition to middle school (Black, 2008).

The results from a survey designed to gauge teachers' beliefs relative to the differences and possible benefits between the classroom organizational structures were entered and analyzed using an analysis of variance test. A belief average was calculated and a t-test was run in order to determine whether or not there was a significant difference, but no significant difference was found. One of the reasons a statistically significant difference was not found could be due to the small number of respondents.

Research question three asked, "Do elementary teachers' beliefs about classroom organizational structures differ based on demographic characteristics: years of teaching experience, highest degree earned, current classroom structure?" The survey results relative to elementary teachers' beliefs about classroom organizational structure were entered and an independent samples t-test was run. The results of the ANOVA test showed no significant difference between the teachers' beliefs about classroom organizational structure and their years of classroom experience, nor was there a significant difference between

the teachers' beliefs and current classroom structure. The test did, however, show a significant difference between the teachers' beliefs and their certification levels.

### Limitations

The researcher emailed many of the superintendents in the state of Mississippi requesting permission to ask the fifth-grade math teachers in their district to participate in the survey for this on a voluntary basis. Only twelve superintendents granted the researcher permission to request the fifth-grade math teachers in their district participate in the survey for this study. Even though these superintendents granted permission, not all of the teachers in these districts chose to participate in the survey.

The districts were located throughout the state, so a very small sample of different parts of the state were represented in the study. Even though teachers from diverse districts participated in the study, the overall respondent rate was low. This could be one reason why a statistically significant difference was not found between the two classroom organizational structures and test scores. Another reason could be due to the instrument used in the study.

### Recommendations for Policy or Practice

Although no significant differences were found in the standardized test scores between the students in a self-contained classroom and the students in a departmentalized classroom, majority of the teachers who completed the survey believed the departmentalized classroom is most beneficial for teachers and

students. The teachers believe they are able to “master” their subject area and deliver better lessons. The students benefit by learning more, mastering the content on a deeper level, and preparing for a transition to middle school.

Chan and Jarman (2004) found that while most self-contained teachers are not interested in or well-rounded enough to teach all subject areas, departmentalized teachers have a more focused workload and greater satisfaction with their job, which in turn leads to a higher teacher retention rate. If possible, the principal may be able to allow the teachers to have some input in regards to determining the classroom organizational structure best for their school. If it is decided that a school is going to change from self-contained to departmentalization, it may mean more work with a variety of tasks for the teachers and administrator, but it is their obligation to put the students first (Nelson & Landel, 2006).

#### Recommendations for Future Research

This study was very limited due to the fact that there were few respondents and it was restricted to fifth grade. Future research may include fourth and sixth grades. Sixth grade could provide interesting data depending on whether or not the sixth grade is located in an elementary or middle school. Their placement in an elementary or middle school would most likely have an effect on their current classroom organizational structure.

Another topic for future research could focus on teacher stress and the amount of responsibility that a teacher is faced with daily. A study could be

conducted to determine if a teacher's classroom organizational structure and the responsibilities that go along with it have anything to do with the stress level and whether or not the stress level could be reduced if a different classroom organizational structure was put into place. The reduction in lesson preparation may play a part in the stress reduction of some teachers, thereby leading to the increase in teacher retention (Gerretson et al., 2008).

Learning about students' beliefs in regard to classroom organizational structure would be another topic for future research. Surveying students to learn what they believe are the pros and cons to their current classroom organizational structure would give teachers and administrators insight in regards to students' beliefs on the topic. Include questions that focus not only on academics, but on the relationships built with teachers and classmates, and the future, such as transitioning to middle school.

### Conclusion

The results of this study showed no significant difference in the standardized test scores of students in a self-contained classroom to the students in a departmentalized classroom. Though there was no significant difference in teachers' beliefs relative to differences and possible benefits between the self-contained and departmentalized classrooms, teachers did display optimism in regards to departmentalization in the fifth-grade math classroom. While there was no significant difference in teachers' beliefs about classroom organizational structure and years of classroom experience or current

classroom structure, there was a significant difference in regard to teachers' beliefs about classroom organizational structure and their certification level. Even though there was no significant difference in the classroom organizational structure and standardized test scores, teachers were more optimistic in regard to the departmentalized classroom. This could give administrators insight as to the classroom organizational structure that may be most beneficial to their students and teachers.

## APPENDIX A – Institutional Review Board



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### INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | [www.usm.edu/research/institutional.review.board](http://www.usm.edu/research/institutional.review.board)

### NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulation (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guideline 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: CH15102701

PROJECT TITLE: Classroom Organizational Structure in Fifth Grade Math Classrooms and the Effect on Standardized Test Scores

PROJECT TYPE: Change to a Previously Approved Project

RESEARCHER(S): Dallas Lane

COLLEGE/DIVISION: College of Education and Psychology

DEPARTMENT: Educational Leadership and School Counseling

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 03/03/2016 to 03/02/2017

**Lawrence A. Hosman, Ph.D.**

**Institutional Review Board**

## APPENDIX B – Survey Instrument Permission Letter

> Sent from my iPhone  
> On Apr 25, 2013, at 8:07 AM, "Toy Watts" <xxxx@xxxx.org> wrote:  
>  
>  
> Of course you can use it. Best wishes as you finish this leg of your  
journey! Toy L. Watts, Ph.D.  
> Principal  
> North Bay Elementary  
> (228)xxx-xxxx  
>  
>>>> Dallas Lane <xxx@yahoo.com> 4/24/2013 9:25 PM >>>  
> Ms. Watts-I am currently working on my dissertation at USM. My study  
is very similar to yours. I am focusing on fourth and fifth grade  
math classrooms and comparing MCT2 test scores of those in a  
self-contained setting to those in a departmentalized setting. Not only  
am I trying to see if there is a relationship in test scores compared to  
the classroom setting of the students, but I am also interested in  
getting feedback from teachers concerning their classroom setting.  
Lastly, I am hoping to use MCT2 scores to study the growth of students  
from fourth to fifth grade and focus on the classroom setting. I wanted  
to ask your permission to please use your survey instrument. I  
sincerely appreciate your consideration in this matter. Thank you, Dallas  
Lane

## APPENDIX C - Superintendent Permission Letter

August 26, 2015

Dear \_\_\_\_\_,

My name is Dallas Lane and I am a doctoral student at the University of Southern Mississippi. I have completed all of my coursework, and am now working on my dissertation. The study will focus on the relationship between fifth-grade math classroom organizational structure and fifth-grade students' math standardized test scores and will compare the MCT II test scores from the 2013-2014 school year of students who were in fifth-grade departmentalized classrooms to the scores of students who were in a self-contained fifth-grade classroom. The study will also indicate teachers' beliefs relative to differences and possible benefits between self-contained and departmentalized classrooms, and the study will also give information about whether or not teachers' beliefs about classroom organizational structure differ based on demographic characteristics, such as years of teaching experience, the highest degree earned, and their current classroom structure.

I would like to ask your permission to survey the fifth-grade math teachers in your district. The survey should take less than five minutes to complete and will be available to participants via Survey Monkey or I can mail hard copies to the teachers, if you would prefer. Participants' names will remain anonymous. At the end of the study, all data will be shredded and the results will be shared with interested participants. If you have any questions, please feel free to email me at [xxxx.xxxx@eagles.usm.edu](mailto:xxxx.xxxx@eagles.usm.edu).

If you agree with my using your district as part of my study, please attach a signed approval letter on your school district letterhead and return it to me. If you would prefer to send a hard copy, I will be more than happy to send you a self-addressed stamped envelope. In order to stay within my time limit, I would appreciate if you would respond within the week. Your support is greatly appreciated!

Sincerely,

Dallas Lane

Doctoral Student

## APPENDIX D – Survey Instrument

This questionnaire will be used as a part of a research study to determine if teacher attitude toward departmentalization is related to student outcomes on standardized tests. Your participation is completely voluntary and any data you provide will be kept confidential. Only the researcher and advisors will have access to your survey. Your time and effort will be greatly appreciated.

***Traditional***-(One teacher)- Traditional refers to the elementary structure in which one teacher is responsible for teaching all the required core subjects (*Language Arts/Reading, Mathematics, Science, and Social Studies*) to one group of students for the complete academic year. This structure is often called a self-contained classroom.

***Departmentalization***- (Core subjects taught by different teachers)-

Departmentalization is an organizational structure in which two or more teachers share the responsibility of teaching the core subjects (*Language Arts/ Reading, Mathematics, Science, and Social Studies*) for all general students (not special education) at separate times. General education students change classrooms or teachers change classrooms during the school day for core subject instruction by different teachers. Any structure that varies from a self-contained setting is considered a departmentalized option.

\_\_\_\_\_ Check here to indicate you have read the above information explaining your voluntary participation and confidentiality rights.

1. How many years of classroom teaching experience do you have?

- 0 - 2 years
- 3 - 5 years
- 6 – 10 years
- 11 – 15 years
- 16+ years

2. How many years have you taught fifth grade?

- Less than 5 years
- 5 – 10 years
- 11 – 15 years
- 16+ years

3. In which classroom organizational structure(s) have you taught?

- Self-Contained (one teacher who teaches all core subjects to a group of students for an entire school year)
- Departmentalized (more than one teacher for core subjects where students change classes among teachers)

4. In which classroom organizational structure do you currently teach?

- Self- Contained
- Departmentalized

5. What is your teaching certificate level?

- A
- AA
- AAA
- AAAA

6. What is your preference for the classroom organizational structure for fifth-grade students?

- Self-Contained
- Departmentalization

In a departmentalized setting:	Strongly disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly agree 5
Teachers have less planning time					
Teachers deliver better lessons					
Differentiated instruction is less effective					
Students learn more					
Teaching is more stressful					
Teachers are better able to "master" their subject area					
Students are able to master content on a deeper level					
Teachers form strong student/teacher relationships					
Students benefit from the variety of teachers they are exposed to					
Teachers have more discipline problems					
Students gain more responsibility and organizational skills					
Students have more opportunities to work with a variety of classmates					
Teachers work collaboratively					
This has a negative effect on standardized test scores					
This helps prepare students for transition to middle school					

## REFERENCES

- Akos, P. (2002). Student Perceptions of the Transition from Elementary to Middle School. *Professional School Counseling, 5*(5), 339-345.
- Alberti, S. (2012). Making the shifts. *Educational Leadership, 70*(4), 24-27.
- Bereiter, C., & Scardamalia, M. (2010). Can Children Really Create Knowledge? *Canadian Journal of Learning and Technology, 36*(1), 1-15.
- Black, S. (2008). Switching Classes. *American School Board Journal, 195*(10), 47-49.
- Brooks, J., & Dietz, M. E. (2012). The dangers and opportunities of the common core. *Educational Leadership, 70*(4), 64-67.
- Bruner, J.S. (1961). The act of discovery. *Harvard Educational Review, 31*, 21-32.
- Bruner, J. (1960). *The Process of education*, Cambridge, MA: Harvard University Press, 33-36, 97.
- Burns, M. (2012). Go figure: math and the common core. *Educational Leadership, 70*(4), 42-46.
- Chan, T.C. & Jarman, D. (2004). Departmentalize Elementary Schools. *Principal, 70*. Retrieved from <http://www.naesp.org/resources/1/Principal/2004/S-Op70.pdf>
- Chan, T., Terry, D., & Bessette, H. (2009). Fourth and Fifth Grade Departmentalization: A Transition to Middle School. *Journal of the Liberal Arts and Sciences, 13*(2), 5-13.

- Cohen, J. (2001). Caring classrooms/Intelligent schools: The social emotional educational of young children (pp.48-53). New York, NY: Teachers College Press.
- Delviscio, J., & Muffs, M. (2007). Regrouping Students. *School Administrator*, 64(8), 26-30.
- Dessoiff, A. (2012). Are you ready for common core math? *District Administration*, 48(3), 53-60.
- Dropsey, M. (2004). Departmentalization in elementary schools. Retrieved from <http://personal.ashland.edu/dkommer/lnq%20Papers%20Fall%2004/Dropsey%20Final.pdf>
- Fine, S. (2010). Moving forward with the common core. *Educational Leadership*, 30(8), 18-19.
- Flick, L., & Lederman, N. (2003). The matter of subject matter. *School Science and Mathematics*, 103(8), 361-363.
- Garcia, G. (2007). A comparison of science achievement of fifth grade students in semi-departmentalized and compartmentalized instructional formats. Ed.D. dissertation, University of Houston, Texas. Retrieved March 29, 2010, from Dissertations & Theses: Full Text. (Publication No. AAT 3263289).
- Gerretson, H., Bosnick, J., & Schofield, K. (2008). A Case for Content Specialists as the Elementary Classroom Teacher. *The Teacher Educator*, 43, 302-314.

- Gess-Newsome, J. (1999). Delivery Models for Elementary Science Instruction: A Call for Research. *Electronic Journal of Science Education*, 3(3). Retrieved from <http://ejse.southwestern.edu>
- Henning, J.E. (2006) Teacher Leaders at Work: Analyzing Standardized Achievement Data to Improve Instruction. *Education*, 4(126), 729-737.
- Hood, L. (2010). "Platooning" Instruction. *The Education Digest*, 25(1-3), 13-17.
- Horn, R.A., Jr. (2002). *Understanding Educational Reform*. Santa Barbara, CA: ABC-CLIO.
- Inlay, L. (2005). Safe Schools for the Roller Coaster Years. *Educational Leadership*, 7(62), 41- 43.
- Kohn, A. (2000). *The case against standardized testing*. Portsmouth, NH: Heinemann.
- Linn, R.L. (2000). Assessment and Accountability. *Educational Researcher*, 29(2), 4-14.
- McGrath, C. J., & Rust, J. O. (2002). Academic Achievement and Between-Class Transition Time for Self-Contained and Departmental Upper-Elementary Classes. *Journal of Instructional Psychology*, 29(1), 40-43.
- Neill, J. (2005). *John Dewey: Philosophy of education*. Retrieved July 27, 2010. From <http://wilderdom.com/experiential/JohnDeweyPhilosophyEducation.html>.
- Nelson, G.D., & Landel, C.C. (2006). A Collaborative Approach for Elementary Science. *Educational Leadership*, 64(4), 72-75.

- Parker, A.K. (2009). Elementary organizational structures and young adolescents' self-concept and classroom environment perceptions across the transition to middle school. *Journal of Research in Childhood Education, 23*(3), 325-339.
- Peterson, J.W. (2010). Waldorf and Montessori Combined: A New Impulse in Education. *ENCOUNTER: Education for Meaning and Social Justice, 23*(3), 21-27.
- Piaget, J. (1950). *The psychology of intelligence*. New York, NY: Routledge.
- Pope, D.C., & Simon, R. (2005). Help for Stressed Students. *Educational Leadership, 7*(62), 33-37.
- Robelen, E. W. (2012). Big shifts anticipated for math instruction. *Education Week, 31*(29), S24-S30.
- Rothman, R. (2012). Laying a common foundation for success. *Phi Delta Kappan, 94*(3), 57-61.
- Schmidt, W.H. (2012). How the common core boosts quality and equality. *Educational Leadership, 70*(4), 54-58.
- Sternberg, R.J. (2008). Excellence for all. *Educational Leadership, 66*(2), 14-19.
- Tomlinson, C. A., & Doughty, K. (2005). Reach Them to Teach Them. *Educational Leadership, 7*(62), 8-15.
- U. S. Department of Education. (2006). *No child left behind*. Retrieved August 3, 2010. From <http://www.ed.gov/nclb/landing.jhtml?src=ln>.
- Valsiner, J. (2005). Participating in Piaget. *Society, 42*(2), 57-61

- Vygotsky, L.S. (1978). *Mind in Society: The Development of Higher Mental Processes*. Cambridge, MA: Harvard University Press.
- Wang, L., Beckett, G.H., & Brown, L. (2006). Controversies of Standardized Assessment in School Accountability Reform; A Critical Synthesis of Multidisciplinary Research Evidence. *Applied Measurement in Education*, 19(4), 305-328.
- Westbrook, R.B. (1991). *John Dewey and American Democracy*. Ithaca, NY: Cornell University Press.
- Wiliam, D. (2010). Standardized Testing and School Accountability, *Educational Psychologist*, 45(2), 107-122.
- Zhao, Y. (2013). U-turn to prosperity. *Educational Leadership*, 70(5), 57-59.