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Student Achievement and Teacher Perception in Small Schools and Large Schools

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STUDENT ACHIEVEMENT AND TEACHER PERCEPTIONS IN SMALL SCHOOLS

AND LARGE SCHOOLS

by

Frances Irene Dearman

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

Approved:

May 2008

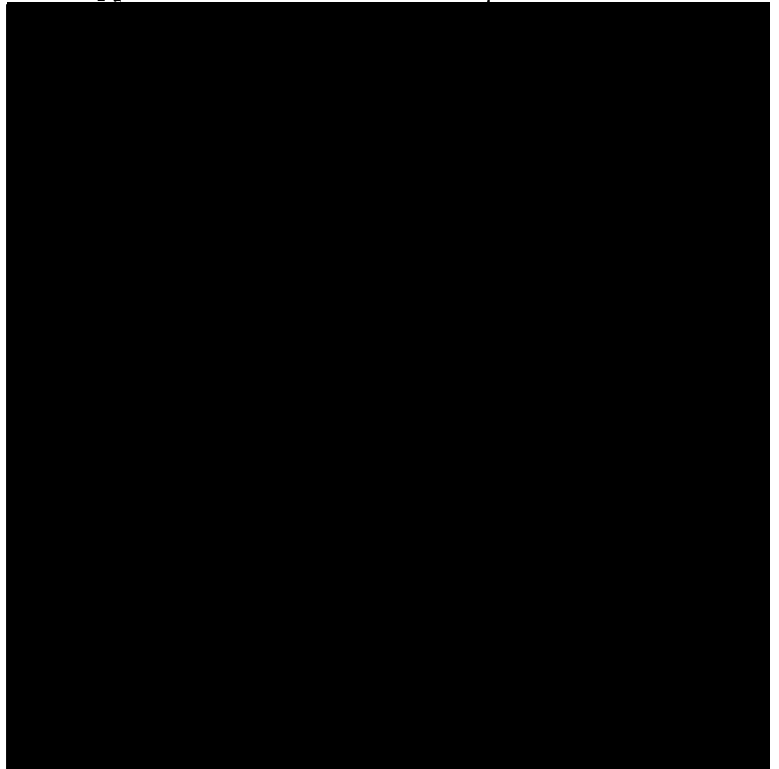The University of Southern Mississippi

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ABSTRACT

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This study analyzed student achievement in various school sizes and teachers'

perceptions of relationships and interactions with colleagues, students, and parents

depending on the size of the school in which teachers work. The purpose was to assist

school leaders when they are faced with decisions about school size.

Simple linear regression was used to analyze the relationship of achievement and

school size of fourth grade students. The variables mathematics achievement and size and

language arts achievement and size were positively correlated. These findings suggest

that as the size of a school increases, achievement increases. After holding the variables

socioeconomic status and race constant, a negative correlation was found between

mathematics achievement and size, suggesting that as the size of a school decreases,

achievement increases.

The means of the levels of teachers' perceptions in large schools and small

schools were compared using an independent t test. Two significant differences were

found between teachers' perceptions of relationships and interactions with colleagues,

students, and parents.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

Chapter I begins with a brief background overview of the history of school sizes. The purpose of the study and the research questions analyzed are presented, followed by definitions of unique terms used in the study. Next, the assumptions of the researcher, the limitations, and delimitations are stated. Last, a justification for the study is affirmed.

The question of what ignites student learning is pondered by educators daily, especially with high-stakes testing, the demands of *No Child Left Behind*, state accountability, and accreditation. Therefore, educators are seeking the answer to this complicated question. Educational leaders of large schools sometimes attempt to increase student learning by creating smaller schools, schools-within-schools, academic clusters, and communities within these large schools. In contrast, educational leaders of small schools sometimes contemplate consolidating small schools to increase student learning. To answer the question of what enhances student learning, administrators in education attempt to discern the ideal school size and whether teachers' perceptions of their interactions and relationships with students, colleagues, and parents vary with the size of their school. With this in mind, the present study examined the relationship between school size and student achievement for fourth grade students and the difference in teachers' perceptions in small schools and teachers in large schools.

Background

During the Progressive Period (1890-1913), the role of American schools changed. Originally, students in American schools were taught in one-room schools with every age group, ability level, and subject taught by one teacher. As schools started

providing more services, there was a need for more teachers to help with teaching and clerical duties.

As more and more children began to attend school, the one-room schoolhouses could not accommodate the large number of children with so many different ages and levels. New buildings with lunchrooms and gymnasiums began to be built. Eventually, schools began consolidating, and larger buildings were needed. As populations grew, central administrations that oversaw multiple small districts evolved. The grades were separated into their own levels, and mandates were set for what had to be taught. The rise of the elementary schools and secondary schools came about with the division of the schools into grades.

During the last 100 years, students have transitioned from small schools to large schools. Schoeniein (2001) quotes Cotton, who observed that more than 70% of high school students attend schools with more than 1,000 students. Policymakers and educators have closed nearly 70% of the nation's schools since 1940 (Schoeniein, 2001). This was done by consolidation (Lawrence, 2006). In the present time, educators have revisited the decisions to consolidate in an effort to increase student achievement and have begun to create smaller schools and small learning environments within large schools in an effort to increase student achievement.

Purpose of the Study

Today, the educational aspirations for student achievement are high. The demand for education and high student achievement is widespread. This study is needed to assist school administrators and policymakers when they are faced with the decisions of whether to combine small schools, to create smaller schools, or find ways to produce the

small-school atmosphere within large schools. Each year during planning meetings administrators are challenged by local citizens to consolidate small schools for economic purposes or for curriculum expansion. In contrast, many district school boards and superintendents are confronted by local citizens who want to keep their small community schools. Administrators who are attempting to create school environments that are smaller and more personal are asked by board members to articulate the advantages of creating small units within large settings. Therefore, the researcher explored the advantages and disadvantages of having small schools and large schools. In addition, the researcher investigated teachers' perceptions in small schools and large schools. For the purpose of this study, the researcher analyzed student achievement in elementary schools.

Research Questions

This study examined the following research questions.

1.   Is there a relationship between the size of an elementary school and the achievement levels of students?

2.   Is there a difference in teacher perceptions of relationships and interactions with teachers, students, and parents depending on the size of the school in which teachers work?

Hypotheses

The hypotheses formulated for this study were:

H_1:   There is a relationship between the size of an elementary school and the achievement levels of students.

H$_2$:   There is a difference between the perceptions of relationships and interactions with teachers, students, and parents depending on the size of the school in which teachers work.

Definition of Terms

Academic achievement - level of academic proficiency acquired by students. In Mississippi, achievement is calculated by a state-set level of proficiency in the areas of language arts and math.

Large elementary school - there is no set definition of a large elementary school; however, the researcher defined a large elementary school as a school having 500 or more students.

Medium-sized elementary school - for the purpose of this study, an elementary school having 401-499 students.

Mississippi Curriculum Test - the annual state tests that Mississippi administers to students in grades 3-8 to measure student achievement each year in language arts and math.

Small elementary school - there is no set definition of a small elementary school; however, the researcher defined a small elementary school as a school having 400 or fewer students.

Assumptions

- Since the data in this study were acquired from self-reporting questionnaires, it was assumed that the respondents would answer honestly.

- This study also assumed that the individual designated by the researcher to administer the survey followed the prescribed instructions.

- This study assumed that the achievement of fourth grade classes would mirror the achievement of the entire school.

Limitations

- The study was limited to one particular state in the southern part of the United States.

- This study was limited to one grade level.

- The study's focus was only at the elementary level.

Delimitations

- The study was intentionally focused upon elementary schools.

- The survey instrument depended solely on self-reporting data.

Justification of the Study

School size has transitioned from small one-room schoolhouses to large learning units. With the many demands of accountability and accreditation, some educators and policymakers support creating smaller, more intimate learning environments by means of smaller schools or schools-within-schools.

Researcher Cotton (1996) reviewed 103 documents that addressed school size and some aspect of schooling. Several documents were repetitious so she retained only 69 documents. About half of the research indicated no significant relationship between school size and student achievement. The other half found student achievement in small schools to be superior to student achievement in large schools (Cotton, 1996). Only five of the documents studied the relationship between school size and student achievement at

the elementary level. Therefore, for the purpose of this study, the researcher found it beneficial to conduct research on the relationship between school size and elementary students.

Nearly half of all new teachers leave the profession within 5 years. Every year, 200,000 new teachers enter the profession of teaching and 22,000 leave the profession before the end of the first year. As many as 30% of the teachers in the United States are in transition, either moving to another school or getting out of the profession altogether (Graziano, 2005). Some of the editorial literature indicated that the perceptions of teachers in small schools regarding relationships and interactions with colleagues, students, and parents are more positive than that of teachers in large schools; some literature points to opposite trends. However relevant research literature does not support one trend or another. Therefore, the researcher was interested in the perceptions of teachers in small school environments and large school settings.

Summary

Chapter I began with a brief history of school sizes in the United States. A summary of the purpose of this study and list of research questions followed, Next, definitions of specific terms that may need to be clarified for the reader were defined. Assumptions, limitations, and delimitations of the research project were provided to the reader. Last, a justification for the study was expressed.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the literature related to the topic of student achievement and teacher

satisfaction in small schools and large schools begins with an overview of a brief history

of the sizes of schools as they evolved in the United States, followed by the theoretical

foundation that provided the foundation for this inquiry into small and large schools.

Next, a review of studies is explored. Following a review of studies, professional

perspective literature is examined with an emphasis on the characteristics of small

schools and the characteristics of large schools. Last, the relationship of poverty level and

race to student achievement is briefly explored.

History

Schools in the United States started out in most instances as very small one-room

schoolhouses. In 1930, one-room schoolhouses accounted for nearly 70% of the nation's

public schools (Mitchell, 2000).On October 4, 1957, the Soviet Union launched Sputnik,

the first artificial object into space. The launching had a profound effect on American

educators and policymakers. This significant event created a feeling of inferiority among

American educational leaders.

Among the impacts of Sputnik, school leaders and policymakers agreed that small

schools were hindering America's ability to compete with Soviet technology and to win

the Cold War (Mitchell, 2000). As a result, state and local governments began to close

small schools and create larger units. The total number of elementary and secondary

public schools declined 69% between 1940 and 1990, dropping from approximately

200,000 to 62,037 during this period of time. This decline took place during a period

when the United States population increased by 70% (Walberg, 1994; Howley, 1994).

During this era, the average school enrollment rose from 127 to 653. The number of high

schools with more than 1,500 students doubled in the last decade. Two-fifths of

America's high schools enroll more than 1,000 students. In today's urban and suburban

settings, high school enrollments of 2,000 and 3,000 are common, and New York City

had many schools with enrollment nearing 5,000 (Henderson & Raywid, 1994).

Today, the "small school" movement is increasing. Some big cities are

transforming large public education organizations into smaller units, and some small

schools are gaining advocates. The "small school movement" has been endorsed by

former Vice President Al Gore and former United States Education Secretary Richard

Riley. The movement was provided momentum by shootings at Columbine High School

which housed 2,000 students. Vice President Al Gore criticized school districts for

"herding all students into overcrowded, factory-style high schools." A panel of security

experts and Education Secretary Richard Riley recommended reducing the size of

America's schools. In September 1999, Riley told the National Press Club that the nation

needed to create small schools where students are supported and feel connected (Mitchell,

2000).

Another emerging concept is the "school within a school." The "school within a

school" is a planning strategy for large schools to create a small school atmosphere in

which it is believed that the intimacy and personalization of small schools can be

accomplished. Typical strategies include breaking the total student population into

smaller cohorts who share designated parts of the facility, are assigned to the same

faculty, and benefit from unique counseling/advisory services.

The "school within a school" structure is a way to divide large high schools into

small, manageable entities. The students become part of a social setting where students,

parents, and teachers can have closer relationships that mirror small school environments

without sacrificing the advantages that large schools offer (DeJong & Locker, 2006).

Theoretical Framework

The purpose of this research was to examine the relationship between school size

and achievement and school size and teacher perceptions on size. However, size alone

does not create the benefits in small schools; "it is the personalization and responsiveness

and the sense of community that smallness and less formal structures permit" (Raywid,

1998, p. 1). Smallness has benefits that combine parent involvement and support which

yield more students' engagement. The combination usually enhances teacher efficacy and

support (Raywid, 1997). The theories presented represent the enhancement of student

achievement which are usually more apparent in small schools or communities of

learners.

The engagement theory, involvement in learning activities through interaction

with others and meaningful tasks, focused on three components: collaboration, project

orientation, and authentic focus on realistic learning (Kearsley & Shneiderman, 1999).

Most educators agree that students learn best in a safe, humane, and welcoming

classroom community. Small schools or communities of learners can provide an

environment where students are participants and can develop as whole individuals

socially, cognitively, emotionally, aesthetically, physically, and spiritually. According to

the work of Maslow (1970), students must first feel a sense of safety, belongingness, and self-esteem before they can focus on the higher level needs that are necessary for academic success.

Social interaction plays a fundamental role in cognitive development. Vygotsky's theoretical framework centers on this belief. Vygotsky (1978) stated,

> Every function in a child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

Vygotsky's theory also supports the idea that cognitive development is dependent upon the "zone of proximal development" (ZPZ), a development level attained when children engage in social behavior. His theory supports that what a child can develop with adult guidance and peer collaboration is far greater than what can be mastered alone. He believed that full cognitive development requires social interaction (Vygotsky, 1978).

Vygotsky's theory on social development is complementary to the social learning theory of Bandura and Lave's situated learning. The Bandura theory emphasizes that maximum learning occurs when students can observe and model behaviors, attitudes, and emotional reactions of others. Bandura (1977) stated,

> Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effect of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling,

from observing others and forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action. (p. 22)

Additionally, social interaction and collaboration are crucial components of Lave's situated learning theory, which emphasizes that learning occurs as a function of the context, activity, and culture in which it occurs; it is situated. Learners become involved in a "community of practice." According to situated learning, a new learner over time moves from the periphery of the community of learning to the center where he or she becomes more engaged and active in the learning process. Situated learning is considered unintentional and is called the process of "legitimate peripheral participation" (Lave & Wenger, 1990). In small schools or "communities of learners," students are likely to be familiar with other students and teachers; therefore, students do not have to repeatedly move from the periphery of the community to its center. Because the students do not have to transition from one stage to the other each year, they often continue to be actively engaged learners with the culture.

Another learning theory that is reliant upon collaboration and social learning is social constructivism. Constructivism is a theory that supports the idea that students are self-learners. Students build knowledge structures in their minds. Students do not solely rely on what is presented by the teacher, but they make connections based on their knowledge and experiences.

Cognitive flexibility theory builds on the constructivist theory; and the theory stresses the importance of constructed knowledge in which students have opportunities to create their own representations of information. Spiro and Jehng (1990) stated:

By cognitive flexibility, we mean the ability to spontaneously restructure one's

knowledge, in many ways, in adaptive responses to radically changing situational

demands. This is a function of both ways knowledge is represented and the

processes that operate on those mental responsibilities. (p. 165)

Like constructivism, cognitive flexibility is characterized by the transfer of knowledge

beyond their initial learning condition; therefore, knowledge foundation should be highly

interconnected rather than compartmentalized.

According to Schubert (2000), Dewey's theories are supportive of the "small

school" concept if implemented as a social reconstruction. Small schools can resemble

Dewey's "utopian school" if members of society are contributors and part of the learning

process, regardless of age. For example, even younger children with special talents can

teach older students. Utopian schools, according to Dewey, "discover and develop the

positive powers of students" (Schubert, 2000, p. 138). This capacity is more frequently

found in small school settings where students are more involved in extracurricular

activities. Students in smaller schools have a greater chance of making the cheerleading

squad, the football or baseball team, the show choir, or other school activities. Therefore,

small schools often develop the positive aspects of more students than large schools do

since the students have more opportunities to participate in school activities (Ornstein,

1990).

Immediacy and engagement are theories that are similar to constructivism,

situated learning, Vygotsky's theory on social learning, and Bandura's social learning

theory. All embrace the idea that cognitive development requires social interaction in

learning activities with others and worthwhile tasks. A Rural Trust report on school size

found that small schools usually have small class sizes. Gains in achievement in all subject areas in primary small classes have been found, and these gains continue in middle and high school, even if students are later placed in larger classes. Researchers proposed that teachers in small schools and classes can form closer relationships with their students and offer individual instruction. Researchers also feel that students have more opportunities and teacher and peer support to develop the skills, habits, and self-understanding necessary to learn. According to Strike (2004), one common theory advocates small schools. The theory says that "small schools are better schools because they are more intimate and more nurturing" (p. 216).

In summary, there is a significant theoretical foundation that asserts relationships among the variables of school size, student outcomes, and positive teacher perceptions of interactions and relationships with students, parents, and colleagues. Much of it suggests that these correlations are inverse in orientation, i.e., that as school size decreases, achievement and positive teacher perceptions increase. This study was designed to test these relationships and the assumptions inherent in the theories.

Review of Studies

The following section explores research literature on school size and student outcomes. First, studies on the relationship between student achievement and school size are examined. The professional perspectives on the characteristics of small schools are reviewed, followed by the professional perspectives on the characteristics of large schools. Last, the relationship of poverty level and race to student achievement is explored.

Research Literature on School Size and Student Outcomes

Howley (1994) summarized research on the relationship of student achievement and school size. He found a high correlation with small school size and students' achievement in general and an even higher correlation with disadvantaged students.

Research has consistently shown that poverty has a negative effect on student achievement. The impact of poverty is significantly reduced when students attend small schools. Howley and Robert of Marshall University studied the relationship of poverty and school size in four states. In all four states, smaller schools decreased the impact that poverty had on test scores. Howley and Bikel concluded that one-fourth of schools serving moderate to low income students in Texas, one-third in Georgia, and two-fifths in Ohio were too large to increase student performance. The researchers also controlled for class size and found that it did not change their results. Poor students did better in small schools even if they were in large classes (Mitchell, 2000).

Because of a large percentage of high schools with graduation rates near 70% and around 55% for African Americans and Hispanics, millions of dollars have been donated by the Gates Foundation to promote and assist small school expansion (Strike, 2004). The foundation committed to helping around 500 new high schools and awarded funds to about 1,100 existing schools. The foundation focuses on two areas: creating more small high schools and reducing financial barriers for students who wish to pursue higher education. The foundation awarded grants to large, troubled high schools to help them convert themselves into smaller, more personal learning environments.. The foundation also funds the replication of small school models that have been successful. The foundation awarded the grants on the basis of the understanding that the schools have

high expectations for all students; they engage all students in a rigorous curriculum; they support four or five personalization strategies; they create a positive climate; they make strong connections with the community; and they provide teachers with opportunities to learn and improve their skills through professional development activities.

So small is an important characteristic, but it's just an enabling characteristic that allows teachers and administrators to create a rigorous and supportive learning environment. It's not a solution in and of itself, and our goal is not to focus on "small" for the sake of smallness; our goal is to make schools better and to help more kids graduate. (Vander Ark, 2003, n.p.)

Huang and Howley (1993) studied data from over 13,000 Alaskan schools in fourth-grade, sixth-grade, and eighth-grade students who had been in the same school for at least 4 years. They analyzed the relationships among student achievement, school size, and socioeconomic status. Based on the results of the Iowa Test of Basic Skills, students from lower socioeconomic backgrounds attending small schools performed better than disadvantaged students attending large schools.

The *Curriculum Administrator* analyzed the findings regarding 13,600 urban, rural, and suburban schools in 2,290 districts in four states. Researchers analyzed average school students' performances on state mandated, standardized tests. In three of the states, the poverty level was defined as the percentage of students who received free or reduced lunches. In the other states, it was measured by the students who live in families getting assistance under the Temporary Assistance to Needy Families program. In three of the states, it would found that students in less prosperous communities achieve better when they attend smaller schools. In the last state, students from all levels of poverty who

attended small schools performed better than students who attended large schools (Ferguson, 2000).

Additionally, researchers Haller, Monk, and Tien (1993) conducted a study that compared 10th-grade students in small schools and large schools on higher-order thinking skills in the areas of science and math. They found no significant difference in the students' higher-order thinking abilities, even though the larger schools typically offered more advanced courses in the areas of science and math.

In contrast, Edington and Martellano (1984) examined the achievement of students in New Mexico in a 4-year study using the variable of school size and other variables such as ethnicity and Title I status. No relationship between school size and student achievement was found; however, there was a negative relationship between student achievement and students qualifying for Title I funds. A negative relationship was also found between achievement and the presence of a high percentage of Native Americans and Hispanics in the school.

Other research reported that students in smaller schools are more likely to be distressed and troubled, according to a study appearing in *Sociology of Education* (2003). A university professor examined large and small schools to compare the number of students who are depressed, bring weapons to school, or tempt suicide. The professor reported that male students in both public and private small middle schools and high schools are four times more likely to attempt suicide than those at larger schools. They also have a higher occurrence of depression (Toppo, 2003).

Toppo (2003) also reported from this study that boys at private religious schools are nearly twice as likely as others to bring a gun to school or threaten to use it, and girls

at private religious schools are three times as likely to bring a gun or threaten to use it. The research from this study challenges widely accepted notions that small schools create safer, more nurturing environments for teenagers.

In the same study, the researcher generalized that small schools offer less diverse social groups. If a student is different in any way, he or she may be alone in an environment in a small school, whereas he or she might better identify with other students like them in larger schools. Very often, in small schools, students who are different are subject to extreme criticism. In large schools, students have more opportunities to form like-minded social groups (Toppo, 2003).

Professional Perspectives on the Characteristics of Small Schools

The benefits that many educators believe that are associated with large schools (including cost, efficiency, increased curriculum offerings, and improved student opportunities) have had more influence than what research actually says about small schools (Schoeniein, 2001). Research often indicated that smaller schools are more efficient than larger schools when it comes to school safety, student attitudes, parent involvement, student and teacher satisfaction, and dropout prevention (Raywid, as cited in Schoeniein, 2001). Schoeniein also emphasized a point that Howley made. When schools are compared in size and all other variables are held constant, small units are preferential to large units with respect to student achievement. Research also suggested that small schools provide better emotional and social support for students because students are involved in a more caring environment (Cotton as cited in Schoeniein, 2001). Because of the interest in preventing school violence, decreasing school dropouts, and targeting students with learning problems, the federal government through the U.S.

Department of Education has offered grants up to $500,000 to attract large school districts, especially urban schools, to implement measures to create smaller learning units (Schoeniein, 2001).

Some benefits of smaller schools are improved student achievement, increased attendance and graduation rates, elevated teacher satisfaction, improved school safety, and increased parent/community involvement (Mohr, 2000). Even though the present researcher was interested in achievement of all students, some researchers have looked at the benefits that small schools have on impoverished students.

Scherer cited Vander Ark, the director of education at the Bill and Melinda Gates Foundation, who identified "seven deadly sins of education." The first sin on the list was "anonymity of large schools and dehumanizing systems." Scherer also stated that large comprehensive high schools do not work for economically disadvantaged students of color (Scherer, 2002).

Compelling evidence shows that smaller schools offer students more social opportunities than large schools (Ornstein, 1990; Raywid & Schmerier, 2003). Students in small schools have a greater opportunity of being involved in some sort of extracurricular activity. Extracurricular settings in large schools and in small schools are often equal, but the number of available slots or positions in the extracurricular activities is a function of size. The number of available positions in large schools is plentiful, but when one considers the percentage of potential participants, the slots are rather limited (Morgan & Alwin, 1980). Even though students may not be as talented as the wide variety of students that could be found in larger schools, students have greater opportunities to participate and be involved in an extracurricular activity. As a result,

students are happier, more apt to stay in school, and have more self-confidence than students in larger schools that do not have the opportunity to participate in an activity or make the team because the number to select from is very large (Raywid & Schmerler, 2003). Involvement in school promotes student satisfaction, a sense of belonging, and retention in school (Raywid & Schmerier, 2003). Raywid and Schmerier (2003) concluded that student achievement can be enhanced by downsizing schools or creating schools-within-schools, especially among poor and minority students.

Lawrence (2006) observed that only reciprocal rights and responsibilities can generate accountability from both teachers and students. Stakeholders in school districts are uniformly accountable with the results of standardized tests being a major factor in school accreditation. As a result, there are strong expectations that teachers prepare lessons aligned with their state's curriculum, have the appropriate materials for class, and manage classrooms effectively in order for learning to take place. In turn, the teacher expects the student to be motivated to learn, bring the correct learning material to class, and participate in all class activities. Regrettably, that transaction between the teacher and the student does not always take place, and students' state test scores, which render accreditation levels, do not always produce positive results. Lawrence (2006) believed that having strong relationships between students and teachers will develop accountability.

Accountability comes from relationships which hold people accountable. People spend a lot of time and energy fostering strong relationships with spouses, colleagues, children, and parents. When one spends the day with people that he or she rarely knows or has the opportunity to get to know, the person will often not trust his or her coworkers

or may feel alienated. Many students, teachers, and administrators share similar feelings in large schools. The work and school environment are often difficult for all involved; consequently, personal and school accountability is hard to achieve (Lawrence, 2006).

Many assert that working in small environments or going to school in small settings in which people know each other well allows people to work differently than in large organizations where communication is often formal and very standardized. In small schools, teachers and students can develop relationships in which both share in accountability, problem solving, and decision making when possible. It is difficult to do this in a large organization. In small schools, stakeholders have a clear understanding of what their responsibilities are and when they should carry them out. When they fail to do so, it is easier to detect who is failing to meet their responsibilities, and it is easier to assist in a change of behavior, which is essential for establishing an institution of respect and accountability (Lawrence, 2006).

Lawrence (2006) spent several years working with schools in the South Bronx in the 1960s. She returned in 2004. She stated that it is still the poorest district in the continental United States and that the area looked dour. However, as she entered the newly-converted small schools, she found evidence of close relationships, pride in the school, a sense of respect among students and teachers, and individual and school accountability. She stated that the streets of the Bronx were still dangerous, but inside the school buildings a different atmosphere was apparent. She also visited several other schools in the area, and students had respect for one another, cliques were not noticeable, bullying was not seen, and respect for each other was apparent even in the midst of various personalities and interests. This could be because all involved are held

accountable each day, and the school is small enough to monitor accountability (Lawrence, 2006).

Not only can accountability be monitored, but research usually indicates that small schools have less school violence. Teachers and administrators can monitor students better with fewer students; therefore, less violence occurs. Behavior problems are much greater in large schools. Order can be maintained without as much difficulty in small schools. When order and management of behavior is present, student achievement is more likely to improve (Rotherham, 1999).

Some researchers support the idea that schools should be communities which mirror the "small school" concept. Strike (2004) emphasized the importance of the four C's of community: "cohesion, care, coherence, and contact" (p. 215). Raywid and Schmerier (2003) concluded that student achievement can be enhanced by downsizing schools or creating schools-within-schools, especially among poor and minority students. Smaller schools provide students with the opportunities to learn to deal and work through the complications and obstacles that an active community requires. A small school provides students with real-life experiences and examples in society, instead of just discussing the situations in the classroom surroundings (Mohr, 2000). Mohr (2000) stated that small schools "magnify problems that can allow them to become fodder through which the whole school can learn" (p. 140). Some researchers support reorganization for schools that is comparative with industries and governmental agencies to substitute large, prescribed, highly standardized, and bureaucratic organizational structures with smaller, more approachable, open, and flexible learning communities (Lee, Bryk, & Smith, 1993).

According to Meier (2000), the quality and quantity of unwavering personal relationships with other students and positive teacher/adult role models is at a greater risk than declining student achievement. Meier (2000) reinforced this conclusion by stating, "The glue that holds responsible relationships with other people together has largely disappeared" (p. 34). Meier (2000) also stated that by the time children are teenagers they know very few adults outside their family. Students need adults that they can get to know and count on for support and guidance. One very important and normal way to learn is to envision oneself in the position of a respected professional. On the contrary, students today have little opportunities for such learning. Meier (2000) stated:

> We have created a mythology that fuels bigness. Big schools have bigger and better teams, huge dances, large parking lots, anonymity becomes a virtue, not a vice. In a big school you can create your own sub-school. You can ignore the larger ethos for your own kind. Teachers matter less, because often no individual teacher appears more than once in a child's 4-year career in high school. By the time my son graduated from his high school of 3,000 students, he did not know a single teacher well enough to ask for a personal letter of reference. Nor did I. (p. 35)

Just as literature suggests more positive teacher perceptions and achievement among students in smaller schools, some professional research supports the idea that teachers are also better satisfied in the small school setting. Many factors affect teacher satisfaction. Small schools are often sought out among educators as a place that is different from the large school atmosphere. Educators embrace the autonomy and collaboration with other teachers (Mohr, 2000). Collaborative work environments and

flexible scheduling foster an "interdisciplinary approach" that provides students with a much wealthier educational experience (Fine & Somerville, 1998, p. 108). Mohr (2000) stated, "The smaller structure allows the kinds of interactions among adults and students that many teachers dream of and others are appalled by" (p. 140). Teachers in small schools are more likely to participate in self-selected professional development that interests them rather than mandated training by large organizations (Klonsky, 2002). Teachers and students in schools that are like small communities undergo "normation," the internalization of norms, which is essential authentic learning. Teachers are affiants of these norms. They are members of the community, much like a "guild." Therefore, teachers are "missionaries and emissaries" for their communities. Their service creates a sense of belonging and a feeling of worthiness (Strike, 2004, pp. 220-221). In small schools, teachers are able to get to know their students' needs and create a culture of learning that will meet the needs of individual students. Hamilton (2005) described the experience of a teacher working in a small school in New York City as an opportunity to grow independently and also to connect with the community. This experience helps the teacher realize his or her impact on the community (Hamilton, 2005). Therefore, teacher satisfaction and positive teacher perceptions are evident in small schools. Goodlad (1984) wrote this statement about school size and quality 20 years ago. "It is not impossible to have a good big school; it is simply more difficult" (p. 309).

Hylden (2004) concluded that small schools performed better than large schools in all significant measurements. His research affirmed the following:

> Students in small schools perform better academically, graduate at higher levels, are more likely to attend college, and earn higher salaries later on in life. They

participate more in extracurricular activities, have better rates of attendance, report greater positive attitudes towards learning, and are less likely to face school-related crime and violence. Their teachers report greater job satisfaction, and are more likely to feel as if they are succeeding in their work. Their administrators and teachers are often more able to identify problems, respond innovatively and effectively, and adapt to change. Their parents and relatives are more likely to feel as if they are succeeding in their work. (p. 3)

While extensive editorial literature exists on the topic, few researchers addressed the relationships among teacher satisfaction, teacher perceptions, and school size. A small amount of professional perspective literature asserted that teachers are better satisfied and have higher perceptions about their environment in small schools. Even though teacher job satisfaction is related to teacher retention, teacher commitment, and student achievement (Shann, 1998), there is not a sufficient amount of relevant research that supported the assumption that teachers have a higher level of satisfaction or more positive perceptions of their relationships and interactions with colleagues, students, and parents in small schools.

According to Shann (1998), teacher satisfaction has a direct relationship with education reform. Teacher satisfaction has an effect on all parts of the educational process and the positive or negative outcomes of students. Teacher satisfaction influences job performance, attrition, and student performance.

Studies have shown a wide range of reasons for teacher job satisfaction and dissatisfaction (Shann, 2001). Eisner (2006) identified six reasons that teachers may be satisfied in the teaching profession.

The first satisfaction that Eisner (2006) discussed is the fulfillment that teachers get from distributing knowledge and ideas that can motivate and change students' lives. Satisfied teachers desire to leave unanswered questions in the minds of their students. Teachers who successfully promote critical thinking skills with their students experience a sense of accomplishment and satisfaction. Teacher satisfaction occurs when one ignites students' imagination (Eisner, 2006).

Next, teaching provides opportunities to touch students' lives. Teachers remember the ways in which their teachers had positive effects on them; therefore, they often feel a sense of paying back to society. Eisner (2006) referred to this as "immortality" (p. 44). To stay alive in the minds of the students that one has encountered is a great accomplishment.

In order to stay alive in the lives of students, teachers have the opportunity and autonomy to teach content in a way that will motivate learners. A teacher has the opportunity to perform and be creative in a way that will prompt the students to remember the content forever. Teaching curriculum in a way that promotes maximum learning is another satisfaction that teachers experience (Eisner, 2006).

Being able to plan the performance of a lesson each day, carrying it out, and setting the tone and pace for the lesson is an art, an art that can bring great job and personal satisfaction for a teacher. Being able to use the art of teaching to produce vivid memories in the lives of students is very gratifying. The occurrences that people remember most are the ones that are the most momentous to them. The positive memories that a student has later of a high-quality teacher who encourages and motivates his or her students is something that can forever be valued (Eisner, 2006).

Another satisfaction that teachers experience is a passion for learning and passing on that passion to their students. A teacher who really loves the content in which he or she teaches gets excited while teaching, and that excitement is conveyed to students. Then the excitement becomes contagious, and the result is student learning (Eisner, 2006).

Eisner's (2006) last reason that a teacher may feel satisfaction is the sensation of making a difference. Making a difference in the life of someone is the greatest sense of achievement that a teacher can experience. Some of the things that a teacher does or says is often forgotten even by himself or herself, but when a student encounters a former teacher years later expressing memories of his or her experiences in the teacher's classroom, one can be assured of the contributions that a teacher can have on society.

Teachers' job satisfaction has been a direct link to teacher performance and commitment to the profession, and dissatisfaction is closely related to teacher absenteeism and attrition from the teaching profession (Sargent & Hannum, 2005). Sargent and Hannum conducted a study to address this discrepancy with teacher job satisfaction in impoverished rural areas.

Sargent and Hannum (2005) hypothesized about three factors related with teacher satisfaction. First, teachers are more satisfied in communities that are rich in economic and social sources and communities that are not secluded. Second, teachers are more satisfied in schools with better economic resources, schools with opportunities for advancement, in schools with a light workload, in larger schools, and in schools where the administration supports them. Last, young teachers, male teachers, unmarried teachers, and teachers who are better off financially are less satisfied. Teachers who are more socially similar to the community in which they work are more satisfied.

Sargent and Hannum (2005) found the opposite conclusion in regard to communities rich in economic and social resources. These researchers found that teachers in more prosperous, less remote village communities were teachers who were the least satisfied. By their measures, teachers who put in more hours per day, working with extra activities, and put in extra time planning lessons appeared to be more satisfied. They were significantly more likely to feel that teaching is their ultimate profession. These teachers were significantly less likely to wish to change their careers. Sargent and Hannum also found that younger teachers are less satisfied than older teachers. Women are more likely to believe that teaching is the ideal profession for them. Teachers with higher levels of education were less satisfied and more likely to want to leave the profession. The hypotheses, according to Sargent and Hannum (2005), that was most consistent with the results were that younger teachers and more highly educated teachers were less satisfied. As for the school environment, teachers were more satisfied in schools with more resources available for teaching and learning. Analyses also suggested that teachers were more satisfied with greater ties to the community.

Shann (1998) conducted a study on teacher satisfaction in urban middle schools. Shann analyzed teacher satisfaction to determine if there are different patterns in schools that are more or less effective in promoting student achievement. Teachers reported in interviews that the students were the most satisfying aspect of their job. However, teachers indicated that they felt that they had no input in most issues in their schools. This included evaluation, assignments, schedules, and testing. For all schools analyzed, teachers ranked parent-teacher relationships the most important factor, but teacher satisfaction with parent-teacher relationships ranked last among the items surveyed. All in

all, the top three issues in this study on teacher job satisfaction were parent-teacher relationships, student achievement, and job security (Shann, 1998).

Few researchers addressed the relationships among school size and teacher perceptions of relationships and interactions with colleagues, parents, and students. A small amount of professional perspective literature asserted that teachers are more satisfied in small schools. Even though teacher job satisfaction is crucial for teacher retention, teacher commitment, and student achievement (Shann, 1998), there is not a sufficient amount of pertinent research that supports the assumption that teachers have a more positive perception in small schools.

Professional Perspectives on the Characteristics of Large Schools

Many researchers believe that the contemporary criticism of large schools is unfair. Until the 1970s, small schools were viewed as a problem and not a solution in education. Very small schools were abundant; they were evident in most areas of the United States. As late as 1940, there were 114,000 one-room schools and most were elementary schools. By 1970, only 2,000 were left (Hampel, 2002).

In the cities and suburbs, small schools' sizes were less common than the schools in the rural parts of the United States. Before World War II, the average student enrollment in a large high school was from 500 to 2,500 students; only 14% of the American high schools were that large. Fifty years later, 53% of the high schools in the United States enrolled 500 to 2,500 students. These schools enrolled 84% of the nation's students. Hampel (2002) said that no arguments were made against large schools in this era.

Small schools often have trouble sorting and dividing students effectively. Schools, especially beyond the eighth grade, should have enough students enrolled that they can be grouped by interests or ability (Hampel, 2002). Educators in small schools have trouble offering a range of tracks, ability groups sections, and various courses to meet the needs of the individual learner (Hampel, 2002).

Hampel (2002) referenced Conant's influential report, published in 1959. Conant believed that all high schools should have an enrollment of at least 400 students. He thought that advanced level courses would be impossible to offer in a high school that had less than 100 students per grade. Conant felt that a school must have intelligent students to sign up for the advanced courses, like calculus and physics for the school to offer those courses (Hampel, 2002).

Other researchers believe that large schools also have an advantage over small schools in regard to curriculum. Black (2006) said that large schools offer a more diverse curriculum than that found in small schools. An example in a large school would be the advantage of a student being able to choose from regular English, British literature, French, Latin, or Spanish for his or her language arts subject for their high school years; conversely, in a small school, English I, English II, English III, and English IV may be the only language arts courses offered throughout a student's 4-year high school career. Susan Colton, a principal of a very large elementary school of 1,100 students, said that she has the luxury of offering additional writing seminars and technology classes. Smaller schools usually do not have enough teachers with diversity of credentials to teach subjects other than traditional, required basic subjects ("Still Stumped," 2001).

Along with a more diverse curriculum, large schools have the opportunities to offer a wider variety of extracurricular activities. Larger schools usually offer many more clubs, sports, arts, and music courses than small schools are able to provide. Large schools have larger faculties who can coach, teach, or sponsor additional activities. Often, small schools do not have enough people to utilize for extra activities, sports, and clubs ("Still Stumped," 2001). Scheduling of extracurricular activities is more difficult in small schools; administrators must be creative in scheduling these extra activities in small schools just to be able to offer extra activities. Small schools often have very small bands, show choirs, and ensembles. Small rural schools have trouble financing uniforms, choral risers, instruments, and transportation for extra-curricular activities; these are usually not a problem for very large schools (Clayton, 2000). Frequently, small schools must depend on fundraisers to fulfill many of these needs. Small school principals admitted that fundraising is more difficult in small school settings ("Still Stumped," 2001).

Resources are another argument for the continuation of large schools. It is generally acknowledged that large schools have more resources. Large schools are often in large towns or cities that have large tax bases and collect more money to be used for their local education; therefore, more resources are available. This is one advantage of large schools, which is often not the case for small schools ("Still Stumped,' 2001). Often, there is a support for large schools based on the assumption of diseconomies of scale. The issue is whether small or large schools affect school operational costs and if state size adjustments should be incorporated into state school finance formulas. The major focus for size adjustments has been on small schools. Policymakers often have the perception that small schools are inefficient and should consolidate into larger schools in

an effort to save money (Odden & Picus, 2004). Such savings are typically associated with economies of scale; "fixed costs" are spread across a larger number of students, thus lowering per-pupil rates of expenditure.

Many analysts argue that projected cost savings from large school and district consolidation have not been recognized (Ornstein, 1990). Sher and Tompkins (1977), on the other hand, said that consolidation might harm student performance in rural schools. Others say that consolidation could have negative effects on rural communities (Coeyman, 1998). Therefore, research on diseconomies of small and large scale usually does not support consolidation. This is particularly the case when student performance as a function of expenditure is factored in. The concept of diseconomies of scale includes both costs and student outcomes (Odden & Picus, 2004).

School consolidation is often a politically contentious issue for many reasons. Many educators and community members question the effectiveness of school consolidations. Opponents of school consolidation suggest that such mergers produce less human contact, frustration, alienation, a weakening of morale, less parent-teacher involvement, and diminished community participation in decision making. Also, in places where the school is a primary source of community services, loss of the school would be a great detriment to the community (Kay, 1982). Therefore, school consolidation is frequently controversial.

An additional concern for large school advocates is collaboration. Many small schools do not have multiple teachers in each grade or subject. Therefore, teachers often have no one on their grade level or in their subject area with whom to communicate. Teachers in large schools often have the opportunity to collaborate on teaching methods

and best practices ("Still Stumped," 2001). Teachers in large schools can even share the responsibility of writing lesson plans. For example, six elementary teachers in one school can collaborate with each other and plan their lessons for that grade level. Each teacher will only have to write one subject area lesson plan, instead of six. If a large school has more than six teachers, they may not have to write lesson plans more than once every 2 to 3 weeks. The work load at a large school can be a lot less than the work load at a small school.

Personnel changes are often difficult in small schools. Students find it difficult to understand these changes ("Still Stumped," 2001). In small schools, students develop a closer relationship with their teachers, and when teachers must leave or be relocated, this transition is often difficult for students to understand.

Small schools often cannot attract well-qualified teachers. Better teachers will frequently choose larger schools when they have a choice between a small school and a large school. Teachers choosing large schools are hoping to advance in their careers. Larger schools usually have better opportunities for teachers to earn higher degrees in the evenings and summers. Their workload is not as heavy with extracurricular activities and teaching additional course assignments, which requires more planning and preparation; so, they have more time to work on advanced degrees. Larger schools are often near large towns or cities in which colleges or universities are available for teachers to work on advanced degrees. For this reason, many teachers select large schools. Since large schools have several teachers in a specific subject area, and large schools need more administrators, counselors, and special professionals, teachers feel that they have a better chance of working into a higher position (Hampel, 2002).

Another point made in support of large schools is that teachers and administrators are less constrained by the scrutiny of others. Teachers in small schools are more likely to be watched by the community and to feel the need to live more constrained lives. In smaller schools, teachers are often expected to act a certain way and live by particular standards. Community mores and values are often more demanding in small schools. In large schools, teachers may feel less scrutiny and may feel more at liberty to live by their own standards and beliefs (Hampel, 2002).

According to Hampel (2002), small schools may often be more heavily controlled by their local boards, whose members are typically lay people. More times than not, small schools and districts have more active school boards. It is easier to act in this matter because in small schools, board members get involved since they do not have as many students or activities. Small boards frequently vote on everything, even the selection of new textbooks or curriculum. In larger schools, panels of experts usually handle such matters.

Relationship of Poverty Level and Race to Achievement

Some researchers believe that there is a relationship between poverty and student achievement and between race and student achievement. Relevant research has shown that there is often a negative correlation between race and student achievement and socioeconomic level and student achievement. Therefore, race and socioeconomic status could be variables that have an effect on student achievement, regardless of the size of the school. This section explores some pertinent and professional literature about the relationships of race and socioeconomic levels on student outcomes.

According to the United States Census Bureau's report *Poverty in the United States: 2002*, figures show that the number of people living in poverty has increased, another 1.7 million people dropped below the poverty level in 2002. The percentage of poor Black Americans rose from 22.7% to 24.1% over the period of one year. Overall, about 12.1 million children (about 17% of American children) live in poverty (Darden, 2003).

Some researchers agree that students who come from low-income and single-parent homes do not have as much school success as students from high socioeconomic backgrounds. Some researchers have reported significant differences in the achievement of students from low-income families and high-income families (Martini, 1995; Walker, Grantham-McGregor, Himes, Williams, & Duff., 1998). According to Rumberger (1995), a student's family background is the most significant predictor of the student's success in school. Many variables in the family background, such as socioeconomic status, have a direct impact on student achievement. According to Rumberger's (1995) study, parents in low-income settings reported lower educational expectations, less monitoring of children's education, and supervision of social activities. Parents from higher socioeconomic statuses are more likely to create environments that enhance learning (Teachman, 1987) and have more involvement in their children's education and schools (Useem, 1992).

Another study was conducted to see if correlations exist among parental involvement, socioeconomic status of parents, and expenditures for supplies with math achievement scores in a fourth grade population in a low-income county in the southern part of the United States. Results indicated that low socioeconomic status, as measured by

the percentage of students in free-reduced lunch programs, was negatively correlated to students' academic achievement in mathematics (Okpala, Okpala, & Smith, 2001).

A study of fifth graders form the Early Childhood Longitudinal Study in the United States released by the National Center for Education and Statistics indicated that students in this study from kindergarten to the fifth grade have made academic progress in their learning. According to this study, poverty level and a mother's level of education are the strongest factors that predict academic achievement (L. G., 2006).

According to Darden (2003), "Race and poverty are so inextricably tied together that they cannot be addressed apart" (p. 34). A National Center for Educational Statistics' study of educational achievement and Black-White inequality reported the relationship between Black and White differences in educational achievement. "Throughout elementary and secondary school, Blacks scored lower, overall, on mathematics and reading tests than Whites. Even for children with similar test scores one or two grades earlier, Blacks generally scored lower in mathematics and reading than Whites" (National Center for Education Statistics, 2001, p. 1). Dianis (2005) explored student achievement in *By the Numbers on Year 3 of NCLB: A Data Bank on Educational Trends for District Leaders* by reporting on the achievement gap by comparing the percentage of districts reporting achievement gaps between different student groups that have changed over the last year. The gap reported

Whites vs. Black students narrowing 18%, staying the same 12%, and widening 1%. White vs. Asian students narrowing 5%, staying the same 11%, and widening 1%. White vs. Hispanic students narrowing 17%, staying about the same 15%,

and widening 5%. Low-income vs. non-low-income narrowing 32%, staying

about the same 36%, and widening 7%. (Darden, 2003, p. 96)

Therefore, race and poverty may be so closely related that they cannot be studied apart

from each other (Darden, 2003).

Summary

In summary, some research supports small school environments, and some

supports large school environments. With the advantages and disadvantages of both small

schools and large schools articulated by numerous authors, it is useful to examine the

relationship between student achievement and school size. However, pertinent research

literature and professional perspective literature support the findings that race and

socioeconomic status have a negative impact on student achievement. Therefore, the

researcher held the variables race and socioeconomic status constant in the analysis.

CHAPTER III

METHODOLOGY

Introduction

Chapter III provides a description of the procedures for the study. It includes

information about the participants of the study including a description of the sampling

population, selection procedures, and size. The survey instrument used by the researcher

is described, along with its purpose, reliability, and validity, and procedures for

implementation. A copy of the instrument is shared. Last, the data analysis techniques are

explained.

Purpose

The purpose of this study was to examine the relationship between school size and

student achievement, as well as school size and differences of teacher perceptions in

small schools and large schools. The results of this study can provide information for

education stakeholders. Policymakers may obtain a viewpoint regarding whether to

support consolidation of small schools or to support a small school movement. School

leaders, to include local school boards, superintendents, and building principals, can gain

additional perspectives on whether to sustain large schools or small schools in their

districts. They can also draw conclusions on whether to implement schools-within-

schools or communities of learners in order to replicate small school settings in large

school situations.

Participants

To answer the research question concerning a relationship between school size

and student achievement, the researcher used archival data. Using a department of

education Web site in a southern state, the researcher selected schools based on school sizes consistent with the researcher's definitions of small and large schools. For this research question, the researcher controlled for ethnicity and socioeconomic levels in the schools. The researcher obtained the demographic information for each school on ethnicity on the state's department of education Web site. Each school's socioeconomic level was based on the percentage of students who received free and reduced lunches. Socioeconomic levels for the school were not available on the state's department of education Web site; therefore, the demographic information for this variable was obtained from a representative at the state's department of education.

To answer the research question concerning the levels of teacher satisfaction in small schools versus large schools, the researcher selected participants in this study who were teachers in small schools (fewer than 400 students) and teachers in large schools (greater than 500). The researcher obtained permission from 10 district superintendents to distribute surveys to teachers in selected small schools and large schools (Appendix A).

Research Questions

1.   Is there a relationship between the size of an elementary school and the achievement levels of students?

2.   Is there a difference in teacher perceptions of relationships and interactions with teachers, students, and parents depending on the size of the school in which teachers work?

Hypotheses

H_1:   There is a relationship between the size of an elementary school and the school's achievement levels.

H$_2$:   There is a difference between teacher perceptions of relationships and interactions with teachers, students, and parents depending on the size of the school in which teachers work.

Instrumentation

The instrument used to obtain data needed to test the second research hypothesis was a questionnaire that employed Likert-type items constructed by the researcher (Appendix B). The questionnaire contained 16 content items that assessed teachers' perceptions with relationships with students and teachers in their schools as well as interactions with students and teachers in their schools. Items 17-20 surveyed teachers' perceptions of achievement as a result of class, grade, and school sizes. The questionnaire also contained four demographic questions. The demographic questions requested the teacher's gender, years of experience, grade size, grade taught, and class size taught.

Pilot Test

The researcher conducted a pilot test with 20 educators who were not participating in the study. The pilot participants were asked to assess the following characteristics of the instrument: the amount of time it took to complete the questionnaire, its readability, the degree to which the items were understandable, and the instrument's content validity. The educators reported that the survey and the questions were understandable and easy to read. The results from the 20 pilot surveys were used to assess the reliability of the questionnaire using Cronbach's alpha, a measure of the internal consistency between and among items on a questionnaire (Santos, 1999). Items 1-16 were analyzed. Items 17-20 were additional questions developed by the researcher in order to draw conclusions about teachers' perceptions of the ideal number of students in a class, grade, and school. The

Cronbach's alpha value derived was .802, which is within the acceptable range as a measure of reliability.

The questionnaire designed by the researcher was submitted for approval to the Institutional Review Board at The University of Southern Mississippi. Permission to proceed with the study was granted (Appendix C).

Procedures

The researcher used the state department of education Web site to determine which schools would participate in the analysis of student achievement and school size. The researcher chose small schools based on the criteria of having fewer than 400 students or less and large schools as having over 500 students. After the 2007 Mississippi Curriculum Test (MCT) scores were released in July 2007, the researcher obtained the language arts scores of fourth grade students from the participating schools on the state department's Web site.

With the permission of 10 school district superintendents, the researcher made contact by telephone with selected schools, based on the number of the school's enrollment, within those districts to secure their participation in the study and the selection of a liaison at the specific schools. The researcher mailed the questionnaires and a large stamped envelope to the contact persons. The liaison placed the questionnaires in the teachers' mailboxes and designated a place to drop the questionnaires after completion. The liaison at each location mailed the questionnaires back to the researcher.

Data Analysis

The first research question was first addressed by computing descriptive statistics for the schools used in the analyses. The researcher than explored the relationship

between school size and achievement using the mean language arts and math scores of fourth grade students from the selected schools. Simple linear regression was used in the analysis. The researcher first conducted an analysis between the two variables. Then, in a second analysis, the researcher chose to control for the variables of ethnicity and socioeconomic status; the latter was measured by the schools' free/reduced lunch status.

The second research question was addressed by first using descriptive statistics to compute the means, standard deviations, frequencies, and percentages of respondents based on the responses to the survey instrument. The means of the perceptions of teachers in small schools and teachers in large schools were compared by using an independent t test conducted using the Statistical Program of Social Sciences (SPSS) 15.0 software.

Summary

Chapter III reviewed the purpose for this study. A description of the sampling population, the survey instrument, and the pilot test for the survey instrument was provided. The detailed steps of the procedures for the study were described, and the analysis of the data was explained.

CHAPTER IV

RESULTS

Introduction

Chapter IV describes the schools used by the researcher to obtain information about the relationship of achievement in mathematics and language arts to various school sizes. The researcher also describes the participants who responded to the survey instrument on teacher perceptions of small schools and large schools. An analysis of the relationship between achievement and school size is provided. A comparison of the degree to which teachers in large schools and in small schools have positive perceptions of their relationships and interactions with colleagues, parents, and students in their work setting completes this chapter.

Schools' Demographics

The researcher obtained demographic information from the Mississippi Department of Education for schools sin the state that house fourth grade students. The total number of schools used in the analysis was 441. The minimum total school enrollment was 36, and the maximum total school enrollment was 1,539; the mean for schools was 487.44 with a standard deviation of 223.64. These schools served 37, 340 fourth grade students. The total Black population for fourth grade students in these schools was 18,454. The total White population was 17,332. The total Hispanic population was 662. The total Asian population was 323, and the total Native American population was 87. Table 1 reveals the totals and percentages for these students.

Table 1

Disaggregated Totals for Students

	Sum	Percent
Total White	17,332	46.42
Total Black	18,454	49.42
Total Asian	323	.87
Total Native American	87	.23
Total Hispanic	662	1.77
Total	37,340	

Of the 37,340 fourth grade students in the state, 22,534 were eligible for free lunch, and 3,270 were eligible for reduced lunches under the National School Lunch Program. Table 2 reveals the demographics of these students.

<center>Questionnaire Response Descriptive Statistics</center>

The researcher surveyed teachers in small schools and teachers in large schools using a Likert questionnaire that ranged from 1.00 to 5.00 with 1.00 representing *strongly disagree* and 5.00 representing *strongly agree*. The researcher received 467 (57%) out of a possible 824 responses to the teacher perception questionnaire from schools surveyed. The responses were from 11 of 16 surveyed small schools, resulting in a 69% return rate for these schools and 12 out of 16 surveyed large schools, resulting in a 75% return rate for these schools. A total of 467 of 824 teachers responded. Eight percent of the respondents were male teachers, and 90% of the respondents were female teachers. Approximately 2% of the respondents did not answer the question of gender. Table 3 reports this information.

Of the 467 teachers who responded, 38% were teachers employed in small schools, and 62% were teachers employed in large schools. Table 4 reports this information.

Of the 467 teachers who responded to the questionnaire, 27% had between 0-5 years of teaching experience, 38% had between 6-15 years' experience, and 33% had over 15 years' experience in the teaching profession. Approximately 2% of the respondents did not supply these data, which are profiled in Table 5. The teachers served in schools in Mississippi that include fourth grade students.

Table 2

Student Demographics for Lunch Status

	Sum	Percent
Free Lunch Count	22,534	60.35
Reduced Lunch Count	3,270	8.76
Paid Lunch Count	11,536	30.89
Total	37,340	100.00

Table 3

Gender of Teacher Respondents

	Frequency	Percent
Male	37	7.92
Female	422	90.36
No Response	7	1.50
Total	467	100.00

Table 4

School Size

Variable	Frequency	Percent
Small	175	37.50
Large	292	62.50
Total	467	100.00

Table 5

Years of Experience of Respondents

	Frequency	Percent
0-5 Years' Experience	126	27.0
6-16 Years' Experience	180	38.5
16+ Years' Experience	152	32.5
No Response	9	1.9
Total	467	100.0

Teachers' Responses to Questionnaires

The researcher surveyed teachers in small schools and teachers in large schools using a questionnaire that included a Likert scale ranging from 1.00 to 5.00, with 1.00 representing *strongly disagree* and 5.00 representing *strongly agree*. The teachers responding to the questionnaire, regardless of the size of their schools, agreed most strongly with the item, "The quality of instruction improves as class size decreases" (mean of 4.58). They had the least positive perception of the idea that 60 students per grade is an ideal grade size with a mean of 2.99. Teachers in both small and large school settings had high perceptions about the relationships that they have with students in their class with a mean of 4.50 and relationships that they have with students in their grade with a mean of 4.45. Teachers in both small and large school settings believe that having a personal knowledge of students entering their class is beneficial for quality instruction (mean of 4.35). All teachers had a more positive perception that their school climate is conducive for high school achievement (mean of 4.34) and that an interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive achievement (mean of 4.33). Teachers also felt that an interaction with students and parents before and after the student spends an academic year with a teacher results in high expectations for positive behavior (mean of 4.25). Overall, all teachers believed that they have a good relationship with parents of students in their class (mean of 4.23).

The second hypothesis for this study stated that there is a difference between the perceptions of relationships and interactions with teachers, students, and parents depending on the size of the school in which teachers work.

The items on the survey instrument assessed the perceptions of teachers in small school settings and large school settings to a degree to which they positively perceive relationships and interactions with colleagues, parents, and students in their work setting. Two items on the questionnaire found a difference in the perceptions of teachers which could indicate a difference in the satisfaction level of the teachers. The level of satisfaction was operationalized through survey item 14, "my school has a close, nurturing, community atmosphere," and item 20, "the quality of instruction improves as class size decreases." The results of the analysis of all teachers' responses to the questionnaire are shared in Table 6.

Statistical Correlations

Analysis of the Relationship Between School Size and Student Achievement

Research question 1 reads, Is there a relationship between the size of an elementary school and the school's achievement level?

The variables Average MCT Mathematics Score and Total School Enrollment were significantly positively correlated in the data, $r(441) = .24, p < .001$. The effect size indicated a low effect, which accounts for 6% of the variance. Therefore, there was a small correlation suggesting that as the size of the school increased, achievement s measured by the school's mean MCT Mathematics score increased.

The researcher also analyzed the relationship between school size and student achievement in mathematics while controlling for the variables minority status and socioeconomic status. After controlling for these variables, the researcher reports that the variables of Average MCT Mathematics Score and Total School Enrollment were significantly negatively correlated in the data, $r(437) = -.097, p = .04$. The effect size

Table 6

Teachers' Responses to Questionnaire Descriptive Statistics

Items	n	Minimum	Maximum	Mean	Std. Deviation
1. I believe I have a good teacher/student relationship with students in my class.	466	1.00	5.00	4.50	.60
2. I believe I have a good teacher/student relationship with students in my grade.	466	1.00	5.00	4.45	.63
3. The climate in my school is conducive for high student achievement.	467	1.00	5.00	4.34	.75
4. I believe I have a good teacher/parent relationship with parents of students in my class.	466	1.00	5.00	4.23	.72
5. I believe I have a good teacher/parent relationship with parents of students in my grade.	465	1.00	5.00	3.96	.76
6. My school has the parental support for high student achievement.	467	1.00	5.00	3.75	.96
7. I believe the students in my class have a good relationship with one another.	465	1.00	5.00	4.01	.79
8. I believe the students in my class have a good relationship with most students in their grade.	464	1.00	5.00	3.98	.73
9. Students in my school have a culture of collaborative student support.	464	1.00	5.00	3.78	.84
10. A personal knowledge of students entering my class is beneficial for quality instruction.	465	1.00	5.00	4.35	.71
11. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive academic achievement.	465	1.00	5.00	4.33	.68
12. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive behavior.	466	100	5.00	4.25	.73

Table 6 - continued

Items	n	Minimum	Maximum	Mean	Std. Deviation
13. Interactions with students before and after they spent a year in my class were easily accomplished at my school.	464	1.00	5.00	3.76	.94
14. My school has a close, nurturing, community atmosphere.	465	1.00	5.00	3.56	1.35
15. Extended involvement results in positive behavior and reduces discipline problems.	466	1.00	5.00	4.17	.78
16. Community support improves if parents have knowledge of their past, present, and future teachers.	464	1.00	5.00	3.86	.83
17. Twenty students per class is an ideal class size.	466	1.00	5.00	3.83	1.18
18. Sixty students per grade is an ideal grade size.	462	1.00	5.00	2.99	1.21
19. Three hundred students per school is an ideal school size.	463	1.00	5.00	3.36	.96
20. The quality of instruction improves as class size decreases.	467	1.00	5.00	4.58	.75

indicated a low effect, which accounts for less than 1% of the variance. Therefore, there was a small negative correlation, suggesting that as the size of the school decreased, achievement as measured by the school's mean MCT Mathematics score increased. This result suggests that the variables status minority and socioeconomic status are mediating variables between school size and student achievement.

The variables Average MCT Language Arts Score and Total School Enrollment were significantly positively correlated in the data, $r(441) = .15, p = .002$. The effect size indicated a low effect, which accounts for 2% of the variance. The results showed that as the size of the school increased, achievement as measured by the school's mean MCT Language Arts Score increased.

The researcher also analyzed the relationship between school size and student achievement using the Average MCT Language Arts Score while controlling for the variables minority status and socioeconomic status. After controlling for these variables, the researcher reports that the variables of Average MCT Language Arts Score and Total School Enrollment were not significantly correlated in the data, $r(437) = -.06, p = .23$. The results did not support the assertion that as the size of the school decreases, achievement increases as measured by the school's mean MCT Language Arts Score.

The first hypothesis for this study stated that there is a relationship between the size of an elementary school and the school's achievement level. A relationship was found in three of the four analyses. Before controlling for the variables socioeconomic status and minority status, a positive relationship was found in the first two analyses between size and math and between size and language arts. Contrary to many researchers, this relationship suggested that as the size of a school increases, achievement increases.

After controlling for the variables socioeconomic status and minority status, a negative

relationship was found between achievement and math. This negative relationship

suggests that as the size of a school decreases, math achievement increases.

Statistical Comparison of the Perceptions of Teachers in Small Schools and Teachers in

Large Schools

Is there a difference in teacher perceptions of relationships and interactions with

teachers, students, and parents depending on the size of the school in which teachers

work? After analyzing the results of the items in the questionnaire that assessed teachers'

perceptions depending on the size of the school in which teachers work, the researcher

reports no significant differences with items 1-13, 15-18, and 20. Significant differences

were found with items 14 and 20, "My school has a close, nurturing, community

atmosphere" and "Three hundred students per school is an ideal school size." There was a

significant difference with the item, "My school has a close, nurturing, community

atmosphere, It_453) = 11.43, p < .001, d = .89. The mean for this item for teachers in

small schools was 4.32, and the mean for teachers in large schools was 3.11. The results

indicated an effect size of .89. The effect size suggests a significant and sizeable

difference in the perceptions of teachers in small schools and teachers in large schools

with regard to the statement "My school has a close, nurturing, community atmosphere."

Teachers in small school settings had a much stronger perception that their small schools

had a closer, nurturing, community atmosphere.

There was a significant difference found in response to the statement, "Three

hundred students per school is an ideal school size," (t(383) = 3.15, p < .001. The mean

for this item for small school teachers was 3.53, and the mean for large school teachers

was 3.25. The results indicated an effect size of .31. The effect size suggests a small difference in the perceptions of teachers in small schools and teachers in large schools with regard to this statement. More teachers in small school settings felt that 300 students was a model school size.

Although a substantial amount of literature suggested that teachers in small schools usually have a better relationship with parents of students in their class and grade, item 4, which was stated as "I believe I have a good teacher/parent relationship with parents of students in my class," did not indicate a significant difference. The mean for this item for small teachers was 4.19, and the mean for large school teachers was 4.25. Item 5, which was stated as "I believe I have a good teacher/parent relationship with parents of students in my grade" did not indicate a significant difference with a mean for small school teachers of 3.98 and a mean for large school teachers of 3.95. Some literature also implies that small schools usually have more parental support than large schools. However, item 6, "My school has the parental support for high student achievement," did not indicate a significant difference. The mean for this item for small school teacher responses was 3.94, and the mean for large school teacher responses was 3.77. Table 7 reports data for this and other items related to perceptions of teachers' relationships and interactions with colleagues, students, and parents and the degree to which they are satisfied with their work environment.

Conclusion

Chapter IV provided an explanation of the results of analysis two data sets in order to gain information about the relationship of achievement in mathematics and language arts to school size. The researcher also gave a description of the respondents

Table 7

Small School Comparison to Large School

Items	School Size	n	Mean	Std. Deviation	Sig. (2-tailed)
1. I believe I have a good teacher/student relationship with students in my class.	Small Large	175 291	4.60 4.59	.57 .62	.87
2. I believe I have a good teacher/student relationship with students in my grade.	Small Large	175 291	4.50 4.42	.57 .66	.17
3. The climate in my school is conducive for high student achievement.	Small Large	175 292	4.66 4.32	3.8 .78	.24
4. I believe I have a good teacher/parent relationship with parents of students in my class.	Small Large	175 291	4.19 4.25	.67 .74	.43
5. I believe I have a good teacher/parent relationship with parents of students in my grade.	Small Large	175 290	3.98 3.95	.68 .81	.82
6. My school has the parental support for high student achievement.	Small Large	175 292	3.94 3.77	3.12 .95	.49
7. I believe the students in my class have a good relationship with one another.	Small Large	174 291	4.04 4.00	75 .81	.56
8. I believe the students in my class have a good relationship with most students in their grade.	Small Large	173 291	4.05 3.94	.70 .75	.12
9. Students in my school have a culture of collaborative student support.	Small Large	174 290	3.90 3.91	1.82 2.50	.95
10. A personal knowledge of students entering my class is beneficial for quality instruction.	Small Large	175 290	4.34 4.50	.74 2.48	.33
11. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive academic achievement.	Small Large	274 291	4.33 4.34	.69 .67	.96
12. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive behavior.	Small Large	175 291	4.27 4.24	.71 .74	.63

Table 7 - continued

Items	School Size	n	Mean	Std. Deviation	Sig. (2-tailed)
13. Interactions with students before and after they spent a year in my class were easily accomplished at my school.	Small Large	175 289	3.80 3.73	.90 .96	.45
14. My school has a close, nurturing, community atmosphere.	Small Large	173 292	4.32 3.11	.93 1.36	.00
15. Extended involvement results in positive behavior and reduces discipline problems.	Small Large	175 291	4.18 4.17	.80 .77	.85
16. Community support improves if parents have knowledge of their past, present, and future teachers.	Small Large	174 290	3.86 3.86	.89 .79	.97
17. Twenty students per class is an ideal class size.	Small Large	175 291	3.74 3.89	1.19 1.17	.21
18. Sixty students per grade is an ideal grade size.	Small Large	172 290	2.91 3.04	1.25 1.20 ·	.28
19. Three hundred students per school is an ideal school size.	Small Large	173 290	3.53 3.25	.90 .97	.00
20. The quality of instruction improves as class size decreases.	Small Large	175 292	4.55 4.59	.80 .72	.64

Scale: 1 = *strongly disagree*
          5 = *strongly agree*

who participated in the questionnaires on teacher perceptions of relationships and interactions with colleagues, parents, and students in small schools and large schools. An examination of the data describing the relationship between achievement and school size was provided. The results of a comparison between the perceptions of teachers in large and small schools were profiled in order to illustrate their perceptions of relationships and interactions with colleagues, parents, and students.

CHAPTER V

SUMMARY AND CONCLUSION

Introduction

Throughout the course of this study, great concentration has bene directed to the

historical developments and the current thoughts, beliefs, and findings that led some to

support small schools and some to support large schools. The achievement of fourth

grade students in the areas of math and language and the perceptions of teachers about

school size were useful variables through which to expand this particular interest. This

chapter presents a summary of the findings associated with this research, drawing

conclusions from the data collected throughout the study and presented in Chapter IV.

More specifically, implications for the use of the research by decision makers are

shared. Limitations, other questions, and possible needs for more research in the areas of

school size, achievement, and perceptions suggested by this study are also presented to

the reader. Next, the chapter provides a charge to the reader and school leaders to use

research data when implementing decisions that affect the well being of the students in

today's schools. The chapter concludes with further recommendations.

Summary

The purpose of the study was to investigate and identify relationships between

school size and the academic achievement of fourth grade students in the areas of math

and language arts in the state of Mississippi as determined by their performance on the

Mississippi Curriculum Test (MCT). Additionally, the researcher analyzed teacher

perceptions in small schools and large schools to determine whether there were

statistically significant differences between the perceptions of teachers teaching in small schools and teachers teaching in large schools.

Limitations

During the course of this research investigation, three major limitations occurred which should be revealed before discussing the findings of this study. These limitations should be considered by other researchers before conducting related studies.

1.   The fourth grade MCT data collected for all of the schools in the state of Mississippi included the mean scores and percentages for the schools; confidentiality constraints did not allow for the collection of individual student MCT means or individual student growth data. Since individual student scores and specific student growth were not analyzed, conclusions about the individual student achievement and specific subgroups could not be ascertained.

2.   Data for this study were specifically collected in one state, Mississippi. Future researchers may consider including a more representative sample by collecting data from other states in various areas of the United States.

3.   The researcher received more responses from the questionnaires on teacher perceptions of school size from teachers in large school settings. Therefore, future researchers embarking upon similar studies may consider over-sampling in small schools since large schools usually employ more teachers. Doing this will help to equalize the sample sizes for small schools and large schools.

4.   This study is limited to a quantitative study. The researcher did not include a qualitative portion that could have enabled the researcher to pursue teacher perceptions of relationships and interactions in small schools and large schools more in-depth.

Findings

The following research questions represent the fundamental inquiries that the

present study was designed to address. Each question is restated and conclusions are

drawn from the findings of the study based on the data analysis conducted and presented

in Chapter IV. These findings are also discussed within the context of the literature

reviewed in Chapter II.

Research Question 1

This question was stated as follows: Is there a relationship between the size of an

elementary school and the achievement levels of students? Based on the data analyzed,

the researcher found a slightly positive correlation between school size and math

achievement as operationalized through MCT scores. Therefore, there is a very slight

correlation that supports the idea that as school sizes increase, test scores increase in the

area of mathematics. There was also a positive correlation between school size and

language arts achievement. The positive correlation was not a strong correlation;

however, the significance indicates that as school size increases, language arts

achievement increases. However, after holding the variables ethnicity and socioeconomic

status constant, a negative correlation was found between mathematics and school size,

which indicated a statistically significant difference.

The positive correlation between school size and student achievement as

measured with MCT scores in mathematics and language arts is incongruent with the

research of Bikel, Ferguson, Howley, Huang, Mitchell, and Mohr, who found a high

correlation between school size and student achievement. These researchers found strong

relationships between small school sizes and student achievement. Schoeniein (2001)

stated that when schools are compared in size and all other variables are held constant, small units are preferential to large units with respect to student achievement. The findings of this study support that statement in the state of Mississippi. Considering the composition of the data, small schools in Mississippi are not as diverse as the large schools in the state. The schools either have a high percentage of majority students or a high percentage of minority students.

The findings support the research of Edington and Martellano. Edington and Martellano (1989-1990) examined the achievement of students in New Mexico in a 4-year study using the variable of school size and other variables such as ethnicity and Title I status. No relationship between school size and student achievement was found; however, there was a negative relationship between student achievement and students qualifying for Title I funds. A negative relationship was also found between achievement and the presence of a high percentage of Native Americans and Hispanics in the school. In the present study, the results may have been different if the researcher had isolated specific ethnic groups and analyzed to see if a correlation existed among the specific variables of ethnicity, school size, and student achievement. Using the mean scores of the entire school was a limitation which made it impossible for the researcher to identify specific subgroups as compared to student achievement.

As revealed in Chapter IV, before the variables of socioeconomic status and race were held constant, there was a very small significant positive correlation between student achievement in math and language arts and school size. The researcher believes that this may have been caused by the fact that many of the small schools in the database are located in high minority, impoverished areas. The research also indicated a very small

significant negative correlation in students' math achievement and school size when the researcher held ethnicity and socioeconomic variables constant. These results seem to support Kathleen Cotton's (1996) research conclusion that "smaller is better." Cotton reviewed 103 studies that addressed school size and some aspect of schooling. Several documents were repetitious so she retained only 69 documents. About half of the research indicates no significant relationship between school size and student achievement. The other half finds student achievement in small schools to be superior to student achievement in large schools.

Research Question 2

Research question 2 asked, Is there a difference in teacher perceptions depending on the size of the school in which teachers work? Based on the analysis of the data presented in Chapter IV, there was a significant difference in teacher responses to the question, "My school has a close, nurturing, community atmosphere." Based on the teachers' responses to the questionnaire, more teachers in small schools believe that they have a closer, more nurturing, community atmosphere in their schools. Fewer teachers in large schools reported having a close, nurturing, community environment. This significant difference supports the professional perspectives of Strike, Schoeniein, Cotton, Raywid, Mohr, Meier, Vander Ark, Ornstein, Schmeler, and Morgan and Alwin. Scherer (2002) quoted Vander Ark, the director of education at the Bill and Melinda Gates foundation, who identified "seven deadly sins of education." The first sin on the list was "anonymity of large schools and dehumanizing systems" (Scherer, 2002, p. 5). Evidence shows that smaller schools offer students more social opportunities than large schools (Ornstein, 1990; Raywid & Schmerler, 2003). Morgan and Alwin (1980) stated

that students in small schools have a greater opportunities to be involved in some sort of extracurricular activity. In small schools, teachers are better able to get to know their students' needs and create a culture of learning that will meet the needs of individual students (Strike, 2004). Meier (2000) reaffirmed this belief by stating that the quality and quantity of unwavering personal relationships with other students and positive teacher/adult role models is a greater risk than declining student achievement. To support this finding, Meier (2000) stated, "By the time my son graduated from his high school of 3,000 students, he did not know a single teacher well enough to ask for a personal letter of reference. Nor did I" (p. 35).

The significant finding for the question, "My school has a close, nurturing, community atmosphere," supports educational theory. One of the key components of the engagement theory is collaboration. The engagement theory focuses on the involvement in learning activities through interaction with others (Kearsley & Shneiderman, 1998). Social interaction plays a fundamental role in cognitive development. Vygotsky's learning theoretical framework centers on this belief. He believes that full cognitive development requires social interaction (Vygotsky, 1989). Lave's situated learning theory focuses on students being a "community of learners" (Lave & Wenger, 1991). Overall, there is a significant theoretical foundation that supports that small schools usually have closer, more nurturing environments that mirror close community in which learning can more easily take place.

Responses to the statement, "Three hundred students per school is an ideal school size," also were found to be significantly different. Most teachers in small schools believe that 300 students in a school creates an ideal school size. Teachers in large schools, on the

other hand, believe that 300 students is not an ideal size. Teachers, regardless of the size of their schools, appeared to have a positive perception of the size of the school in which they taught.

The responses to all other statements on the questionnaire on teacher perceptions were found to have no significant differences based on the size of the school in which the teacher was employed. All of the teachers in both small and large school settings had positive perceptions about the relationships and environments in which they taught.

Implications for Educational Leaders

There was not a great difference in the instructors' perceptions of the effectiveness of the instruction when the large schools' faculty responses were compared to the small schools' faculty responses. Most teachers reported that their school was a place conducive to learning, where relationships between students and students, students and teachers, teachers and parents are all good. In light of these findings, educational decision makers may need to look at other factors when making the decisions to consolidate schools or build new schools in communities and neighborhoods across the country.

Superintendents, school board members, and other community and state leaders need to analyze many variables and factors when making decisions about the size of schools, the location of schools, and the retention of quality instructors. Many times the achievement level of the students has been and is used by educational leaders as a catalyst to drive the sense of urgency that results in school consolidation or the relocation and building of new schools. Neither this research study nor the research in the literature review supports the academic or perceived need to call for this change in the educational environment.

Regardless of school size, teachers want a close, nurturing, community environment in which they feel that they can collaborate and have close relationships with students, other teachers, parents, and the community. In order to increase student achievement and enhance positive perceptions among teachers, school leaders are well advised to build an educational community with purpose. According to "Purposeful Communities" (2004), building a purposeful community involves more than sharing a mission or vision, allotting times for collaboration, and abolishing or replacing ineffective practices. The missing link is collective efficacy. McREL defines a purposeful community as "one with the collective efficacy and ability to develop and use assets to accomplish outcomes that mater to all community members through agreed-upon processes" (2004, p. 5). "For schools, collective efficacy refers to the perceptions of teachers in a school that the faculty as a whole can execute the courses of action necessary to have positive effects on students' (Goddard, 2001, p. 469). "It has been established that collective efficacy is a stronger predictor of student of student achievement than race or socioeconomic status" (Goddard, 2001, p. 471). In order to develop a purposeful community that improves student achievement, school leaders should plan thoughtfully and diligently.

Educational decision makers need to analyze multiple factors when deciding the best environment for students. The data used in this study were the best source of information attainable by the researcher. The homogeneous grouping of ethnicity and socioeconomic status students in small schools may have skewed the researcher's data. Many districts with small schools either had no Black students or no White students. The achievement scores of the individual students, rather than the mean scores of the schools,

would have been more useful. The researcher believes that the large schools' achievement data are a reflection of the state's mean because of the probability that larger schools have diverse student populations and smaller schools have less diverse student populations.

Recommendations

It has been said that the school is a reflection of the community. Educational leaders are looking for ways to improve the learning environment for students; this can more readily be done by changing the educational culture awareness of the community. The perception of the effectiveness of the schools by the community would be an important factor to consider when making school decisions.

It is recommended that further research that narrowly focuses on particular subgroups of students and school size be conducted. Further study is also needed in order to analyze individual student achievement scores rather than the means. This would allow the researcher to obtain demographic information on students as opposed to the aggregate demographic composition of schools. Having this information and tracking individual students would provide a stronger study on the effects of school size on student achievement. .Appropriate measures could be adopted to protect individual student identities.

This particular study was restricted to schools in the state of Mississippi. Therefore, it is recommended that the study be replicated in other states and be based upon each state's assessment. Additionally, the use of NAEP (National Assessment of Educational Progress) that students take in the fourth and eighth grades should be explored in order to determine whether these test data would be useful in the comparison of students and schools in small and large schools among different states. While NAEP

does not provide building-level means, the aggregate scores of schools by size, in tandem with the responses to NAEP background questions, might provide mechanisms for analysis.

Conclusion

The research findings offered in this study offer additional elements to the discourse regarding the complex ideas, beliefs, and literature surrounding the consolidation of small schools or the transformation of larger schools into smaller schools. Educators, lawmakers, and the community should understand that all factors should be considered in the educational environment of a child.

APPENDIX A

LETTERS

November 4, 2007

Dear Sir or Madam:

I am a doctoral student at the University of Southern Mississippi. I am currently doing a study on teacher perceptions and student achievement in small schools and large schools.

Enclosed are copies of the survey instrument that I am using in the analysis. Please distribute copies to your teachers and designate a destination for them to place them when they have completed the questionnaire. If your teachers participate, I have enclosed a stamped envelope to mail the questionnaires back to me by November 30.

Completing the questionnaire is totally voluntary, and names of schools will not be identified and will be kept anonymous. The study and the survey instrument have been approved by the internal review board at the University of Southern Mississippi. I received a letter of permission from your district superintendent to survey your teachers. A copy of the permission letter is enclosed.

Thank you so much for your consideration in the participation in this survey.

Sincerely,

Irene Dearman

Mrs. Irene Dearman
P.O. Box 541
Beaumont, MS 39423

Dear Mrs. Dearman:

Please accept this letter as verification that you have been authorized to conduct a survey that will involve faculty members at selected schools in our school district. It is our understanding that the questionnaire will be a collection of data on teacher satisfaction in large and small schools.

Sincerely,

Superintendent

APPENDIX B

SURVEY INSTRUMENT

Teacher Perceptions in Various School Sizes

Please respond to the following statements by placing an (X) in the appropriate column.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I believe I have a good teacher/student relationship with students in my class.					
2. I believe I have a good teacher/student relationship with students in my grade.					
3. The climate in my school is conducive for high student achievement.					
4. I believe I have a good teacher/parent relationship with parents of students in my class.					
5. I believe I have a good teacher/parent relationship with parents of students in my grade.					
6. My school has the parental support for high student achievement.					
7. I believe the students in my class have a good relationship with one another.					
8. I believe the students in my class have a good relationship with most students in their grade.					
9. Students in my school have a culture of collaborative student support.					
10. A personal knowledge of students entering my class is beneficial for quality instruction.					
11. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive academic achievement.					
12. Interaction with students and parents before and after the student spends an academic year with a teacher results in positive high expectations for positive behavior.					
13. Interactions with students before and after they spent a year in my class were easily accomplished at my school.					
14. My school has a close, nurturing, community atmosphere.					
15. Extended involvement results in positive behavior and reduces discipline problems.					
16. Community support improves if parents have knowledge of their past, present, and future teachers.					
17. Twenty students per class is an ideal class size.					
18. Sixty students per grade is an ideal class size.					
19. Three hundred students per school is an ideal school size.					
20. The quality of instruction improves as class size decreases.					

Please complete demographic information by placing an (X) in the appropriate parenthesis.

Sex: Male ( )   Female ( )   Experience: 0-5 Years ( )   6-15 Years ( )   16 Years and Above ( )

Grade Size: 50-below ( )   51-75 ( )   75-100 ( )   101-above ( )   Class Size: 24-27 ( )   20-23 ( )   19- below ( )

APPENDIX C

INSTITUTIONAL REVIEW BOARD REVIEW COMMITTEE

The University of Southern Mississippi	118 College Drive #5147 Hattiesburg, MS 39406-0001 Tel: 601.266.6820
Institutional Review Board	Fax: 601.266.5509 www.usm.edu/irb

HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE
NOTICE OF COMMITTEE ACTION

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

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

PROTOCOL NUMBER: 27030708
PROJECT TITLE: **The Relationship on Student Achievement and Teacher Satisfaction in Small Schools and Large Schools**
PROPOSED PROJECT DATES: **01/01/07 to 01/01/08**
PROJECT TYPE: **New Project**
PRINCIPAL INVESTIGATORS: **Irene Dearman**
COLLEGE/DIVISION: **College of Education & Psychology**
DEPARTMENT: **Educational Leadership & Research**
FUNDING AGENCY: **N/A**
HSPRC COMMITTEE ACTION: **Expedited Review Approval**
PERIOD OF APPROVAL: **03/07/07 to 03/06/08**

_____   _3-08-07_____
Lawrence A. Hosman, Ph.D.   Date
HSPRC Chair

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