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The Impact of Departmentalization on Sixth Grade Achievement on the Missouri Assessment Program

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by

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DISSERTATION

THE IMPACT OF DEPARTMENTALIZATION ON SIXTH GRADE ACHIEVEMENT ON THE MISSOURI ASSESSMENT PROGRAM

by

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Abstract

In 1950 the Missouri Board of education designed accreditation standards for Missouri schools.In 1990 the Missouri School Improvement Program (MSIP) experienced a major revision that required that all districts be accredited. A school could achieve accreditation by taking part in a five year review cycle designed by the Department of Elementary and Secondary Education (DESSE). No Child Left Behind (NCLB) was signed into law in 2002. The results were sweeping changes to the educational system(DESE 2006). One of those changes was an Annual Yearly Progress (AYP) standard. One of the most notable innovations of traditional junior high schools, first instituted in the 1920s, was departmentalization (Hargreaves & Shirley, 2008; Lutz, 2004). Modeled after high school practice, departmentalization was introduced with the new grade reconfiguration as an innovation designed to improve student achievement (Lutz, 2004, p. 19). The purpose of this study is to analyze if there is a relationship between departmentalization and 6th grade student achievement on the MAP.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE-INTRODUCTION OF THE STUDY

In 1950 the Missouri Board of education designed accreditation standards for Missouri public schools. These standards have undergone many revisions. In 1990 the Missouri School Improvement Program (MSIP) experienced a major revision that required that all districts be accredited. A school could achieve accreditation by taking part in a five year review cycle designed by the Missouri Department of Elementary and Secondary Education (DESE).

No Child Left Behind (NCLB) was signed into law in 2002. The results were sweeping changes to the educational system (DESE 2006). One of those changes was an Annual Yearly Progress (AYP) standard. Schools all over Missouri were struggling to find the most efficient means of delivering education and performing up to the Annual Yearly Progress (AYP) guidelines.

MSIP and NCLB have mandated accountability for districts and teachers. This accountability has lead local schools to research what instructional and structural methods will yield the most dramatic results on the Missouri Assessment Program (MAP). The focus of this study will to determine what structure will yield the highest

gains in student achievement. This study will focus on departmentalization at the sixth grade level.

Conceptual Underpinnings

Departmentalization was introduced with the new grade reconfiguration as an innovation designed to improve student achievement (Lutz, 2004, p. 19). Junior high schools “mirrored the highly departmentalized high schools” they were modeled after, but included a few activities and programs for younger adolescents (Lutz, p. 20). In the 1960s, however, criticism began to emerge that junior high merely “apes the senior high school in…departmentalization” and its curriculum consisted of “curriculum pushed down from the grades above it, so that in all too many instances it really is a prep school for the senior high school” (Lutz, p. 20). Though junior high school originally departmentalized in order to improve academic outcomes, repeated findings that they “fared no better than traditional 8-4 organizations” continued to undermine their purpose (Lutz, p. 20).

Some educators began to argue that grades 6 through 8 should be separated from both elementary and high school: middle schools began to emerge. However, “the first middle schools developed to only mimic the structure of the junior

high, moving heavy departmentalization even lower into the grade structure" (Lutz, 2004, p. 22).

The "middle school concept" was developed, to reform schooling at these grade levels to respond more fully to adolescent needs. Based on the idea of transescence, which argued that youth between 10 and 14 encounter at once "significant physical, emotional, intellectual and social changes within a relatively short period of time" that make them unique (Lutz, 2004, p. 24), the middle school was developed to address the needs of this particular time span of development. In middle schools, attention had to be paid to the developmental stage the student was in, and to the learning idiosyncrasies of transescent children.

Statement of the Problem

Junior high schools originally departmentalized in order to improve academic outcomes; repeated findings that they "fared no better than traditional 8-4 organizations" continued to undermine their purpose (Lutz, p. 20). Moreover "extensive departmentalization" led some critics to declare that junior high schools were no more than "vestibules molded in the architecture as the high school to which they open" (Lutz, p. 21). Most importantly, the staff were trained teachers, or content specialists, with no interest in "addressing the social, emotional and

physical development needs" of younger adolescents (Lutz, p. 21). At this point, some educators began to argued that grades six through eight should be separated from both elementary and high school: middle schools began to emerge. However, "the first middle schools developed to only mimic the structure of the junior high, moving heavy departmentalization even lower into the grade structure" (Lutz, 2004, p. 22).

As the standards movement emerged, however, the middle school concept became constricted by new mandates. Curricula developed that consisted of "duplication and repetition of efforts resulting in a curriculum that was dull, irrelevant and unchallenging" (Lutz, 2004, p. 54). The mandate for highly qualified teachers partly corresponded to the middle school model, but at times compromised the idea that middle school teachers also had to be "experts in the field of adolescent development" (Lutz, p. 55). NCLB also called for "evidence-based methods with long-term records of success to teach curriculum and measure student progress" (Lutz, 2004, p. 70).

Many middle schools as implemented do not live up to the middle school concept, and again others have critiqued the middle school concept, and now call for a return to K-8 grade alignment, this greatly complicates the debate

between self-contained and departmentalized classrooms (Akos, 2002; Ansalone & Ming, 2006; Beane & Lipka, 2006; Busher, 2005; Cooper & Liou, 2007; Felner & Seitsinger, et al., 2007; Fisher & Frey, 2007; Green, 2006; Munoz & Ross, et al., 2007; Nichols, 2001; Nichols, 2008; Patton, 2005; Thiers, 2006; Yecke, 2006). As a result of this layered evolution of departmentalization, a debate continues over whether self-contained or departmentalized classes are best for middle school students.

Purpose of the Study

The purpose of this study is to analyze if there is a relationship exists between departmentalization and 6th grade student achievement on the MAP. Some researchers argued that the age of post-standardization may be upon us, resulting in a retreat from many of the less successful reform efforts of recent years (Hargreaves & Shirley, 2008). What this new volatility means to the debate between self-contained and departmentalized class structure is reflected in this paper. The purpose of this study is to find out if there is a correlation between departmentalization and achievement on the sixth grade Missouri Achievement Program (MAP).

Research Questions

The following research questions will be examined in order to discover if a correlation between departmentalization and student achievement according to the Missouri Assessment Program.

1. Do schools that departmentalize have a higher advanced/proficient percent on the MAP test than schools that do not departmentalize on sixth grade communication arts and mathematics on Missouri Assessment Program results of Southwest Missouri schools?
2. What is the correlation coefficient between school size, departmentalization and student achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools?

Limitations

The limitations of this study are that there is conflicting research in the effectiveness of departmentalization. In addition there is conflicting information regarding self-contained classrooms. This study will be limited by the number of participants in that only 6^{th} grade students from region ABC will be used to gather data. This study will be limited by time. The study will

examine the last three years MAP data. This study has the potential to be limited by participation. Many schools have partial departmentalization meaning their students only change for one class. The extent to which the school is departmentalized could skew the results of the research. Finally, Teacher effectiveness in each school will not be taken into account.

Definition of Key Terms

The Annual Performance Report (APR). A yearly report issued to a Missouri school district by the Missouri Department of Elementary and Secondary Education for the accreditation performance standard.

Adequate Yearly Progress (AYP). The annual report issued to school districts by DESE as required by the federal No Child Left Behind Act (NCLB) to show whether all students in a school building are approaching progressively increasing targets of proficiency determined by the Department of Elementary and Secondary Education using the Missouri Assessment Program data from prior years.

Data-based inquiry. The process of studying data, in this case from assessment instruments, to determine best practices among peers and implement changes that will result in student learning(Beane & Lipka, 1996).

The *Missouri Assessment Program (MAP).* The Test in secondary mathematics is the state required exam for students enrolled in tenth grade at a Missouri public school. The MAP test is used for dual purposes: state accreditation review, and demonstration of proficiency progression in high school mathematics as required by federal NCLB. (Department of Elementary and Secondary Education [DESE], 2005, March 4).

"The Missouri Department of Elementary and Secondary Education (DESE). A team of dedicated individuals working for the continuous improvement of education and services for all citizens" (Department of Elementary and Secondary Education [DESE], 2005, March 4).

Missouri School Improvement Program (MSIP). The reviewing and five-year cyclic accreditation process based on standards (Resource, Process, and Performance) and indicators within those criteria(Department of Elementary and Secondary Education [DESE], 2005, March 4).

Departmentalization. A setting in which teachers teach in their area of specialization and students move from one classroom to another for instruction, departmentalization is an attempt to address the pitfalls of the self-contained classroom organization. It allows students to receive basic education from teachers specialized in particular

disciplines, allows grade-level instructional teams to be formed to coordinate teaching efforts across each discipline, allows teachers to complete their teaching assignments with greater satisfaction, aligns with middle school organization, and allows students to move between grade levels according to ability and from ability group to ability group within grade levels(Nichols 2001).

Self-contained classroom. A structure in which the same teacher teaches all core subjects and students share the same academic expectations(Nichols 2001).

Middle school concept. Developed, to reform schooling at 5th through 8th grade levels to respond more fully to adolescent needs. Based on the idea of transescence, which argueddd that youth between 10 and 14 encounter at once “significant physical, emotional, intellectual and social changes within a relatively short period of time” that make them unique (Lutz, 2004, p. 24).

Team teaching. A school structure in which two or more instructors are involved in the same course. Team members may come from closely allied disciplines, or they may derive from different fields as disparate as art history and theoretical physics. Thus, while team teaching is frequently connected with an interdisciplinary approach to learning, the mere presence of a teaching team in a

classroom does not by itself indicate a crossing of disciplines. There are two ways in which team teaching could be implemented. First all instructors are jointly responsible for course content, presentations, and grading. They interact in front of the class, discussing specific topics from divergent perspectives. Second all instructors are jointly responsible for course content and grading, but they take turns presenting material appropriate to their individual areas of specialization. At times when they are not called upon to lecture, other participants remain in an essentially subordinate role, contributing no more than occasional comments and questions (Hargreaves & Shirley, 2008).

Summary

In 1950 the Missouri State Board of Education first designed accreditation Standards for Missouri school districts that have been reviewed several times, including The major revision in 1990 that resulted in the Missouri School Improvement Program (MSIP). According to Missouri's Department of Elementary and Secondary Education (DESE), the MSIP required all districts to be classified and accredited through a five-year MSIP review cycle. Districts in this study have implemented the Missouri Assessment Program (MAP) to measure academic achievement.

No Child Left Behind Act (NCLB) of 2001, signed into law in 2002, resulted in sweeping changes regarding public schools (DESE, 2006, August 2). Schools around Missouri struggle with the most efficient methods to meet Adequate Yearly Progress (AYP) as defined by NCLB through approved accountability measures that include the use of MAP testing. Although a school district may be state accredited through the Missouri School Improvement Program (MSIP), an individual building may still fail AYP therefore flagging a district as a failing district. This increased accountability has made it necessary for school leaders to consider each part of our school system and implement the most effective practices. This study examines if school structure, specifically departmentalization, has any affect on achievement in 6th grade students MAP performance.

CHAPER TWO-LITERATURE REVIEW

Introduction-Departmentalization and Middle School

One of the most notable innovations of traditional junior high schools, first instituted in the 1920s, was departmentalization (Hargreaves & Shirley, 2008; Lutz, 2004). Modeled after high school practice, departmentalization was introduced with the new grade reconfiguration as an innovation designed to improve student achievement (Lutz, 2004, p. 19). Junior high schools “mirrored the highly departmentalized high schools” they were modeled after, but included a few activities and programs for younger adolescents (Lutz,2004, p. 20). In the 1960s, however, criticism began to emerge that junior high merely “apes the senior high school in…departmentalization” and its curriculum consisted of “curriculum pushed down from the grades above it, so that in all too many instances it really is a prep school for the senior high school” (Lutz, p. 20). Though junior high school originally departmentalized in order to improve academic outcomes, repeated findings that they “fared no better than traditional 8-4 organizations” continued to undermine their purpose (Lutz, p. 20). Moreover “extensive departmentalization” led some critics to declare that junior high schools were no more than “vestibules molded in

the architecture as the high school to which they open" (Lutz, p. 21). Most importantly, the staff were trained teachers, or content specialists, with no interest in "addressing the social, emotional and physical development needs" of younger adolescents (Lutz, p. 21). At this point, some educators began to argue that grades 6 through 8 should be separated from both elementary and high school: middle schools began to emerge. However, "the first middle schools developed to only mimic the structure of the junior high, moving heavy departmentalization even lower into the grade structure" (Lutz, 2004, p. 22).

In order to fully develop appropriate education for the middle grades, the "middle school concept" was developed, to reform schooling at these grade levels to respond more fully to adolescent needs. Based on the idea of transescence, which argued that youth between 10 and 14 encounter at once "significant physical, emotional, intellectual and social changes within a relatively short period of time" that make them unique (Lutz, 2004, p. 24), the middle school was developed to address the needs of this particular time of life. In middle schools, attention had to be paid to the developmental stage the student was in, and to the learning idiosyncrasies of transescent children. Here, "overemphasis of mastery of subject matter

in place of a solid general education was contrary to the goals of middle level education" (Lutz, 2004, p. 34). As a result, "learning how to learn and the development of individual social, intellectual and living skills constituted the essential elements of the educational experience provided by the middle school" (Lutz,2004, p. 35). The curriculum, therefore, had to be flexible, "permitting and assisting students to progress at different rates and to different depths" and instruction was individualized. Researchers argued that middle school curriculum should entail the analytical and the physical-cultural curricula, with instructional practices and teaching techniques designed to "take into consideration the diverse range of abilities of the students" (Lutz, p. 36). This also meant that students were grouped heterogeneously, not according to ability, and that teachers often taught in interdisciplinary teams. Attention to learning styles, peer tutoring and cooperative learning were also introduced. Teachers were retained to not only know their subject area but to have expertise in how to "work with early adolescents to provide excellent, developmentally appropriate instruction" (Lutz, p. 42). Overall, the mandate to meet the needs of adolescent learning not only made guidance a core function of

schooling but appeared to have broken down the rigidity of the traditional form of junior high school departmentalization.

As the standards movement emerged, however, the middle school concept became constricted by new mandates. Curricula developed that consisted of “duplication and repetition of efforts resulting in a curriculum that was dull, irrelevant and unchallenging” (Lutz, 2004, p. 54). The mandate for highly qualified teachers partly corresponded to the middle school model, but at times compromised the idea that middle school teachers also had to be “experts in the field of adolescent development” (Lutz, p. 55). NCLB also called for “evidence-based methods with long-term records of success to teach curriculum and measure student progress” (Lutz, 2004, p. 70). Ultimately reformed from the idea of junior high, the middle school concept inherited the notion of departmentalization, but then sought to reform it.

As a result of this layered evolution of departmentalization, a debate continues over whether self-contained or departmentalized classes are best for middle school students. In general, Lutz (2004) found that in struggling to meet the mandates of NCLB some middle schools have strengthened departmentalization, others have loosened

the grip of departmentalization, while others have reverted to self-contained classrooms, all changes intending to improve team teaching and student-teacher interactions in the middle school context. During the era of accountability, schools were reformed in many different ways designed to increase student achievement as measured by their scores on standardized tests. However, some researchers argued that the age of post-standardization may be upon us, resulting in a retreat from many of the less successful reform efforts of recent years (Hargreaves & Shirley, 2008). What this new volatility means to the debate between self-contained and departmentalized class structure is reflected in this review.

The chapter will first address the issue of school structures as findings in this stream of research establish the groundwork for the study of departmentalization. The issue of departmentalization is then addressed as it was winnowed free of traditional junior high school or middle school departmentalization, and made to conform more fully to the middle school concept. The overall trend of this literature is away from the high school-modeled departmentalization of traditional models, towards a modified or reformed departmentalization which both maintains teacher quality and also focuses on developing

social support, personalized education and a focus on young adolescents' needs. The fact that many middle schools as implemented do not live up to the middle school concept, and again that others have critiqued the middle school concept, and now call for a return to K-8 grade alignment, greatly complicates the debate between self-contained and departmentalized classrooms (Akos, 2002; Ansalone & Ming, 2006; Beane & Lipka, 2006; Busher, 2005; Cooper & Liou, 2007; Felner & Seitsinger, et al., 2007; Fisher & Frey, 2007; Green, 2006; Munoz & Ross, et al., 2007; Nichols, 2001; Nichols, 2008; Patton, 2005; Thiers, 2006; Yecke, 2006).

In the context of case studies of actual middle school implementing reforms, some schools favor self-contained classes, but the majority of schools, especially when they need to hire highly qualified teachers as mandated by No Child Left Behind, appear to favor a reformed middle-school-concept type of departmentalization (Delviscio, 2007; Dropsey, 2004; Irwin & Farr, 2004; Hopping, 2000; Larocque, 2007; McGinley & Bynum, et al., 2007; Neumann, 2008; Veerkamp & Kamps, et al., 2003; Witziers & Sleegers, et al., 1999). While studies directly comparing self-contained and departmentalized classrooms must refer back to the parallel form this debate takes in the area of

special education case studies indicated that reformed departmentalized classes are slightly more successful than self-contained classrooms in improving the achievement level of middle school students (Black, 2008; Bouck, 2008; Levine & Holdsworth, et al., 1987; McGrath & Rust, 1997; Scholom & Schiff, et al., 2001; Scott & Shearer-Lingo, 2002).

School Structure and the Traditional Classroom

The stream of research which seeks the source of achievement outcome differentials in school structures began with Coleman in the 1960s, when he found that small achievement differences between students “increased significantly with each successive year of schooling” (Ansalone & Ming, 2006, p. 5). The clear conclusion to be drawn from this finding was that school structures, not innate student qualities or characteristics, were responsible for outcomes (Ainley, 2006; Anderson & Corbett, 2008; Ansalone & Ming, 2006; Benner & Graham, et al., 2008; Bong, 2008; Dupriez & Dumay, 2006; Hsieh & Cho, et al., 2008; Lau & Nie, 2008; Oshima & Domaleski, 2006; Ready & Lee, et al., 2004; Roseth & Johnson, et al., 2008; Saxbe, 2003; Self-Brown & Matthews, 2003; Wolters, 2004; Xiao & Carroll, 2007).

Comparative educational studies have also focused on comparing different school structures, and determining outcomes derived from them (Dupriez & Dumay, 2006). For example, broadly speaking, an integrated school system has “a structure common to all pupils over a long period, a very limited number of optional courses within that common structure and little or no grade retention” (Dupriez & Dumay, p. 244). By contrast, differentiated school systems “have tracks or separate educational pathways from a very early age and make great use of grade retention in managing pupils’ progress” (Dupriez & Dumay, p. 244). On the basis of this distinction, Dupriez & Dumay (2006) argueddd that in schooling there is either a culture of integration or a culture of differentiation. Internationally, studies have shown that “the best way of producing a large number of brilliant pupils is to base the educational system on an integrated school structure” (Dupriez & Dumay, p. 245). The extent to which integrative schooling eschews tracking and keeps mixed-ability grouping into later grades appears to link it to self-contained as opposed to departmentalized structures, which generally serve to sort and differentiate students.

Research has shown that the district-level organization of school structure itself affects student

achievement outcomes. In districts where elementary schools feed into large junior high schools or one high school, “you get achievement loss and an increased drop-out rate” (Saxbe, 2003, p. 22). This is primarily due to the fact that relationships are fractured as part of transitions. The loss of social support “can be especially jarring for pre-adolescents, who crave social acceptance” (Saxbe, p. 22).

As a result of research on this problem, K-8 schools are replacing middle schools, in the hope that young adolescents can be provided more stability.

The notion that school structures impact student outcomes ultimately derives from ecological theory, and the study of what are termed proximal processes, or the “increasingly complex interactions between the individual and the environment that occur throughout the numerous ecological systems in which individuals are embedded” (Benner & Graham, et al., 2008, p. 840). In a school context, a proximal process involves how teachers interact with students. In order to determine how these processes impact students, Benner & Graham, et al. (2008) examine “the direct influences of…school structural characteristics on…school-level processes” including “youth perceptions of school belonging, fairness, academic climate and

interracial climate" (p. 840). Benner & Graham, et al. (2008), while examining a case study of ninth grade students, nonetheless explore the impact of school structure on student outcomes during a difficult transition in their schooling. The school structure variables gleaned from the literature include whether or not the student body is primarily ethnic and low-SES or affluent, large schools versus small schools and schools with high student-to-teacher ratios versus low student-to teacher ratios. Studies have shown that students from poor, large schools with high student-to-teacher ratios generally tend to have lesser outcomes than students from small, affluent, low student-to-teacher ratio schools (Benner & Graham, et al., 2008). Benner & Graham, et al. (2008) also focused on the "processes" in the school, which they link to school climate, the school's interracial climate, and relationships with teachers, with good school climate and solid teacher-student relationships leading to improved outcomes. Though stating that "little is known about the mechanisms by which school structural characteristics and processes affect adolescents' outcomes" Benner & Graham, et al., p. 843), it is also true that the study does not address the issue of classroom structure. Benner & Graham, et al., (2008) found that school structural characteristics

in a ninth grade influence “the proximal processes that occur therein, and these proximal processes, in turn, influenced students’ proximal and distal outcomes” (Benner & Graham, et al., p. 851).

School structure first became an issue in the context of debates over school size, and subsequently school configuration, after which researchers began to explore the role that departmentalization had in student outcomes. The literature on school size has “two streams,” one sociological, which examines “how size influences a school’s other organizational properties” including the growth of the bureaucracy and the other economic, focusing on “increased efficiency and cost reductions as schools get bigger” (Ready & Lee, et al., 2004, p. 1991). While the latter discourse favors large schools, the former argued that smaller is better. Arguing against size, studies also show that “increasing size promotes curriculum specialization, resulting in differentiation of students’ academic experiences, and ultimately social stratification of student outcomes” (Ready & Lee, et al., p. 1992). Sociological theory also argued that as organizations grow, the human interactions in them become more formal. Thus, studies show that “social relations are generally more positive in smaller schools” (Ready & Lee, et al., p.

1993). In terms of student outcomes, studies also found “favorable effects for smaller schools” primarily because teachers took more responsibility for learning (Ready & Lee, et al., p. 1993). These findings encouraged reform to break up large schools into smaller schools-within-schools of no more than 600 students, “so that teachers and students can get to know each other” (Ready & Lee, et al., p. 1994). Likewise, the goal for the creation of middle schools was to “create small communities for learning” (Ready & Lee, et al., p. 1994).

More recently, however, research has problematized the school size issue by finding that in small schools, for example, a struggling student may be stigmatized as such, or even be “unable to ‘live down’ the negative reputations of their older siblings” (Ready & Lee, et al., 2004, p. 1995). Also, the hope that smaller schools would offer more concentrated academic curricula also failed to materialize as teachers “often taught out of their specializations, bizarre curricula were offered in any given year and a general feeling was shared that their small sizes did not permit adequate specialization” (Ready & Lee, et al., p. 1995). In general, Ready & Lee, et al. (2004) contrast the “energetic focus” of reform and the “modest research base supporting these reformers’ solid support” and conclude

that at present “reform seems to be somewhat in front of research” (Ready & Lee, et al., p. 1996). This debate contributes to the argument over departmentalization insofar as large schools with specialization are predominantly structured according to traditional departmentalization, whereas the middle school concept and more self-contained classes emerge in smaller schools.

School structure issues were also addressed in the context of a debate on how to change the structure of “traditional classroom-based learning” (Xiao & Carroll, 2007, p. 23). In general, most such classroom teaching continues to “adopt the ‘adult-run’ learning model in which teachers possess more knowledge about the subject and transmit knowledge to students” (Xiao & Carroll, p. 23). Reform researchers, however, argued that student-directed learning may be better for students, and indeed that technology may make the point moot as students generally are more savvy than teachers in any case (Xiao & Carroll, 2007). In a student-led learning environment, “students interpret and demonstrate their understanding and receive assistance from those who are more advanced in the subject” (Xiao & Carroll, p. 23). The Study Circle represents one such structure, proving that “students learn from each other and gain knowledge without teacher supervision” (Xiao

& Carroll, p. 24). Xiao & Carroll (2007) reported on the creation of such a learning circle which utilized informal learning (occurring outside formal learning, but in "intentional learning activities") to expedite student learning (Xiao & Carroll, p. 25). Thus, a learning community is created, which was found to improve participants' learning.

The Social-Pedagogical Climate and School Structure

While middle school is a period when students seek to develop their independence, studies indicated that nurturing interdependence in these years is just as important (Ainley, 2006). Interdependence involves "connections between people and shared goals and factors that promote a sense of engagement, meaning and purpose" (Ainley, p. 210). These factors are at the core of what is termed the "social outcomes" of schooling in the literature. Differences in these outcomes are believed to arise from the social-pedagogical climate of the school, as well as "social climate and didactic aspects of the classroom and characteristics of the classroom" (Ainley, p. 214). Studies have found that teachers are primarily responsible for establishing this climate. Though Ainley (2006) focused on school climate, it is also apparent that the structure of classes—whether self-contained or

departmentalized—has a major influence on the social outcomes of middle school. In a case study, Ainley (2006) found that positive social outcomes correlate most with gender, year level and educational aspirations. The study also found that “disengagement from social concerns is associated with disengagement from schooling” (Ainley, p. 225). An engaging school climate is believed to be the key factor leading to positive outcomes in the school. Though Ainley (2006) did not address the issue of class structure, a study that finds positive social outcomes, which are related to finishing high school, to be derived from various elements of class dynamics would seem to count classroom structure as a pertinent factor in middle school.

Studies indicated that traditional classroom structures may exacerbate social problems during middle school as they favor a select few students who feel confident enough to participate in discussion. In order to circumvent this problem, a number of teachers have introduced literature circles or book clubs into their pedagogy. Literature circles “are small, collaborative reading groups in which students assume shared responsibility for their learning, which is guided and supported by the teacher” (Anderson & Corbett, 2008, p. 26). In literature circles, students select the readings,

meet regularly for peer-led discussion and allot different assignments to students in groups, while teachers simply facilitate these developments. In addition to improving both oral and written language growth, literature circles help “students of all abilities support one another and take ownership and responsibility for the learning that occurs within their group” (Anderson & Corbett, p. 32). Thus, the literature circle is a type of classroom structure that is believed to improve both learning and social support in students.

The “Goal Structure” of School Structure

In addition to examining the direct impact of school structures on student outcomes, other researchers have explored the role of student perceptions as a mediating factor in this influence. Studies have shown that while having personal goals is important for positive outcomes in school, motivation “is heavily affected by (student) perceptions of the social and psychological environments that surround them” (Bong, 2008, p. 192). Student perception of what is termed the “goal structure” of the classroom also has been found to predict achievement. Thus, “when students believe that their teachers deem mastery of the learning tasks and deep understanding of the material more important than test scores per se, they tend to

embrace similar attitudes toward learning and espouse a personal mastery goal" (Bong, p. 195). At the same time, when the classroom adopts competitive goal structures, students internalize those goals. Studies have shown that while mastery goals result in positive outcomes, performance goal structures "often yield detrimental motivational tendencies, such as less persistence and increased procrastination" (Bong, p. 196). Studies also show that the "extent to which students personally adopt and maintain a mastery achievement goal" depends on "the amount of cognitive and emotional support teachers provide" (Bong, p. 211).

Hsieh & Cho, et al. (2008) also examined the extent to which the goal structure of a class, whether focusing on mastery goals, performance-approach goals or performance-avoidance goals, impact student goal-setting and self-efficacy. Studies have shown that a student's self-efficacy beliefs may be limited to specific areas of learning, and also influenced by the domain of the classroom. Technology-rich classrooms, in so far as they focus on self-directed problem-based learning, are believed to create a new context for improving student self-efficacy. In these classrooms, "students' knowledge acquisition is facilitated through exploration, self-direction and collaboration while

they build autonomy" (Hsieh & Cho, et al., p. 38). Hsieh & Cho, et al. (2008) examined this effect on 549 sixth graders from two middle schools in a mid-sized south-western city, finding that test scores increased to such an extent that it can by conjectured that the technology-rich environment altered the motivation level of the classroom. Through a combination of self-direction and collaboration "students interacted and experimented with the material and constructed knowledge in a meaningful fashion" (Hsieh & Cho, et al., p. 50). The technology-rich environment also created a mastery-goal rather than performance-goal orientation to learning, which also contributed to improved outcomes. The implications of this study with regard to the issue of classroom structure are that classroom structures that encourage collaboration contribute more effectively to student outcomes.

Wolters (2004) further explored the interactions of student perceptions of goal structures and achievement in classes. Noting that the literature has generally found that students in mastery goal classes "liked the class more, and had a more adaptive pattern of attributions for success," especially if they were younger adolescents, Wolters (2004) "examined whether goal structures could be used to predict more specific measures of students' adaptive motivational

engagement” (p. 237). Specifically, relating self-handicapping behavior to the goal structure of the classroom was studied. This too is based on previous studies which found “higher reported levels of self-handicapping among younger adolescents who reported a greater performance structure in their classrooms” and another study for that in the seventh grade “performance goal structure positively predicted self-handicapping” (Wolters, p. 239). The relationship between goal structure and student learning strategies is also studied, with mastery goal structure correlated generally with students using “cognitive, deep, metacognitive or self-regulatory strategies” (though these are among older students, not middle school students) (Wolters, p. 239). Thus, class goal structure research is increasingly finding that this factor influences not only that students learn, but how they learn.

Finally, Self-Brown & Matthews (2003) also examined the impact of the goal structure in classrooms on student achievement. Results showing that goal orientation is a predictor of student outcomes means that “researchers must attend to the classroom environment variables that are necessary so that children orient toward a learning-goal orientation versus a performance-goal orientation” (Self-

Brown & Matthews, p. 107). Thus, while a token economy has received some support in the literature, it tends to make performance goals salient to students. By contrast, a contingency contract between teacher and student is “based on personal improvement and progress toward individual goals” and is believed to focus students on learning goals (Self-Brown & Matthews, p. 107). Self-Brown & Matthews (2003) compared these two types of classroom economies and found that, consistent with hypotheses, “students who were in the contingency-contract condition set significantly more learning goals than performance goals” (Self-Brown & Matthews, p. 111).

Roseth & Johnson, et al. (2008) explore the dynamic between student achievement and peer relationships in middle school, focusing on how the achievement goals of peers are linked. Using social interdependence theory, Roseth & Johnson, et al. (2008) argued that “cooperative and competitive goal structures differentially affect the relation between achievement and peer relationship” (p. 225). A relational viewed is taken of goal structures, in order to determine how goal structures bind students together. Maslow’s hierarchy of needs theory, which sees belonging as a basic need, and belongingness theory, which argued that humans need to feel like they belong, are used

to explain the dynamics of communal goal structures. The research supports the idea that positive school climates, for example, lead to improved student outcomes. In their study, Roseth & Johnson, et al., (2008) found that “for early adolescents, cooperative goal structures were associated with higher levels of achievement than were competitive or individualistic goal structures” (p. 238). This confirms research using achievement goal theory which also finds that mastery orientations lead to better student outcomes than performance orientations. The importance of having positive peer relationships in middle school is also studied. Again, Roseth & Johnson, et al. (2008) found that for early adolescents “cooperative goal structures were associated with higher levels of positive peer relationships than were competitive or individualistic goal structures” (Roseth & Johnson, et al., p. 238). According to these findings, then, a classroom structure which supports a cooperative goal structure not only improves student social relations but academic outcomes.

As noted, an approach to the issue of departmentalization is suggested by the literature on achievement goals, especially the contextualist perspective of the literature which “focuses on how different types of contextual goal structures (salient goal-related messages conveyed by

classroom practices or school policies) influence achievement-related behavior in educational settings" (Lau & Nie, 2008, p. 15). This literature is based on a distinction between mastery and performance goal structures in a classroom climate, with the former leading to more adaptive outcomes. Lau & Nie (2008) applied interactionist theory to argue that "a classroom goal structure acts as a moderator if it either strengthens or weakens the relations between personal goals and student outcomes" (Lau & Nie, p. 17). This model helps researchers better understand "individuals' differential vulnerability to environmental stress and differential receptivity to environmental support" (Lau & Nie, p. 17). In a study of a sixth grade classroom, for example, it was found that a mastery goal context correlated with student help-seeking, where help-seeking dropped off in a performance-goal class. According to either the additive or reinforcing hypothesis, mastery goals thus aid in positive development of student goal structures, depending as well on the concept of "person-environment fit or goal congruence" (Lau & Nie, p. 19). The study found that where classes emphasize social comparison of performance and competition for grades, more students lapse into performance-avoidance goals. The findings suggest the worrying possibility that departmentalization

instituted on behalf of enhancing a school's performance goals alone may contribute to continued student failure.

Other studies relate school structure to additional variables. In his study of the middle school variables that may lead to eighth graders going on the college, Bui (2004) listed as structure variables "the number of days in a school year and the length of a school day in hours" with higher number of longer days being linked to higher academic achievement (p. 205). However, in their findings they determined that teacher absence was a major negative variables inhibiting eventual college enrollment, indicating the importance of "receiving undisrupted instruction from their middle school teachers" (Bui, p. 211). Thus, "having teachers who do not miss school days contributes to the continuity of their students' education and the stability of the learning environment" (Bui, p. 211). The emphasis of continuity and modeling may have relevance in discussing the value of self-contained as opposed to departmentalized classrooms.

The Middle School Concept and Departmentalization

The transition to middle school is known to be "especially challenging because it often involves significant school and personal change" (Akos, 2002, p. 1). One of the most problematic aspects of the transition to middle school is

that students often move from having a single teacher, to “multiple sets of behavioral and classroom rules and expectations” resulting from moving from class to class (Akos, p. 1). In his study of fifth graders making the transition to middle school, for example, Akos (2002) found that students were concerned about the rules related to changed curriculum and class structure, as well as the fact that they would be in school with older students.

It is also in middle school that students first begin to experience differentiating school structures such as tracking. While the literature on achievement gaps between students of different social origins has looked for reasons for the achievement gap in the ability and aptitude of students themselves, both because of social origins and because of inherited differences, Ansalone & Ming (2006) argued that these ideas “significantly limit the possibility that schooling can substantially reduce the existing academic inequalities” between students (p. 3). As a result, they argued that ability grouping, or tracking, as well as other “educational structures operating within the school may be at least partially responsible for the academic achievement of students” (Ansalone & Ming, p. 3). In so far as a tracking creates “a social construction of failure,” it represents a school grouping structure that

may be responsible for perpetuating poor achievement. The extent to which tracking is associated by some with departmentalization has fueled a debate on the value of departmentalization. Overall, the issue of self-contained versus departmentalized classes in middle school is complicated by the issue of how well middle schools conform to the middle school concept, whether middle schools are better or worse than K-8 configurations, and how well various whole-school reforms of middle schools have fared.

Middle Grades Schools versus "The Middle School Concept"

Middle school itself is considered by some to be a particular configuration of classes that either advances or inhibits student growth (Akos, 2002; Ansalone & Ming, 2006; Beane & Lipka, 2006; Busher, 2005; Cooper & Liou, 2007; Felner & Seitsinger, et al., 2007; Fisher & Frey, 2007; Green, 2006; Munoz & Ross, et al., 2007; Nichols, 2001; Patton, 2005; Thiers, 2006; Yecke, 2006). As a result of a tug-of-war between opposing sides on the issue of school configuration (see below), moreover, middle school "has been a roller coaster of reform" (Beane & Lipka, 2006, p. 26). The middle school concept in particular involves team teaching small groups of preadolescents in ways appropriate to their developmental stage. In most middle schools, however, grade reconfiguration alone is believed to make a

middle school, “without implementing the middle school concept” (Beane & Lipka, p. 29). In the debate over which configuration is better, K-8 or middle school, performance outcomes have been mixed, with K-8 doing better in some cases, middle schools in others. K-8 schools moreover are believed to be advantageous because of “smaller class and school size, which enable these schools to support better relationships” with students (Beane & Lipka, p. 28). Beane & Lipka (2006) argued that some of the research focuses too much attention on grade configuration itself, without considering the degree to which the middle school concept was realized. Small learning communities and high-quality relationships between teachers and students, apart from grade configuration, is the important point. Most importantly for Beane & Lipka (2006), the middle school concept rejects the kinds of setups one finds in traditional junior high schools, including “tracking and strict subject departmentalization” (p. 29). Fisher & Frey (2007) agreed that the primary reason why middle schools have been criticized, to the extent that some districts have returned to K-8 formats, is that “the principles of middle education (personalized learning environment, flexible time usage, and a focus on coherent academic

experiences)" were never realized in many so-called middle schools (p. 204).

In their study, Fisher & Frey (2007) follow a middle school student through a departmentalized day, noting along the way how transient the grasp of learning was from class to class, and that the student ended his day "exhausted physically and mentally" (p. 208). They also noted "little peer support" as "by our calculations, (one student) had shared classes on this day with over 120 different classmates" (Fisher & Frey, p. 208). A second middle school made use of the House system, which meant that students took all of their classes with the same students. The teachers had also looped up a grade, so the students had the same teachers they had had the year before. The school day included reciprocal reading, block scheduling and other efforts to "slow down the day while providing smaller cohorts of classmates" (Fisher & Frey, p. 210). The fact that the teachers in the latter school used "school-wide and consistent instructional strategies seemed to create a level of predictability for students" and also a degree of transportability, meaning that "students take their knowledge of the strategy with them from class to class" (Fisher & Frey, p. 211). Overall, while both schools utilized a departmentalized system, the house block-

schedule approach adopted by the latter school not only appeared to be more in keeping with the middle school concept, but incorporated aspects of self-containment in classrooms as well, only transportable through “houses” of students (Fisher & Frey, p. 211).

Indeed, a great many researchers believe that the middle school concept per se is an “integrated reform model” with positive effect on student achievement (National Middle School Association, 2005, p. 1). That said studies going back to Lee and Smith’s 1993 evaluation of middle school policies found that in many cases, middle school were not receiving the heterogeneous learning experiences and team teaching promised by the middle school concept. They focused moreover on “reduced departmentalization” as a key element proving an authentic middle school reform, and found that many schools did not know “the level of implementation of these practices” (National Middle School Association, p. 1). Nonetheless, it was found that where middle schools had restructured to team teaching, it did lead to higher student achievement. Moreover, “less grouping by ability and a less rigid departmental structure appeared to promote social equity in achievement among students” (National Middle School Association, p. 1). As this body of evaluative literature

developed, middle schools were classified as either implemented, partially implemented or non-implemented; a distinction made more urgent by findings that many of the enhancements promised by the middle school concept “are not obtained until implementation is quite mature, comprehensive and conducted with a high degree of fidelity” (National Middle School Association, 2005, p. 2). Studies followed measuring the degree of implementation as a measure of the success of the program in improving student outcomes. Overall, as a result of these studies, the literature on the middle school concept has developed “firm foundation that links the middle school concept to improved student academic and social-emotional development” (National Middle School Association, p. 3).

Middle schools versus K-8 configuration

Complicating the issue of whether or not to offer a self-contained or departmentalized middle school structure is that the middle school concept itself is under attack (Patton, 2005). Some schools are returning to K-8 school structures precisely because they appear to offer what proponents of the middle school concept sought, but were unsuccessful in realizing. One study found that the “more intimate K-8 structure creates a responsive learning environment that boosts student achievement and minimizes

disruptive behavior" (Patton, p. 44). In addition to improving student outcomes, studies showed that K-8 schools have higher teacher retention rates and better trained teachers. Class sizes are also able to be reduced. Others argued that the K-8 movement is motivated by economics and by the fact that K-8 schools experience better outcomes on testing. It is argued that administrators seeking a return to K-8 "may be ignoring students' social and developmental needs because they're focusing on NCLB" (Patton, p. 48). Overall, however, the debate between K-8 and middle school may expose the revolving door nature of educational debate, as the argument in favor of K-8 is the same as the argument used by proponents of middle schools against traditional school structures. One administrator reminds researchers that "you should look at what's going on inside the school and try to make it better, whichever grade configuration you have" (Patton, p. 48).

One of the primary beliefs fueling the drive to reconvert middle schools back to K-8 is the idea that "the seeds that produce high school failure are sown in grades 5-8" (Xiao & Carroll, 2007, p. 23). Grades begin to plummet in middle school, and this is due, some argued to "lax and intermittent" discipline, and the fact that "too many educators viewed middle school as an environment in which

little is expected of students….on the assumption that students must place self-discipline and high academic expectations on hold until the hormone-driven storms of early adolescence have passed" (Yecke, p. 20). Yecke, (2006) argued that this argument is anti-intellectual. She defines the middle school concept in stark opposition to how most mere middle schools are set up. The middle school concept, according to Yecke (2006), involves developing politically aware and psychologically mature students "who eschew competition and individual achievement to focus on identity development and perceived societal needs" (p. 20). For Yecke (2006), however, this focus is not a good thing, but the "notion that middle schools should be havens of socialization and not academies of knowledge" has itself "wrought havoc on the intellectual development of many middle school students" (p. 20). As a result, Yecke (2006) argued that what is needed in middle is "reclaiming middle grades schools from the clutches of the middle school concept" (p. 20). This goal has become so "elusive" that she viewed the return to K-8 as a stopgap measure without sound theoretical grounding.

Some research is emerging which is finding that in K-8 schools students "had higher academic achievement as measured by both grade point averages and standardized test

scores, especially in math" (Yecke, p. 21). In large study of over 2000 students in Baltimore, some of whom went from K-8 to high school, others who went through middle school, "the students in the K-8 schools scored much higher than their middle school counterparts on standardized achievement measures in reading, language arts and math" (Yecke, p. 21).

Complicating the problem of whether to stay with middle school or convert back to K-8 is the issue of class organization. In some newly K-8 schools Yecke (2006) visited, the teachers retained the departmental structures of the middle school. But teachers at the Julia de Burgos school in Philadelphia "initially sought that structure but now prefer the self-contained approach" (Yecke, p. 24). The self-contained model was selected because it is believed to foster better relationships among students and teachers, and creates in general a "more nurturing environment" (Yecke, p. 24). However, it also requires teachers to know four subjects rather than one, and the fact that half of Philadelphia's middle school teachers "failed exams assessing their content knowledge" is an index of the difficulty self-contained classroom teachers at the middle school level or above have in providing students with strong standards-based learning. Yecke (2006) argued that

this failure might be of more recent origin and simply "reflect a shift away from academics that has characterized much of the middle school movement's troubled history" (p. 24). Indeed, research indicated that middle school teachers with "subject-specific certificates appear to be a dying breed" with the number of such middle school teachers dropping from 80% to 52% from 1980 to 2000 (Yecke, p. 20). A study of middle grades teachers in 2000 found that 58% of English teachers and 57% of science teachers "lacked a college major or certification in the areas in which they taught" (Yecke, p. 24). A 2004 study also found that "only 22 percent of middle school math teachers surveyed indicated that they had majored in math, and fewer than half had a teaching certificate in that subject" (Yecke, p. 24). As a result, the shift from middle school to K-8 also entails ensuring that teachers are more qualified than they generally were, according to Yecke (2006), in middle schools. Thus, middle schools must go back to "high academic standards, a coherent curriculum, effective instruction…and sound discipline" presumably linked to more use of departmentalized specialist teachers (Yecke, p. 24).

Whole-School Reforms of Middle School

As a result of continued problems in middle schools, researchers have called for comprehensive school reform of

middle schools, which includes a whole-school approach to improving instruction, classroom management and the curriculum. However, while many middle schools have launched reform, “the evidence base in support of the impact of such models still remains limited” (Munoz & Ross, et al., 2007, p. 168). Of the various programs developed to implement CSR, Direct Instruction, Success for All and School Development Program, were found to have done the most to improve student outcomes. In order to support this line of research, Munoz & Ross, et al. (2007) studied how well a new form of CSR named Different Ways of Knowing (DWoK) for the Middle Grades was implemented at a target middle school. This model is noted for providing varied instructional pathways to meet the particular needs of students, and integrated visual, performing and literary arts in all pathways to promote critical thinking. Studies of DWoK on the elementary level have suggested that it can improve student outcomes and increase student motivation. Munoz & Ross, et al. (2007) proposed the use of this model because, they believed, middle schools generally have failed due to “inadequate implementation of the middle school concept” (Munoz & Ross, et al., p. 171). Thus, “core practices such as interdisciplinary team teaching and advisory programs often tend to be weakly implemented with

little attention to the underlying goals" (Munoz & Ross, et al., p. 171). They believed that an externally-developed whole school model might help middle schools better conform to their ideals than locally-developed models. While finding that DWoK did lead to improved test scores among middle school students, the presumption must be that by forcing the school to more closely adhere to the middle school concept DWoK enhanced departmentalization to ensure more positive outcomes.

Typical of studies exploring the gap between theory and practice in middle school reform is Ross & McDonald's; et al. (2007) study of an implementation of the Knowledge is Power program in a small middle school. The context of the study was, again, that at present there exists "only weak to moderate congruence of schools' observed reform programs with the Correlates of Effective Schools" (Ross & McDonald, et al., p. 138). The Knowledge is Power program focuses on high expectations, but its school structure element consists of "more time to learn" which means longer school days and more after-school offerings (Ross & McDonald, et al., p. 138). The study found that the extended time element of the reform also forced teachers to begin to vary their pedagogy because of "the increased potential to bore students with 'more of the same'" (Ross &

McDonald, et al., p. 153). While the lack of evidence of team teaching or multi-age grouping clearly indicated that KIPP is not a middle school concept reform, its manipulation of class time, presumably in a departmentalized context, suggested a school-structure-related reform can improve outcomes.

Green (2006) provided a case study of a middle school which adopted the learning community ethos to develop a house structure. They sought this reform because the school was having a problem with bullying and ethnic strife and the research has found that learning community structures "can bolster student affiliation with the school community" (Green, p. 64). By establishing four houses in school, the administration "hoped that a smaller-feeling school would promote new friendships among students and help them develop citizenship skills, stronger relationships with staff, and a greater sense of identity" (Green, p. 65). While the house system had to be adjusted somewhat to avoid heightened competition between houses, the overall experiment did improve student-teacher interaction and witnessed an increase in student test scores (Green, 2006). House structures are classified as departmentalized structures, reformed to meet the needs of the middle school concept.

Middle Schools and Learning Communities

One of the theoretical linchpins of departmentalization according to the middle school concept--that is, it is overseen by team teaching--is that it increases a student's sense of belonging to middle school, which has been found to be related to positive outcomes. Thus, the literature on school belonging converges upon school structures issues, as it has "yielded some important findings" positively associating belonging with academic achievement (Nichols, 2008, p. 146). This body of research goes back to Goodenow and Grady in the early 1990s, who found that "students who feel part of the school community are more likely to place a higher value on and have higher levels of expectations for success in the classroom" (Nichols, p. 147). The literature has also linked task-goals-oriented classes and improved belongingness beliefs in schools. Overall, the finding that a "sense of belonging is inversely related to negative belief systems" also suggested a link between belonging and a student's ability to "adapt to school cultures in psychologically positive ways" (Nichols, p. 148). In his study of the views of 150 Hispanic students at a low-income middle school, Nichols (2008) found that belongingness was linked to school size and teacher-student relationships. In so far as improved

teacher-student relationships often derive from reformed departmentalized practice, the literature on school belonging may serve to gloss findings on school structure and its relationship to student achievement.

A variant on this approach is that, regardless of whether a school chooses self-contained or departmentalized structure, the overall goal by a department is to create a learning community, “where a group of people are trying to learn together” (Busher, 2005, p. 461). Developed by Senge, the notion of the learning community is that it is a site “where people expand their capacities to work in new and creative ways through working together” (Busher, p. 461). Not only must teachers and students work together, but trust must be created between them, so that they can “tackle complex problems as effectively as possible” (Busher, p. 461). Results of studies of effective schools and departments generally “point to synergies between successful learning communities and high achievement, not to a conflict between the two” (Busher, p. 461). At bottom, this entails “the nurturing of others to promote learning” especially at levels for younger students (Busher, p. 461). Teachers must also work on “developing authentic relationships and fostering social cohesion” (Busher, p. 461). While Busher (2005) proceeded to explore another

particular dimension of leadership behavior as it contributes to the creation of a learning community, this line of research generally would favor either self-contained or departmentalized class structures based on the degree to which they contributed to the development of a learning community (Busher, 2005).

Indeed, Felner & Seitsinger, et al. (2007) argued that “personalizing the school environment is a central goal of efforts to transform America’s schools” (p. 209). This trend engendered the idea of middle school as learning community in the first place. Felner & Seitsinger, et al. (2007) examined the work of the Project on High Performance Learning Communities to create small learning communities in middle schools over the past thirty years. The drive to create such communities is based on sociocultural theory which finds that “contexts of productive learning” are created in “an interpersonal context, between students and teachers, and among peers” (Felner & Seitsinger, et al., p. 211). Overall, “creation of a more personalized context alters the regularities of the complex social setting of the school in ways that unlock student energy and motivation and that give students a sense of growth, of personal agency, of competence, or being someone whose individuality is recognized and fertilized” (Felner &

Seitsinger, et al., p. 211). In order to demonstrate this, Felner & Seitsinger, et al. (2007) reviewed Project HiPlaces, a learning community project based on Bronfenbrenner's ecological model which has been assessed for its role in improving teacher practices, school climate, student sociobehavioral functioning and "other key elements of the school context," in short, the Opportunity-to-Learn features of these schools (p. 213). Some implementations of the concept, such as Project STEP, entailed grouping students "for all of their academic subjects as well as lunch" with the students also "kept in the same area of the building for these classes" (Felner & Seitsinger, et al., p. 216). Results of a study of the program found that "students in STEP-restructured school environments were found to have significantly more favorable attitudes about school, teachers and themselves" (Felner & Seitsinger, et al., p. 216). Changes in peer context and overall achievement orientation were also found to improve outcomes. In the context of trying to counteract the negative impact of large and impersonal schools, learning community reforms appears to adopt the middle school concept to adjust traditional departmentalization into a form nearer to self-contained classrooms, except that the self-contained class of students move

departmentalistically from teacher to teacher, each teacher nonetheless part of a teaching team.

Adding to the middle school issue is the fact that studies found that by the end of middle school 40% of minority students are deemed at-risk of school failure (Cooper & Liou, 2007). Thus far, “research has thoroughly documented the multiplicity of factors that contribute to the reason why urban students are struggling” including “family background, curriculum content, inappropriate assessment, unqualified teachers and school leadership” (Cooper & Liou, p. 44). Because these variables are limited, Cooper & Liou (2007) used the Opportunity to Learn model to explore some additional factors that might contribute to school failure. This paradigm focused on the various “opportunities and resources” provided by the school to improve outcomes, presumably including school structure issues. While Cooper & Liou (2007) went on to examine how even the flow of information in a school can impact student outcomes, especially during transitions, because, studies have found, student who fail often “lack the necessary information to successfully navigate and negotiate the educational system” (Cooper & Liou, p. 46). This represents one way in which school structural aspects impact student outcomes.

Finally, another way being explored to enhance the positive social climate of middle schools is single-sex classes. Some argued that “single-sex classrooms enable students to focus better and to learn through gender-appropriate approaches” (Thiers, 2006, p. 70). Single-sex classes are being looked at as a way to reduce the achievement gap that begins to open up between boys and girls in the middle school years. Studies however have only shown “slight positive effects of single-sex schooling on some academic measures” as a result of changing over to single-sex classes (Thiers, p. 70). At present, then, while some schools are experimenting with this form of school structure reform, the research has not yet determined the value of this form of student grouping.

Case Studies of Departmentalization

Departments in high schools (where they originated) and middle schools essentially function as “teams to whom the responsibility to coordinate the subject curriculum is delegated” (Witziers & Sleegers, et al., 1999, p. 295). The teamwork of departments includes joint decision-making about the curriculum, frequent interaction, and a “common viewed among departmental members toward the goals and means of education” (Witziers & Sleegers, et al., p. 295). Some departments are highly centralized, while others allow

individual teachers a great deal of autonomy. In general, however, studies indicate that “departments exercised considerable influence over the selection and supervision of staff, course definition and sequencing, tracking, curriculum development, textbook selection, and assignment of teachers to courses and students to classes” (Witziers & Sleegers, et al., p. 296). Most departments also control textbook selection and “had authority over what courses were offered and which teachers were assigned to those courses” (Witziers & Sleegers, et al., p. 296). While some studies found that departmental members communicate with each other frequently, in other departments “this only takes place with teachers who teach similar classes” (Witziers & Sleegers, et al., p. 296). Studies have also found that departments rarely communicate with each other. For this reason, Witziers & Sleegers, et al. (1999) noted that “most departments can hardly be described as learning communities and suggest that departmentalization might lead to fragmentation of the school curriculum” (p. 298). Network analyses using mapping of communication also found that most teachers’ communication patterns are “clearly affected by their departmental membership” (Witziers & Sleegers, et al., p. 297). With regard to the role of department heads, while perception sees them as in control,

studies of their communication patterns reveal that “their role was limited to performing communication and co-ordination functions, while more important functions as such improving programs and evaluating fellow teachers were hardly exercised” (Witziers & Sleegers, et al., p. 299). In U.S. schools, this may be because most department heads “lack clearly defined job descriptions” leading to role ambiguity and conflicts (Witziers & Sleegers, et al., p. 299). Further studies found that the working of departments is often “impeded in large schools by a combination of dislocation, teachers working in two departments and the number of part-time teachers working in the school” (Witziers & Sleegers, et al., p. 300). Moreover, in U.S. schools some departments are cohesive, others less so; with English departments being more cohesive than math departments. Studies show that “departments belonging to a community with strong disputes were…the departments most likely to be characterized by internal conflict” (Witziers & Sleegers, et al., p. 301). On the basis of these findings, the literature on departments has developed a distinction between weak and strong departments, with only strong departments having a positive effect on the functioning of the school. At the same time, strong departments are just as likely to “obstruct the development

of educational policy at the school level" (Witziers & Sleegers, et al., p. 302). The relevance of this level of research is that studies have found that in order for innovative teaching to be introduced into schools, schools need "well-functioning teams of teachers" in departments, while departments as often as not create "barriers for professional communication and interaction between teachers within the larger school community" (Witziers & Sleegers, et al., p. 303). Especially in the U.S. studies found that "departmentalization can lead to fragmentation of both school staff and curriculum, thus impeding communication and collaboration between all teachers" (Witziers & Sleegers, et al., p. 303). While introducing interdisciplinary groups can "reduce the negative consequences of the rigid structure of secondary school subject departments" (somewhat less rigid at the middle school level), it remains that the findings of the literature on departmental functioning calls into question the theoretical alignment of departments and "learning communities," and, indeed, whether or not departmentalization and the middle school concept are compatible. According to findings then, "the connection between the proposed benefits of teacher teams and school are less apparent than have been discussed in recent

literature” (Witziers & Sleegers, et al., p. 303). All in all, this stream of research pries team teaching, one of the noted benefits of reformed departments, loose from the promotion of departmentalized learning (Delviscio, 2007; Dropsey, 2004; Irwin & Farr, 2004; Hopping, 2000; Larocque, 2007; McGinley & Bynum, et al., 2007; Neumann, 2008; Veerkamp & Kamps, et al., 2003; Witziers & Sleegers, et al., 1999).

The Spread of Departmentalization

While the debate over self-contained versus departmentalized classes continues in middle school, the most controversial aspect of departmentalization is that it is increasingly being implemented at the elementary school level (in K-8 schools including sixth through eighth grades) (Dropsey, 2004). Because of the young age of children involved in this form of departmentalization, parents have raised issues of student-teacher interaction and the nurturing of students, and in general “parents want to know the benefits of departmentalized classrooms over self-contained classrooms” (Dropsey, p. 2). Dropsey (2004) compared self-contained classrooms, in which one teacher is responsible for all areas of the curriculum, to a departmentalized classroom, where four teachers in different classrooms teach different students rotating in

and out of class. Self-contained classrooms, for example, “allow students to become well acquainted with the teacher” in so far as the teacher becomes aware of “students’ strengths, weaknesses and personality traits” (Dropsey, p. 4). Self-contained classrooms also allow for “more flexibility in scheduling and less transition time” (Dropsey, p. 4). By contrast, departmentalization is supported because it involves “specialization, instructional teams, teacher retention and transition to middle and high school” (Dropsey, p. 4). Not only does departmentalization allow teachers to deliver more in-depth studies, but it has been found to ease the troubling transition from elementary to middle school for sixth grade students (Dropsey, 2004). Other studies found that the amount of movement involved in departmentalized schedules also helps students pay attention more. Another study found that teachers are better able to cover material needed to pass standardized tests in departmentalized classrooms, especially in math and science. Indeed, the overall drift of this comparison suggested that departmentalization has received support because it helps schools meet the demands of standardized testing. Thus, departmentalization and the climate of accountability in schools appear to be linked. This link has been reinforced by studies which have found

that “higher test scores in some districts give credit to departmentalizing the grade levels” (Dropsey, p. 5).

In some cases, departmentalization structures are adopted for other reasons than ideals of student achievement. Indeed, some argued that departmentalization is spreading from middle to elementary school levels as a side effect of high-stakes testing. For example, one school changed from a self-contained classroom structure to an “instructional arrangement that borrows from both looping and departmentalization concepts” because they could not found teachers for fourth grade, where “accountability pressures that were being unfairly brought to bear on that grade level” (Delviscio, 2007, p. 1). Looping is a concept borrowed from European schools whereby the teacher moves with students from one year to another, “then looping back to work with a new group of students at the lower grade after a second year” (Delviscio, p. 1). Departmentalization involves “a team of teachers working as subject-area specialists” to improve student learning (Delviscio, p. 1). The school found that a new system based on looping and departmentalization “provided more continuity in instruction from one year to the next as well as increased instructional time” (Delviscio, p. 1). The system was also found to give teachers and students more time to develop

bonds, and it also reduced “transition shock among sixth graders when they moved from their self-contained 5th grade classroom into a fully departmentalized middle school” (Delviscio, p. 2). Moreover, the changed program “clearly illustrated academic gains” in the all-critical fourth grade standardized test scores (Delviscio, 2007).

While these advantages are noted, Dropsey (2004) also points out, echoing parental concerns, that departmentalization appears to dilute the “climate of caring and support” that many students found necessary in order to achieve well in school (p. 6). Overall, it has been found that “positive teacher-student relations are made more difficult by departmentalization” (Dropsey, p. 6). One researcher argued that teacher-student interaction under departmentalization was comparable to an assembly line, as departmentalization is “depersonalizing the time spent with students” (Dropsey, p. 6). In support of this worry, a few studies of departmentalization in students lower than sixth grade indicated that departmentalized classrooms showed “lower levels of achievement than children in self-contained classrooms” (Dropsey, p. 6). Perhaps supporting this finding, and offering an explanation, are reports that when teachers switch to departmentalization, issues of student discipline and

classroom management preoccupy them (Dropsey, 2004). Thus, caught in a vicious cycle, teachers in departmentalized classes may have more problems with discipline because they haven't had the opportunity to develop a rapport with or understand the individual student's developmental needs (Dropsey, 2004). To the extent that departmentalization injures school climate, it may also have a negative impact on student achievement. By and large, Dropsey (2004) found that teachers, students and parents all had mixed feelings about departmentalization at or below sixth grade level.

Departmentalization and Team Teaching

Nonetheless, if departmentalization is carried out according to the middle school concept, as opposed to traditional forms of departmentalization, then the fact that team or collaborative teaching is instrumental to this form of school structure is important to the literature (Irwin & Farr, 2004). Indeed, some researchers argued that every reform in middle school involves instituting more collaborative teaching, and that "there is considerable research evidence to support this assertion" (Irwin & Farr, p. 343). In order to build "conscious communities" of collaborative teachers, however, it is required that schools "nurture each person's individual growth, thus supporting individuality and diversity within a broader

framework of community and interpersonal connection" (Irwin & Farr, p. 344). In order to reinforce this concept, studies have introduced various ways to frame the idea, including comparing *gesellschaft* with *gemeinschaft*, comparing contrived from authentic collegiality, and re-characterizing authentic collaboration altogether as a problem-solving process with an intense dynamic. The literature has also found that "there is a strong relationship between collaborative community contexts in schools and support for authentic learning experiences for all students" (Irwin & Farr, p. 349).

In a case study, Larocque (2007) investigated how an inner-city Florida school serving low-income students was able to improve its outcomes on the state standardized test. The study found that the principal took the initiative of forging the faculty into a team-teaching unit and developed a collaborative ethos in which "everyone plays a part in what happens at this school" (Larocque, p. 163). While this abides by the core idea of departmentalization, nothing was noted in the study about the classroom structures developed at the school.

Hopping (2000) presents a case study of a middle school in Georgia where school leaders felt that the district mandate for accountability was causing the school

to move away from “an integrated, interdisciplinary approach to instruction” and toward a “strict leveling” that fragmented the schedule and gave teachers no flexibility (Hopping, 2000, p. 1). The fact that Hopping (2000) viewed the “move to departmentalize teachers and subjects” as an attack on “teaming, a central component of the middle-grades philosophy” creates a dichotomy between departmentalization and middle school grouping in this case (Hopping, p. 1). As a result, the school reformed back to a multi-age format of grouping students from different grades and ability levels together, to reestablish the middle school concept. The results of a study of the program found that “students thrived in active learning environments that provided challenging ideas and new perspectives” (Hopping, p. 4). Higher-level thinking was encouraged, especially by “solving real-world problems” (Hopping, p. 4).

A case study of High Tech High (HTH) in California considered whether or not a charter school format enabled departmentalization. In all classes, apparently in the departmentalized format, learning is often broken up into small groups, with students “setting goals with their teacher for self-paced progression through the curriculum” (Neumann, 2008, p. 57). Also, while some classes use traditional means of teaching like lectures and didactic

instruction, classes also “emphasized the need to balance communication of information and guided practice with heuristic approaches to learning such as Socratic dialogue and projects that engage students experientially with the ideas being studied” (Neumann, p. 57). As well as providing interdisciplinary approaches to learning, HTH also emphasizes personalization, with students often participating in decisions about course goals, as well as the creation of a digital portfolio presented to evaluators to prove their learning (Neumann, 2008). Overall, the structure of the school appeared optimally departmentalized, with teams of teachers working with groups of approximately 50 to 75 students moving from subject to subject. In accordance with the middle school concept (transferred here to high school), this structure allowed teachers to get to know students better and resulted in the building of strong student-teacher relationships (Neumann, 2008). Advisory groups overlapped the departmentalized structure to further enhance relationship-building. The school eschewed tracking, but does allow some students to take honors courses. As a result of this progressive educational theory, the students achieved higher outcomes. While applied to the high school level, this study exemplified the benefits derived from the

middle school concept applied optimally through departmentalization overseen by team-teaching.

Veerkamp & Kamps, et al. (2003) demonstrate how general education departmentalized classes can be brought more within the model of the middle school concept by implementing specific pedagogies designed to enhance student engagement. They implemented a peer tutoring program in two sixth-grade classrooms in order to exploit findings that peer tutoring appears to result in positive outcomes in reading for students. The Class wide Peer Tutoring program was examined because, though originally developed for third graders, it was found to explain the positive impact of peer tutoring in that it allowed students more “opportunities to respond to academic material” (Veerkamp & Kamps, et al., p. 24). While Veerkamp & Kamps, et al. (2003) complicated the overall issue of efficacy by motivating students with a performance-based motivation lottery system (not favored in the above goal structures literature), the results nonetheless indicated that when teacher-student contact is enhanced in departmentalized classrooms, many of the weaknesses of the departmental approach can be moderated. Walker (2007) likewise demonstrated, though on the high school level,

that peer tutoring can counteract some of the problems of disengagement linked to departmentalized classes.

McGinley & Bynum, et al. (2007) reported on a case study designed to determine best practice in middle school math in five schools in Charleston County, South Carolina. The study revealed that the best teachers, while lacking teaming in their schools, found help outside of school to enhance instruction. Most of the best teachers also “teach multiple grade levels or teach in multi-level schools” and focused on how instruction “fit” from year to year with instruction in grades above and below it—a structure which suggested departmentalization (McGinley & Bynum, et al., p. 3). Most of the teachers were in fact “departmentalized” “so the teacher can focus on mathematics” and many of them team-taught with interdisciplinary teachers so that they could “make connections between math and other content areas” (McGinley & Bynum, et al., p. 3). Most of them, in their practice, prompt discussion, have differentiated learning going on in their classrooms and utilized peer learning to motivate struggling students. The findings of this study, “consistent with findings from external research on excellence in mathematics instruction,” indicated that best practice in middle school math is supported by reformed departmentalization where the best of

teacher expertise and willingness to adopt progressive team-taught pedagogy are combined (McGinley & Bynum, et al., p. 3).

Comparative Case Studies of Departmentalization versus Self-Contained Classes in Middle School

Self-Contained or Departmentalized: the Legacy of Special Education

A number of studies have directly compared outcomes of students in self-contained versus departmentalized classes, though situated in different contexts (Black, 2008; Bouck, 2008; Levine & Holdsworth, et al., 1987; McGrath & Rust, 1997; Scholom & Schiff, et al., 2001; Scott & Shearer-Lingo, 2002). The earliest studies of self-contained versus departmentalized classrooms were in the context of special services for special education children at the elementary level. The literature of these early case studies may have contributed to the development of comparisons between self-contained and departmentalized classrooms. In a classic study of whether or not a self-contained Chapter 1 classroom, designed as a small group instruction model to “ensure that all children receive the personal attention and reinforcement needed to learn at their maximum state,” Levine & Holdsworth, et al. (1987) found that self-contained classrooms did have positive outcomes. The self-

contained classroom idea, with the assistance of supportive personnel, was introduced into Kansas City schools in order to improve outcomes, and presumably to counter the perceived inadequacies of mainstream classrooms for some students.

Indeed, the debate between self-contained and departmentalized school structures has a second life within the area of special education, where the argument takes the form of comparing self-contained settings where “the majority of a student’s day is spent in a pull-out setting to receive special education instruction” or inclusive settings, where students join mainstream students in learning (Bouck, 2008, p. 386). In this discourse, however, self-contained settings “have a negative reputation, often considered a dumping ground” (Bouck, p. 386). That said studies have also found that teachers focus more on communication skills in self-contained settings, and that in other ways the self-contained setting interacts with curriculum to provide a more appropriate form of education for special students. The concepts of the horizontal (topics covered) and vertical curriculum (depth of treatment) were also used to measure how effectively curriculum and classroom structure interacted. While Bouck (2008) specifically focused on the experience of special

education high school students in self-contained versus general classrooms, an interesting outcome is that students found both contexts to be problematic, and thus came to exist in a “revolving door” mindset where they liked self-contained settings, but longed to get out and meet others, but then when placed in general settings floundered and sought to return to self-contained settings. Overall, the students “wanted a place where they could belong, fit in and not stand out, but ironically that was the pull-out program” (Bouck, p. 407).

Likewise, Scholom & Schiff, et al. (2001) made a direct comparison between self-contained and mainstreamed (departmentalized) classes in helping learning disabled students reach their goals. Overall, while there is a great deal of political support for mainstreaming, from the research “drawing clear conclusions or implications for practice is difficult” (Scholom & Schiff, et al., p. 233). The study showed that teachers saw the most improvement in older students in self-contained classes, particularly with regard to social and personal adjustment. By contrast, students and parents believed that they performed better, and were better situated socially, in mainstream classes. The study suggested that each form of school structure may be beneficial in different ways for different students.

Scott & Shearer-Lingo (2002) examined “the effect of a repeated reading instructional strategy on the reading and on-task behavior of three students with Emotional Behavior Disorder (EBD) who are placed in a self-contained middle school classroom” (p. 168). These students had disrupted general classes and exhibited low rates of on-task behavior and engagement with the curriculum in those classes. The study found that this way of teaching, in self-contained classrooms, did help students improve their reading levels if the course was “delivered at the student’s level, provides repeated practice opportunities, maintains direct teacher-student interaction and actively involves students in monitoring their progress” (Scott & Shearer-Lingo, p. 173). The advantage of the self-contained setting was that it appeared to reinforce the “connection between academic and social success in the classroom” and proved that “when lessons are constructed and taught in a manner that facilitates immediate and consistent success; students have an incentive to continue….successful behaviors” (Scott & Shearer-Lingo, p. 173). This also indicated that the self-contained classroom allows for appropriate pedagogy for certain students.

Self-Contained versus Departmentalized Middle Schools

A number of studies have anecdotally described the hallways between classes in middle school as chaos, and some principals have acknowledged that middle school students have trouble switching classes (Black, 2008). However, Black (2008) noted that the trend in schools appears to be towards the rotation system, and away from the self-contained systems, with even elementary schools (as noted) now increasingly switching to the rotation or departmentalized system. Schools-within-schools often have rotation plans, and the more specialized training of even elementary school teachers has also motivated the switch. The rotation system is believed to be beneficial because it helps teachers focus on the topics they are best at, reduces the amount of time they spend preparing for lessons, improves teacher retention and also happens to prepare students for high school (Black, 2008). However, a number of other studies have found that rotating classes can be “risky for many young students” (Black, p. 49). One study comparing sixth grades in self-contained and rotating or departmentalized classrooms found that “the self-contained classrooms had higher achievement on total battery, language and science tests” while students in rotating classes took “significantly longer to transition

from subject to subject," though instructional time itself did not suffer (Black, p. 48). In a survey of the literature comparing self-contained and rotation systems it was found that more students do better when they remain in self-contained classrooms, and that during the transition to the rotation system "achievement often sags" (Black, p. 48). Other anecdotal reports indicated that organization remains a significant challenge of the rotation system and others reported that "classroom management and student discipline had become a strain" because of rotation (Black, p. 48). More significantly, given the literature on the importance of a school structure that engenders positive teacher-student relationships; one teacher reported that it was much more difficult to build up a rapport with so many students (Black, 2008). Especially when the students are sixth grade and younger, other reports indicated that the loss of teacher time and the pressure to "sit still and concentrate" in repeated settings produced a great strain on students (Black, p. 48). Other side effects included increased theft, attributable by teachers to student "lack of ownership in any one classroom" (Black, p. 48). Another school reported that since conversion to the rotation system "the number of students failing classes and repeating a grade had sharply increased" (Black, p. 49).

Overall, Black (2008) questioned the validity of rotation and believed that further experimentation with rotation in still lower grades was too risky for children.

An additional origin of the debate between self-contained and departmentalized class structures in schools may derive from the growing concern, especially during the 1980s and 1990s, that class-time was not being used efficiently. Studies found that in most schools “as much as 16% of each school day is lost to administrative duties and organizational distractions and interruptions” while in some schools “only 30%-40% of the average school day involves on-task academic activities” (Nichols, 2001, p. 299). A *Nation at Risk* in particular urged educators to address the issue of effective classroom instruction. As a result of this, schools began to experiment with the length of the school day and the school year to determine their impact on achievement. Flexible modular schedules were introduced in the 1970s, only to be withdrawn in the 1980s due to increased student discipline problems. Among other school restructuring reforms block scheduling has also been proposed even though as yet “only limited empirical research explores the impact of block-scheduling structures on potential student academic achievement” (Nichols, p. 299). As such, block scheduling represents a reform of the

traditional departmentalized structures, in which the day in broken up into as many of eight separate classes. In this context, the traditional structures are criticized as leading to the depersonalization of school, and other studies have found the format to limit teacher flexibility. Based on a protest against this form of departmentalized schooling, block scheduling was believed to “provide extended time for in-depth, hands-on learning and may encourage teacher teams and clusters of students to engage in more quality instructional and learning activities” (Nichols, p. 300). Studies also reported that after converting to block scheduling, many schools experienced gains in student outcomes. Nonetheless, in general, “quantitative data is seldom offered to support many of these anecdotal and theoretical positions” (Nichols, p. 300). Nichols (2001) examined whether or not block scheduling improved student outcomes in five urban high schools, finding that in language arts courses there was a small average increase in student outcomes. The study also found that some instructional time is actually lost during block scheduling, but that the quantity of time is amply made up for in the improved quality of teacher lessons and teacher-student interactions. This in turn may lead to more gains as, in the context of this study, block scheduling

appeared to represent a flanking reform of school structure designed to update traditional departmental practice into middle-school concept based practice.

The most thorough comparison of self-contained versus departmentalized classes was undertaken in a classic study of upper elementary schools (that is, middle schools) by McGrath & Rust (1997). The study was noted for comparing student achievement levels based on a specific factor linked to school classroom structures: the amount of between-class time experienced by students during the average school day. The study was again based on the fundamental dichotomies in this comparative literature, with proponents of self-contained classrooms arguing that this structure is child- as opposed to subject-centered, allows the teacher to get to know the child, thus “enabling better accommodation of the students’ individual learning styles” (McGrath & Rust, p. 40), in addition to allowing for greater schedule flexibility; while those who favor departmentalizing claim that this structure improves the quality of teaching, which is believed by some to be the most important single factor behind improved student outcomes. Indeed, the case for departmentalization improving teacher knowledge was bolstered historically by a classic 1962 study which found that “only 4 of 260 teachers

considered themselves well prepared in all subject areas," a finding which convinced many educators that the era of the generalist had been replaced by the time of the specialist (McGrath & Rust, p. 40). The study is also based on a robust literature that emerged in the 1990s, which compared self-contained and departmentalized classrooms. One study by Garner and Rust found that "fifth-grade students in self-contained rooms scored significantly higher on group achievement tests compared to their departmentalized peers" for example (McGrath & Rust, p. 41).

McGrath & Rust (1997) decided to measure whether or not the amount of between-class time 104 fifth and 94 sixth graders experienced, when placed in self-contained or departmentalized contexts, was reflected in achievement outcomes. That is, presuming that a departmentalized schedule entails more between-class time during a school day, is that time wasted and does the wasted time negatively impact student achievement? However, McGrath & Rust (1997) found that a departmentalized schedule had "no significant difference in actual instruction time" with both self-contained and departmentalized classes averaging instruction 48 of every 60 minutes, and moreover that "the extra time spent (in a departmentalized schedule) changing

classes” did not cut into class time in any meaningful way (McGrath & Rust, p. 43). Overall, “the departmental teachers allotted a similar amount of instructional time in the five major subject areas compared to self-contained teachers” (McGrath & Rust, p. 42). An explanation for this apparent anomaly is that self-contained classroom teachers often took “breaks” from the major five subject areas by allowing students work on art or computers at various times during the day. Thus, by investigating the realities of time management in both the self-contained and departmentalized course structures, this classic study found little difference between the two, when measured against student outcomes.

Conclusion

Whether or not self-contained or departmentalized classes are better for middle school students appears to depend on what degree of research has been incorporated into the classroom structure, i.e. whether or not class goal structure, team-teaching and school climate are involved, and the degree to which the reform, either way, conforms to the middle school concept (Ainley, 2006; Anderson & Corbett, 2008; Ansalone & Ming, 2006; Benner & Graham, et al., 2008; Bong, 2008; Dupriez & Dumay, 2006; Hsieh & Cho, et al., 2008; Lau & Nie, 2008; Oshima &

Domaleski, 2006; Ready & Lee, et al., 2004; Roseth & Johnson, et al., 2008; Saxbe, 2003; Self-Brown & Matthews, 2003; Wolters, 2004; Xiao & Carroll, 2007). By and large, departmentalization was introduced in traditional junior high schools and then reproduced in name-only middle grade schools, giving departmentalization a negative connotation. Reform on behalf of the middle school concept often involves reverting to a self-contained classroom structure, but can as easily consist of simply modifying departmentalization so that it conforms to the middle school concept. Overall, the trend appears to be toward more departmentalization in middle schools, and the literature favors this trend as long as the middle school concept is respected (Akos, 2002; Ansalone & Ming, 2006; Beane & Lipka, 2006; Busher, 2005; Cooper & Liou, 2007; Felner & Seitsinger, et al., 2007; Fisher & Frey, 2007; Green, 2006; Munoz & Ross, et al., 2007; Nichols, 2001; Nichols, 2008; Patton, 2005; Thiers, 2006; Yecke, 2006). In practice, however, schools appear to select which classroom structure to adapt based on the particulars of prior experience and current context (Delviscio, 2007; Dropsey, 2004; Irwin & Farr, 2004; Hopping, 2000; Larocque, 2007; McGinley & Bynum, et al., 2007; Neumann, 2008; Veerkamp & Kamps, et al., 2003; Witziers & Sleegers, et al., 1999).

This means that at present middle schools, expediently responding to pressure from NCLB, are striving to live up to the middle school concept by reforming themselves back to both self-contained and departmentalized classroom structures (Black, 2008; Bouck, 2008; Levine & Holdsworth, et al., 1987; McGrath & Rust, 1997; Scholom & Schiff, et al., 2001; Scott & Shearer-Lingo, 2002)

CHAPTER THREE-METHODOLOGY

Introduction

While the debate over self-contained classes, versus departmentalized classes continues in middle school, the most controversial aspect of departmentalization is that it is increasingly being implemented at the elementary school level specifically schools including sixth through eighth grades (Dropsey, 2004). Because of the young age of children involved in a setting in which teachers teach in their area of specialization and students move from one classroom to another for instruction, parents have raised issues of student-teacher interaction, student teacher relationships and the nurturing of students, and in general “parents and school administrators want to know the benefits of departmentalized classrooms over self-contained classrooms” (Dropsey, 2004 p. 2).

Departmentalization has received support because of the idea that it helps schools meet the demands of standardized testing by allowing students to receive basic education from teachers specialized in particular disciplines and allowing grade-level instructional teams to be formed to coordinate teaching efforts across each discipline(Chan 2004). Thus, departmentalization and the climate of accountability in schools appear to be linked.

However it is important that school officials' structure their schools in the most effective ways possible based on research which best benefits the students. As a result it is imperative to explore whether departmentalization has an impact on 6th grade standardized testing in communication arts and mathematics. The purpose of this study is see if non-departmentalized schools have a higher mean of students in the advanced and proficient levels in communication arts and mathematics than departmentalized schools. For the purposes of this study a departmentalized school is a school in which students change classes for communication arts and mathematics.

Research Questions

The following research questions will be examined in order to discover if there is a correlation between departmentalization and student achievement according to the Missouri Assessment Program.

1. Do schools that departmentalize have a higher advanced/proficient percent on the MAP test than schools that do not departmentalize on sixth grade communication arts and mathematics Missouri Assessment Program results of Southwest Missouri schools?
2. What is the correlation coefficient between school size, departmentalization and student achievement when

comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools?

Subjects

Data needed for the study is available from the Department of Elementary and Secondary Education website, http://dese.mo.gov/schooldata/ftpdata.html.edu, and is normally accessible to the researcher. The researcher collected 2006, 2007 and 2008 6th-grade communication arts and mathematics MAP building data. In addition demographic data was also gathered from the Department of Elementary and Secondary Education website, to determine population size. Scores were grouped by schools with less than five hundred students, schools with five hundred and one to one thousand students, schools with one thousand and one to one thousand five hundred students and finally schools with one thousand five hundred one to two thousand students. The publicly published MAP data on the 6th-grade MAP test from 2006 to 2008, available from Missouri's Department of Elementary and Secondary Education's file transfer protocol (ftp) website, was collected on fifty Southwest Missouri Schools.

In order to determine which Missouri schools were departmentalized the researcher conducted a phone survey

with Southwest Missouri district representatives. For a copy of the survey see Appendix B. This survey resulted in a list of 6th grade Missouri schools, beginning in 2006, which could be classified as a departmentalized school. Specifically this is a school in which teachers teach in their area of specialization and students move from one classroom to another for instruction. For the purpose of this study if a school changed classes for communication arts and math, they were considered to be departmentalized. The above data collection will provide the necessary information for the main rationale of this study which is to compare the results of student achievement in departmentalized settings and non-departmentalized settings.

Research Setting

The MAP math and communication arts test were administered by certified teachers or trained para-educators. The Missouri Assessment Program is a standardized test and was administered in the appropriate setting with certified staff and trained staff. Time constraints, and standardized procedures set by the state were strictly adhered to. This research setting is comparable to other rural school district settings in the United States. As a result similar population schools could

generalize the results of this study to make educational decisions regarding the structure of their school.

Research Design Procedure

This study examined departmentalized 6th grade schools of varying student population sizes in Southwest Missouri by using 6th-grade MAP data and questioned whether Southwest Missouri's sixth grade departmentalized schools score at a statistically significant higher level in the top two categories (Proficient and Advanced) of student performance classification as required by third cycle Missouri School Improvement Program than the Southwest Missouri's non-departmentalized schools. This study is a quantitative study. The primary measurement tool is the Missouri Assessment Program. The reliability coefficient for the mathematics portion of the MAP was .929 with a 1.0 being completely reliable. The reliability coefficient for communication arts was .907 with a 1.0 being completely reliable.(DESE 2007) In this study the independent variable was non-departmentalized schools. The dependent variable was departmentalized schools.

Data Analysis

Using the information from the Department of Elementary and Secondary Education website, http://dese.mo.gov/schooldata/ftpdata.html. The researcher

segregated the Missouri schools into four groups: less than five hundred students, schools with five hundred and one students to one thousand students, schools with one thousand and one to one thousand five hundred students and finally schools with one thousand five hundred students to two thousand students as of 2006-2008.

The treatment group is composed of departmentalized sixth grade in each of the four categories, and the control group is determined by non-departmentalized sixth grade schools in each of the same four classes. Results from the 6th-grade MAP test in communication arts and mathematics in all four groups were then compared to determine if there was a difference in scores on the top two MAP levels (Proficient, and Advanced). In addition the population categories were checked to see if there was a correlation between school size and achievement in both departmentalized and non-departmentalized settings.

Statistical Treatment of Data

The One-Sample T Test procedure was used to find if there was a difference in scores on the top two MAP levels (Proficient, and Advanced) The One-Sample T Test procedure tested whether the mean of a single variable, departmentalization differed from a specified constant non departmentalized. A t test tests that this difference is 0,

and a confidence interval for this difference is set at 95%.

The Pearson R correlation procedure was applied to determine the correlation coefficient between school size, departmentalization and student achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools? The Pearson R correlation tells you the magnitude and direction of the association between two variables that are on an interval or ratio scale. The assumption of the Pearson R procedure is that the variables are normally distributed. The null hypothesis for this procedure is that there is no correlation between schools scoring advanced and proficient on the MAP test in a departmentalized setting and class size.

The magnitude is the strength of the correlation. The closer the correlation is to either +1 or -1, the stronger the correlation. If the correlation is 0 or very close to zero, there is no association between the two variables. The direction of the correlation tells us how the two variables are related. If the correlation is positive, the two variables have a positive relationship (as one increases, the other also increases). If the correlation is

negative, the two variables have a negative relationship (as one increases, the other decreases). (Runyon 2000)

Summary

Departmentalization has received support because of the idea that it helps schools meet the demands of standardized testing by allowing students to receive basic education from teachers specialized in particular disciplines and allowing grade-level instructional teams to be formed to coordinate teaching efforts across each discipline(Nichols 2001). Data needed for this study was available from the Department of Elementary and Secondary Education website, http://dese.mo.gov/schooldata/ftpdata.html.edu, and is normally accessible to the researcher. The researcher took particular care in making sure all school representatives surveyed understood that being departmentalized, for the purpose of this study, meant that 6th grade students change classes for communication arts and mathematics. Although the data used for this study is available to the public, the district names have been removed from the data. In the following chapter, the researcher will present the data gathered and analyze the results of the data.

CHAPTER FOUR-RESULTS

MAP Test Data

The data collected in September 2008 from DESE had three years of MAP building data from every school district in Southwest Missouri with a elementary population under two thousand, for every level of the MAP test. The researcher looked at sixth grade mathematics and communication arts MAP test data for the years 2006, 2007, and 2008. Data was collected from a telephone survey on whether a school was departmentalized or not. For this study a departmentalized school was a school that changed teachers for communication arts and mathematics instruction. For each given year, the departmentalized schools were grouped according to population. The non-departmentalized schools were grouped according to population as well. The departmentalized schools were the variable in this study. The non-departmentalized schools were the control group. Figures one through four below reflect the individual mean of advanced and proficient students in schools with an elementary population below five hundred students, from five hundred and one students to one thousand students, from one thousand and one students to one thousand five hundred students, and from

one thousand five hundred and one students to two thousand students. Figure five shows the results of a one sample statistical analysis resulting in a mean, standard deviation, and standard error mean for all non-departmentalized schools, the control group, to all departmentalized schools, the variable. Figures six through nine reflect the individual results of a confidence interval comparison between departmentalized schools and non departmentalized schools again according to population. Figure ten shows all schools confidence interval comparison as well as T scores and mean difference. Figure eleven illustrates the correlation between school size, and achievement in a departmentalized setting compared to a non-departmentalized setting.

For the purposes of third cycle MSIP accreditation, a school district contributes points to their review by having a high percentage of students scoring in the Proficient or Advanced levels (DESE 2006). Figure 1 showed mean comparisons between departmentalized and non-departmentalized schools for the years 2006, 2007, and 2008 in the advanced and proficient categories with an elementary population below five hundred students. It was observed that non-departmentalized schools have a higher mean of scores in the advanced and proficient range of

achievement. To determine whether those differences were statistically significant, a One Sample T Test, with a ninety five percent confidence interval was performed. The null hypothesis, that departmentalization does not impact student achievement was accepted.

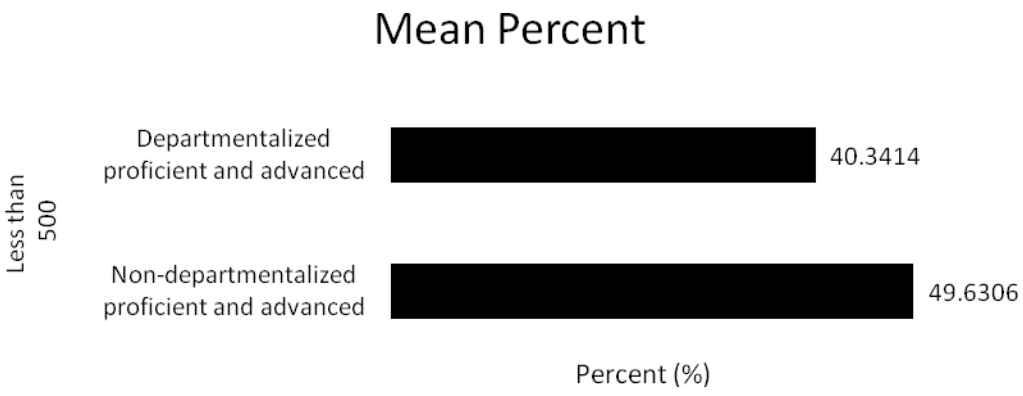

Figure 1. Elementary Schools Less than 500 Students

Figure 2 shows mean comparisons between departmentalized and non-departmentalized schools for the years 2006, 2007, and 2008 in the advanced and proficient categories with an elementary population from five hundred and one to one thousand students. It was observed that non-departmentalized schools have a higher mean of scores in the advanced and proficient range of achievement. It was noted by the researcher that the means in this particular population level were much closer than the means of the other population groups. The null hypothesis was accepted.

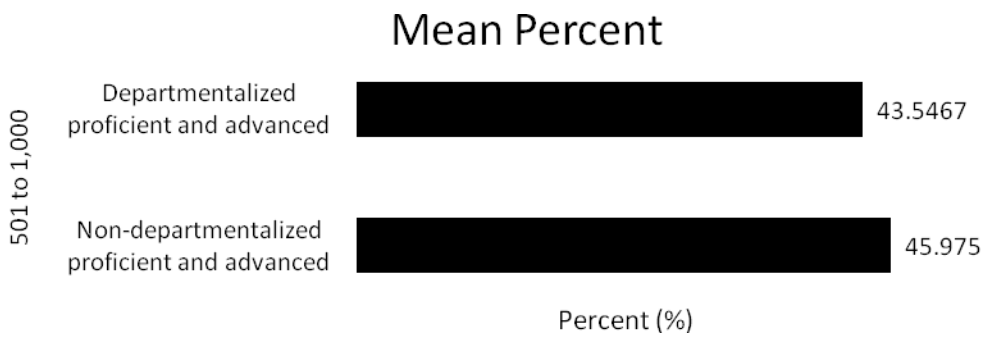

Figure 2. Elementary Schools 501 to 1,000 Students

Figure 3 shows mean comparisons between departmentalized and non-departmentalized schools for the years 2006, 2007, and 2008 in the advanced and proficient categories with an elementary population from one thousand and one to one thousand five hundred students. It was observed that non-departmentalized schools have a higher mean of scores in the advanced and proficient range of achievement. The null hypothesis was accepted.

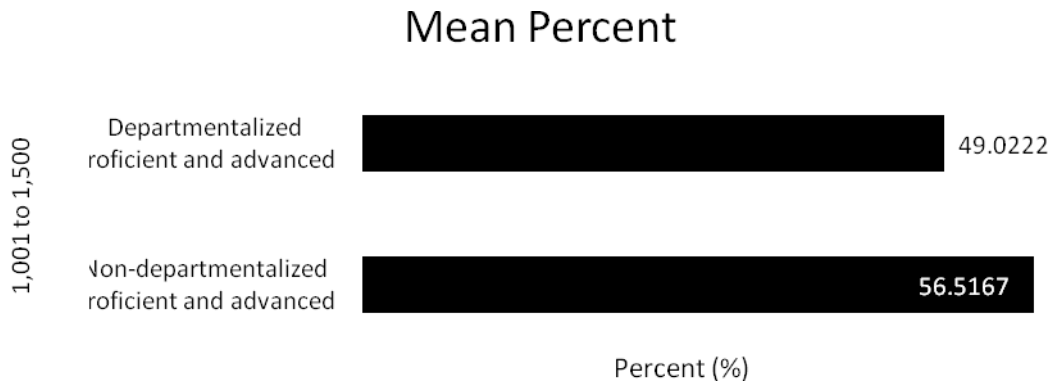

Figure 3. Elementary Schools 1,001 to 1,500 Students

Figure 4 shows mean comparisons between departmentalized and non-departmentalized schools for the years 2006, 2007, and 2008 in the advanced and proficient categories with an elementary population from one thousand five hundred and one to two thousand students. It was observed that non-departmentalized schools have a higher mean of scores in the advanced and proficient range of achievement. The null hypothesis was accepted.

Figure 4. Elementary Schools 1,501 to 2,000 Students

Table 1 shows all schools mean comparisons between departmentalized and non-departmentalized schools for the years 2006, 2007, and 2008 in the advanced and proficient categories. It also reflects the standard deviation and the standard error mean. It was observed that non-departmentalized schools have a higher mean of scores in the advanced and proficient range of achievement. The null hypothesis was accepted.

Table 1. Mean Between Departmentalized and Non-Departmentalized

One-Sample Statistics

	N	Mean	Std. Dev.	Std. Error Mean
Less than 500 Non-departmentalized proficient and advanced	144	49.6306	14.16882	1.18074
Less than 500 Departmentalized proficient and advanced	222	40.3414	12.01556	.80643
Less than 1000 Non-departmentalized proficient and advanced	24	45.9750	9.01121	1.83941
Less than 1000 Departmentalized proficient and advanced	30	43.5467	5.19799	.94902
Less than 1500 Non-departmentalized proficient and advanced	18	56.5167	7.48451	1.76412
Less than 1500 Departmentalized proficient and advanced	18	49.0222	7.11283	1.67651
Less than 2000 Non-departmentalized proficient and advanced	6	56.7000	3.98397	1.62645
Less than 2000 Departmentalized proficient and advanced	12	46.8333	4.27792	1.23493

Figure 5 represents the results of the Confidence Interval Comparision for departmentalize and non-departmentalized schools with an elementary population up

to five hundred elementary students. A confidence interval gives an estimated range of values. If independent samples are taken repeatedly from the same population, and a confidence interval calculated for each sample, then a certain percentage (confidence level) of the intervals will include the unknown population parameter. Confidence intervals were calculated at ninety five percent. The width of the confidence interval gives us some idea about how uncertain we are about the unknown parameter. A very wide interval may indicate that more data should be collected before anything very definite can be said about the parameter. Confidence intervals are more informative than the simple results of hypothesis tests (Runyon 2000). The results of the comparison for this population size seem to indicate that in both the upper and lower intervals non-departmentalized schools have a higher mean of students in the advanced and proficient categories. In fact according to this data the highest performing departmentalized school does not exceed the mean of advanced and proficient students of the lowest performing non-departmentalized school. Therefore the null hypothesis can be accepted at a ninety five percent confidence level for the five hundred elementary students and less category.

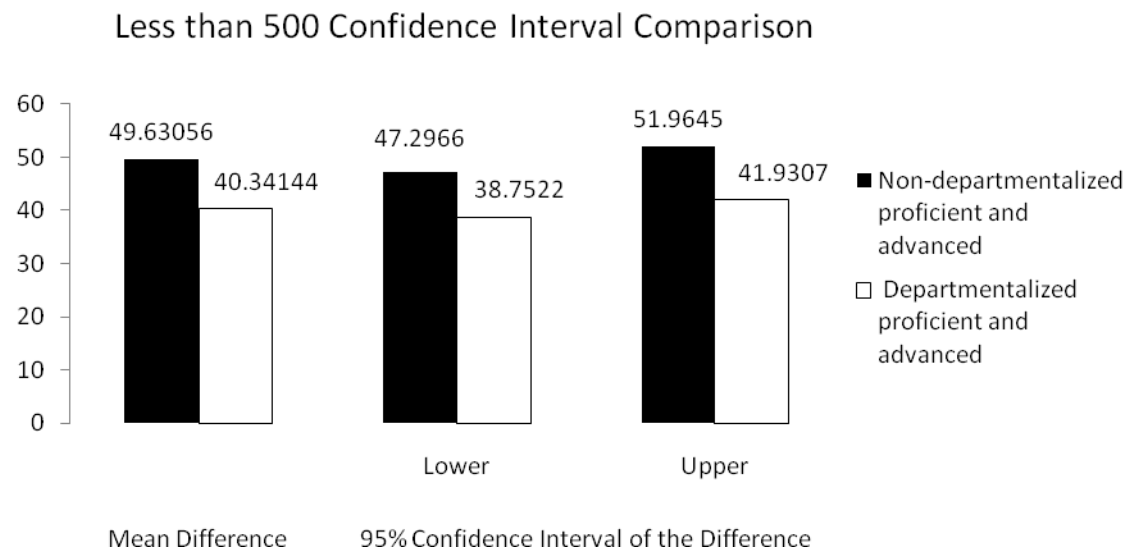

Figure 5. Confidence Interval Comparison for Less than 500 Students

Figure 6 represents the results of the Confidence Interval Comparision for departmentalized and non-departmentalized schools with an elementary population from five hundred and one to one thousand elementary students. The results of the comparison for this population size seem to indicate that in both the upper and lower intervals non-departmentalized schools have a higher mean of students in the advanced and proficient categories. However in this population category the intervals are much closer than the intervals in the other population categories (See Figure 10). The results still indicated with a ninety five percent confidence interval that non-departmentalized schools with

a population between five hundred and one to one thousand elementary students have a higher mean of students in the advanced and proficient categories than departmentalized schools.

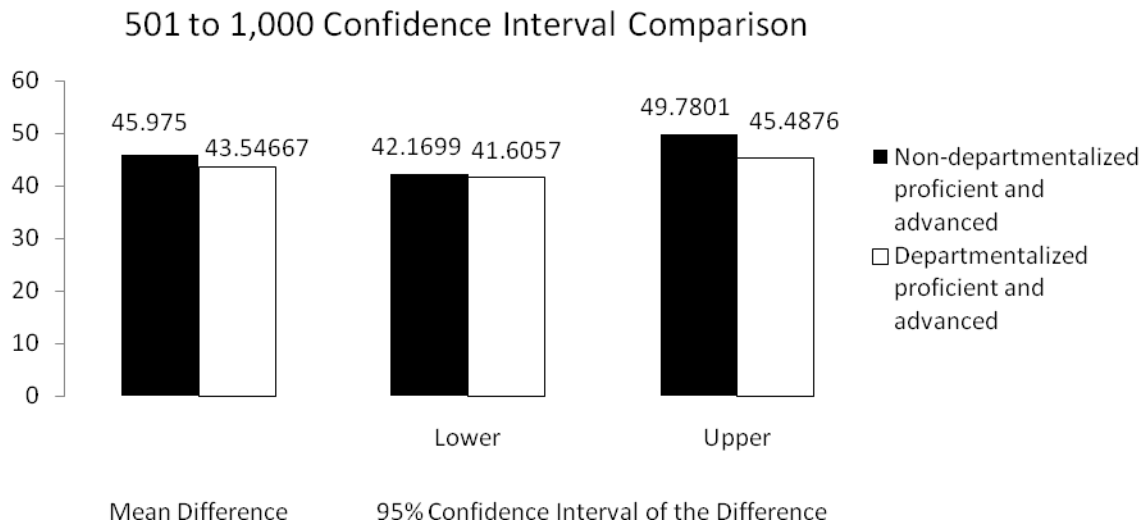

Figure 6. Confidence Interval Comparison for 501 to 1,000 Students

Figure 7 represents the results of the Confidence Interval Comparision for departmentalized and non-departmentalized schools with an elementary population from one thousand one to one thousand five hundred elementary students. The results of the comparison for this population size seem to indicate that in both the upper and lower intervals non-departmentalized schools have a higher mean of students in the advanced and proficient categories. This researcher noted that the upper confidence level of the

departmentalized school is very close to the lower level of the non-departmentalized school. It should also be stated that the sample size in this category was less than fifty; therefore the results of this comparison are not as reliable. The results still indicated with a ninety five percent confidence interval that non-departmentalized schools with a population between one thousand and one to one thousand five hundred elementary students have a higher mean of students in the advanced and proficient categories than departmentalized schools.

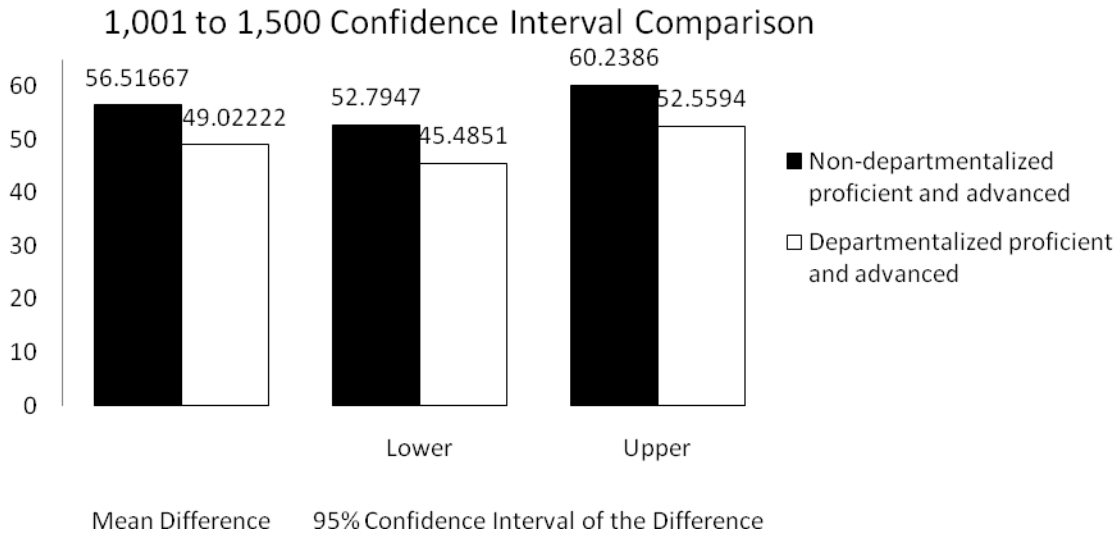

Figure 7. Confidence Interval Comparison for 1,001 to 1,500 Students

Figure 8 represents the results of the Confidence Interval Comparision for departmentalized and non-departmentalized schools with an elementary population one

thousand five hundred and one to two thousand elementary students. The results of the comparison for this population size seem to indicate that in both the upper and lower intervals non-departmentalized schools have a higher mean of students in the advanced and proficient categories. It should also be stated that the sample size in this category was less than 50; therefore the results of this comparison are not as reliable. The results still indicated with a 95 percent confidence interval that non-departmentalized schools with a population one thousand five hundred and one to two thousand elementary students have a higher mean of students in the advanced and proficient categories than departmentalized schools.

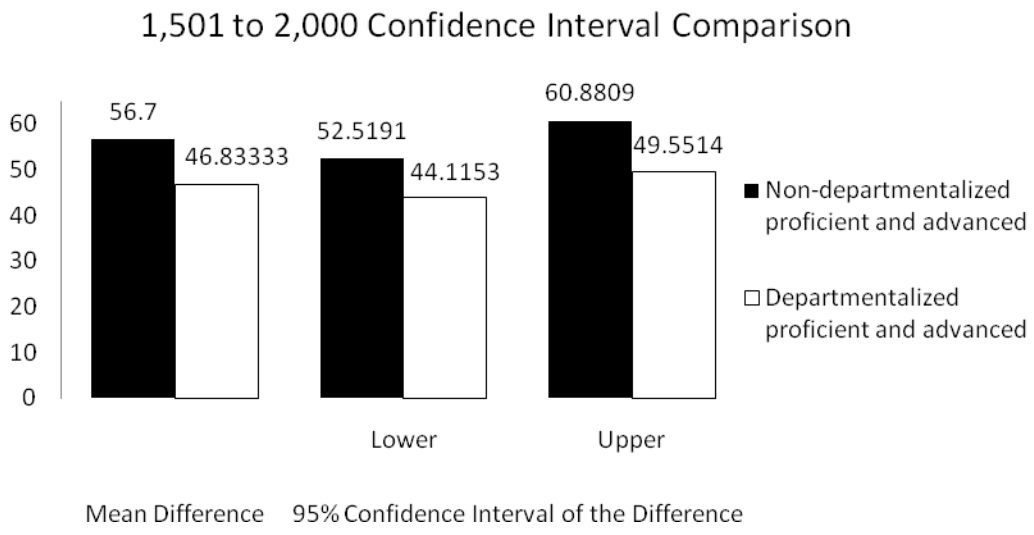

Figure 8. Confidence Interval Comparison for 1,501 to 2,000 Students

Table 2 represents all populations studied. This table includes the t scores of all the schools as well. This figure shows that with a ninety five percent confidence interval, in all population categories non-departmentalized schools had a higher mean of students in the advance and proficient categories. It should be noted that in the one thousand one to one thousand five hundred population range and the one thousand five hundred and one to two thousand population range the sample size was less than fifty which makes the data less reliable.

Table 2. Represents the Correlation of All Populations

	Test Value = 0				
	t	df	Mean Diff.	95% Confidence Interval of the Difference	
				Lower	Upper
Less than 500 Non-departmentalized proficient and advanced	42.034	143	49.63	47.2966	51.9645
Less than 500 Departmentalized proficient and advanced	50.025	221	40.34	38.7522	41.9307
Less than 1000 Non-departmentalized proficient and advanced	24.994	23	45.97	42.1699	49.7801
Less than 1000 Departmentalized proficient and advanced	45.886	29	43.54	41.6057	45.4876
Less than 1500 Non-departmentalized proficient and advanced	32.037	17	56.51	52.7947	60.2386
Less than 1500 Departmentalized proficient and advanced	29.241	17	49.02	45.4851	52.5594
Less than 2000 Non-departmentalized proficient and advanced	34.861	5	56.70	52.5191	60.8809
Less than 2000 Departmentalized proficient and advanced	37.924	11	46.83	44.1153	49.5514

Studied

Table 3 illustrates the correlation coefficient between school size, departmentalization and student

achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools. The figure represents the five hundred students and below populations. According to the data there does not seem to be a correlation between school size and achievement as the correlation coefficient is -.058. There was no significant relationship at the .493 level of significance which would make any degree of correlation irrelevant. In order to be considered a moderate correlation, the correlation coefficient would need to be greater than 0.5.

Table 3. Correlation Coefficient Between School Size (Less than 500), Departmentalization and Student Achievement

Correlations

		Less than 500 Non-departmentalized proficient and advanced	Less than 500 Departmentalized proficient and advanced
Less than 500 Non-departmentalized proficient and advanced	Pearson Correlation	1	-.058
	Sig. (2-tailed)		.493
	N	144	144
Less than 500 Departmentalized proficient and advanced	Pearson Correlation	-.058	1
	Sig. (2-tailed)	.493	
	N	144	222

Table 4 shows the correlation coefficient between school size, departmentalization and student achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools. This figure represents elementary student populations between five hundred and one and one thousand. According to the data there does not seem to be a correlation between schools this population size and achievement as the correlation coefficient is -.201. **T**here was no significant relationship at the .347 level of significance which would make any degree of correlation irrelevant. In order to be considered a moderate correlation, the correlation coefficient would need to be greater than .5. A high correlation coefficient would need to be closer to 1.

Table 4. Correlation Coefficient Between School Size (501 to 1,000), Departmentalization and Student Achievement

Correlations

		501 to 1,000 Non-departmentalized proficient and advanced	501 to 1,000 Departmentalized proficient and advanced
501 to 1,000 Non-departmentalized proficient and advanced	Pearson Correlation	1	-.201
	Sig. (2-tailed)		.347
	N	24	24
501 to 1,000 Departmentalized proficient and advanced	Pearson Correlation	-.201	1
	Sig. (2-tailed)	.347	
	N	24	30

Table 5 shows the correlation coefficient between school size, departmentalization and student achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools. This figure represents elementary student populations between one thousand and one and one thousand five hundred. According to the data there does not seem to be a correlation between schools this population size and achievement as the correlation coefficient is .293. There was no significant relationship

at the .238 level of significance which would make any degree of correlation irrelevant. In order to be considered a moderate correlation, the correlation coefficient would need to be greater than .5. A high correlation coefficient would need to be closer to 1. However this population size seems to have a higher correlation than the five hundred and less and the five hundred one to one thousand populations. It should also be noted that the sample size of this population group was less than fifty. A sample size less than fifty could make the results of the data less reliable.

Table 5. Correlation Coefficient Between School Size (1,001 to 1,500), Departmentalization and Student Achievement

Correlations

		1,001 to 1,500 Non-departmentalized proficient and advanced	1,001 to 1,500 Departmentalized proficient and advanced
1,001 to 1,500 Non-departmentalized proficient and advanced	Pearson Correlation	1	.293
	Sig. (2-tailed)		.238
	N	18	18
1,001 to 1,500 Departmentalized proficient and advanced	Pearson Correlation	.293	1
	Sig. (2-tailed)	.238	
	N	18	18

Table 6 shows the correlation coefficient between school size, departmentalization and student achievement when comparing advanced and proficient percentages on the sixth grade Missouri Assessment Program results of Southwest Missouri schools. This figure represents elementary student populations between one thousand five hundred and one and two thousand. According to the data there seems to be a moderate correlation between schools with this population size and achievement as the correlation coefficient is .578. However, because the level of significance is .230 one cannot consider this data as accurate. In order to be considered a moderate correlation, the correlation coefficient would need to be greater than .5. A high correlation coefficient would need to be closer to 1. This population size seems to have a higher correlation than all of the other population sizes. It should also be noted that the sample size of this population group was less than fifty. A sample size less than fifty could make the results of the data less reliable.

Table 6. Correlation Coefficient Between School Size (1,501 to 2,000), Departmentalization and Student Achievement

Correlations

		1,500 to 2,000 Non-departmentalized proficient and advanced	1,500 to 2,000 Departmentalized proficient and advanced
1,500 to 2,000 Non-departmentalized proficient and advanced	Pearson Correlation	1	.578
	Sig. (2-tailed)		.230
	N	6	6
1,500 to 2,000 Departmentalized proficient and advanced	Pearson Correlation	.578	1
	Sig. (2-tailed)	.230	
	N	6	12

Summary

Departmentalization has received support because of the idea that it helps schools meet the demands of standardized testing by allowing students to receive basic education from teachers specialized in particular disciplines and allowing grade-level instructional teams to be formed to coordinate teaching efforts across each discipline(Chan, 2004). Junior high school originally departmentalized in order to improve academic outcomes, repeated findings that they “fared no better than traditional 8-4 organizations” continued to undermine their

purpose (, p. 20). Moreover “extensive departmentalization” led some critics to declare that junior high schools were no more than “vestibules molded in the architecture as the high school to which they open” (Lutz, p. 21). At this point, some educators began to argued that grades six through eight should be separated from both elementary and high school: middle schools began to emerge. However, “the first middle schools developed to only mimic the structure of the junior high, moving heavy departmentalization even lower into the grade structure” (Lutz, 2004, p. 22). According to the data presented in chapter four opponents of departmentalization seem to have a strong argument. This study demonstrates there does not seem to be a correlation between departmentalization and achievement in the advanced and proficient range of the Missouri Assessment Program.

CHAPTER FIVE-DISCUSSION

One of the most notable innovations of traditional junior high schools, first instituted in the 1920s, was departmentalization (Hargreaves & Shirley, 2008; Lutz, 2004). Modeled after high school practice, departmentalization was introduced with the new grade reconfiguration as an innovation designed to improve student achievement (Lutz, 2004, p. 19).

In 1950 the Missouri Board of education designed accreditation standards for Missouri schools. These standards have undergone many revisions. In 1990 the Missouri School Improvement Program (MSIP) experienced a major revision that required that all district be accredited. A school could achieve accreditation by taking part in a five year review cycle designed by the Department of Elementary and Secondary Education (DESSE).

MSIP and NCLB have mandated accountability for districts and teachers. This accountability has lead local schools to research what instructional and structural methods will yield the most dramatic results on the Missouri Assessment Program (MAP). The focus of this study was to determine what structure will yield the highest gains in student achievement. Specifically this study

looked at departmentalized settings at the sixth grade level and compared them to similar size schools that were not departmentalized.

Departmentalization was introduced with the new grade reconfiguration as an innovation designed to improve student achievement (Lutz, 2004, p. 19). Junior high schools “mirrored the highly departmentalized high schools” they were modeled after, but included a few activities and programs for younger adolescents (p. 20). In the 1960s, however, criticism began to emerge about the effectiveness of departmentalizing at the middle school level.

The fact that many middle schools as implemented do not live up to the middle school concept, and again that others have critiqued the middle school concept, and now call for a return to K-8 grade alignment, greatly complicates the debate between self-contained and departmentalized classrooms (Akos, 2002; Ansalone & Ming, 2006; Beane & Lipka, 2006; Busher, 2005; Cooper & Liou, 2007; Felner & Seitsinger, et al., 2007; Fisher & Frey, 2007; Green, 2006; Munoz & Ross, et al., 2007; Nichols, 2001; Nichols, 2008; Patton, 2005; Thiers, 2006; Yecke, 2006).

Junior high schools originally departmentalized in order to improve academic outcomes; repeated findings that

they “fared no better than traditional 8-4 organizations” continued to undermine their purpose (Lutz, p. 20). These findings that junior high school fared no better than traditional 8-4 organizations, combined with a leadership role in a fifth and sixth grade school inspired the researcher to investigate if departmentalization was a structure that could contribute to producing high achievement on the Missouri Assessment program.

In this chapter the researcher will conclude what the research suggested in relationship to the independent and dependent variables of this study. Implications on current and future practices will be drawn based on the research data. Finally the researcher will make recommendations for further study.

Conclusion

As a result of the evolution of departmentalization, a debate continues over whether self-contained or departmentalized classes are best for middle school students. In general, Lutz (2004) found that in struggling to meet the mandates of NCLB some middle schools have strengthened departmentalization, others have loosened the grip of departmentalization, while others have reverted to self-contained classrooms, all changes intending to improve team teaching and student-teacher interactions in the

middle school context. During the era of accountability, schools were reformed in many different ways designed to increase student achievement as measured by their scores on standardized tests. However, some researchers argued that the age of post-standardization may be upon us, resulting in a retreat from many of the less successful reform efforts of recent years (Hargreaves & Shirley, 2008). The research and data from this study suggested that one of the reforms that should be re-visited is that of departmentalization of communication arts and mathematics at the sixth grade level.

Implications

The adoption of the structure of departmentalization in the sixth grade should be made with extreme caution. The literature review in this study suggested mixed results between self contained math and communication classroom performance and departmentalized math and communication performance. Though no causal relationship can be stated, the data suggested that schools that are departmentalized for communication arts and math do not have as many students performing in the advanced and proficient categories of the Missouri Assessment Program. There are many schools at the sixth grade level that use the departmentalized structure as a means of delivering

instruction. In addition schools departmentalize to improve performance on the Missouri Assessment Program. This research suggested that schools reconsider their current structure to move from departmentalized communication arts and mathematics to self contained instruction in communication arts and mathematics.

Research suggested that relationships are fractured as part of transitions. The loss of social support “can be especially jarring for pre-adolescents, who crave social acceptance” (Saxbe, p. 22). School leaders need to determine if a structure that produces multiple transitions, departmentalization, and negative achievement results, as well as higher dropout rates (Saxbe, 2003, p. 22), is a structure that has a place in their schools.

There are also implications for teachers. Currently teachers in departmentalized classrooms prepare for one subject. If school leaders move to a K-8 structure teachers will have increased planning demands. This could have a negative impact on their job satisfaction, and affect the school culture and climate.

Recommendations for Further Study

The completion of the study allows for an examination of ways in which to proceed with future research. The accuracy of the results of this study could be improved by

increasing the sample size of the larger school districts. In addition the study could be expanded to study the achievement of statewide departmentalized schools as well as the impact of departmentalization nationwide. Studies that focus on achievement in subjects such as science and social studies could also give more information about the practice of departmentalization at the sixth grade level. Departmentalization could be studied to determine its effectiveness in the upper grades. It may be useful to study the multiple structures inside departmentalization and determine which structure yields the highest achievement results. A study that looks at the graduation rates in relation to departmentalized sixth grade schools could yield useful results. The study serves as evidence that practices that are implemented to improve performance of schools are not always effective and should be questioned and revised constantly in order to ensure the highest quality of education for future generations. When educators fail to question the status quo it could be detrimental to students. Educators must constantly make educated, research based changes. When they are faced with painful changes that will take time and effort they must ask “what if it were my child,” and make the change.

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APPENDIX A-TELEPHONE SURVEY

My name is Shawn Page, I am in the process of completing my Doctoral Dissertation for Lindenwood University. Currently I am involved in a study regarding departmentalized and non departmentalized schools and academic performance in communication arts and mathematics. For the purpose of this study a departmentalized school is a school that changes teachers for communication arts and mathematics. You understand that any response given to this survey will be kept confidential. The results of this research project will be kept by the researcher in a locked cabinet in a home office for three years.

From the years 2006 to 2008 was your school departmentalized or non-departmentalized?

Thank You

Vita

Shawn Page presently works for Aurora School District in Missouri as a principal. His education includes over 9 years of special education teaching experience in various grade levels. Mr. Page is interested in serving as a superintendent.

Shawn is from the small town of Simi Valley, CA. He received his undergraduate degree from Chico State University in California. He holds a Master’s Degree in Special Education from California Lutheran University. He obtained a Specialist Degree from Lindenwood University at the Nixa, MO campus. His major was Education Administration. His Doctor of Education was also attained through Lindenwood University in Education Administration.

Shawn is married to Lindsay Page, who stays at home with his two young children. His interests include: spending time with family, traveling; and outdoor activities.