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ADVANCED ACCREDITATION IMPACT REGARDING THE ACHIEVEMENT GAP
BETWEEN SCHOOLS OF POVERTY AND SCHOOLS OF AFFLUENCE
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ABSTRACT

Abstract

The purpose of this quantitative study was to determine whether there are significant differences among AdvancED accredited middle and high schools that consist of those with high poverty populations and those affluent accredited schools regarding school effectiveness. This study examined whether there was a significant difference between schools of poverty and affluent schools on reading and mathematics state assessments. This study also examined which AdvancED school effectiveness accreditation standards predict student achievement success through standardized test performance in both reading and mathematics.

Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards? Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading? Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics? Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading? Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Based on the findings, this study determined schools of poverty were being rated significantly lower than schools of poverty in the following standards: governance and

leadership, teaching and learning, resources and support programs, as well as stakeholder communication and relationships. Schools of poverty that enter the accreditation process still lag behind accredited schools of affluence, but a significant difference was determined when the accredited schools of poverty were compared to non-accredited schools of poverty.

When school effectiveness accreditation scores for each standard were examined a relationship was significant between how affluent schools were scored in documenting and using results, as well as stakeholder communication and relationships and their success on standardized tests in reading and mathematics. When school effectiveness accreditation scores for each standard within schools of poverty a significant relationship between the following standards was determined in regard to standardized testing for reading and mathematics: teaching and learning, documenting and using results, as well as resources and support programs. A negative relationship was determined for schools of poverty between the test results in reading and mathematics and their rating on the commitment to continuous improvement standard.

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CHAPTER 1

Introduction

The Problem

“It is shameful that our society has such high levels of poverty and that so many of the children born into poverty are concentrated in struggling schools across the country” (Pogrow, 2006, p. 223). Houston (2006) sees hurdles that America’s educational system has to overcome. He points out the United States has the largest percentage of individuals living in poverty throughout the developed world. He believes the increases in poverty school-age children force our educational system to handle situations for which they are not ready.

“The fact is that home is the most unequal environment in education, and school should be an arena of equity” (Conrath, 2001, p. 586). Factors of the students’ home life have a great impact on the likely success of the child. Carlson (2006) examined family characteristics that affect the child’s educational outlook. He concluded the marital status of the parents, socioeconomic status of the home, and whether at least one parent was employed were the three key predictors for the success of students in school. He noted students that met the three criteria above had a substantially better chance of possessing the resources to ensure they started school with a positive attitude.

Many students that are entering our schools do not have the resources in the home to enter schools with skills that will ensure success. Rodriguez (1990) points out that the skill set of

low socioeconomic at-risk youth falls far behind their more affluent counterparts when they enter school. As these students continue through school they fall even further behind. “By the sixth grade, they are about two years behind grade level in achievement; by 12th grade, they are four years behind” (Rodriguez, 1990, p. 322).

Klem and Connell (2004) point out students of low socioeconomic backgrounds often struggle in school due to a lack of successes occurring early in their schooling. This leads to the students becoming disengaged within the learning environment. This disengagement only continues to grow as the student progresses in school. The authors point out “By high school as many as 40% to 60% of students become chronically disengaged from school” (Klem & Connell, 2004, p. 262).

Janisch and Johnson (2003) believe we must change the way in which we educate students of poverty. The education system must be accepting of the students’ background in order to properly create a situation in which the student can be successful. Every school must “refute the notion that only a few children can learn to read and write” (Janisch & Johnson, 2003, p. 306). Instead, schools must provide equity for these learners that are failing to get the resources they need from home.

How can schools provide equity? Tileston and Darling (2009) believe equity begins by examining the school structure to ensure that it is meeting the needs of these students of poverty. They call for curriculum that is taught while the student’s background is being considered, instructional strategies that are proven in the research, and assessment that assesses the type of knowledge the curriculum requires these students to learn. They believe schools that are structured around these three concepts can provide equity for their students. The authors point

out that the pressing issue of educating students of poverty is sweeping the nation, as the majority of states have called for plans to aid in improving this situation.

Statement of the Problem

What price will we, as a society, pay if we do not properly educate the children of poverty? Belfield and Levin (2007) note the American society will continue to pay a price of not properly ensuring equity within our schools as they cite the lack of equity as a key component for many individuals lacking the skills to be successful in the labor market, increased financial resources being used to deal with rising crime rates, and the continued rising costs of public assistance. They continue this point by saying “a person’s educational attainment is one of the most important determinants of his or her life changes in terms of employment, income, health status, housing, and many other amenities” (Belfield & Levin, 2007, p. 1). Belfield and Levin feel our country needs to ensure our schools provide equity of all students or we will continue to pay even greater costs.

With the economic and social costs of having impoverished students not achieve financial independence, is the gap between poverty and non-poverty students due to lack of knowledge? This is the point that Neuman (2009a) states we have grown so much over the past two decades in our knowledge of how to educate poverty students. She cites the problem with schools is the lack of implementation with regards to the known interventions that are proven to raise student achievement. She believes the gap between what we know and what we are doing to help these students is one of the most pressing issues facing our society. She also points out this gap will become even more pressing due to the current economic difficulties that are presently affecting our nation.

Gamoran (2007) emphasized the importance of examining why schools that educate students of poverty are falling behind their more affluent counterparts. He notes the poverty gap in education is evident when you compare schools. The schools with students of poverty are generally performing like schools in some of the lowest academically-performing nations. He also notes this problem is even consistent within the school setting, as schools teaching poverty student have a wide range of student achievement levels. He emphasizes this is not a problem that has just surfaced, but instead has been present in the data for the last 40 years.

Although many states have improved the reading and math scores of elementary school students, the number of ninth graders who lack the reading and math skills necessary for high school work has not declined. Improving secondary school education itself, both middle school and high school, is perhaps the nation's most pressing education challenge.

(Murnane, 2007, p. 174)

Purpose of the Study

The purpose of this quantitative study was to determine whether there are significant differences among AdvancED accredited middle and high schools that consist of those with high poverty populations and those affluent accredited schools regarding school effectiveness. This study examined whether there is a significant difference between schools of poverty and affluent schools on reading and mathematics state assessments. This study also examined which AdvancED school effectiveness accreditation standards predict student achievement success through standardized test performance in both reading and mathematics.

Research Questions

The research questions for the study are as follows:

1. Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards?
2. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading?
3. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics?
4. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading?
5. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Null Hypotheses

The following null hypotheses were generated through the research questions:

1. There is no significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards.
2. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading.
3. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics.
4. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of reading.

5. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of mathematics.

Definition of Terms

Affluent School: For the purpose of this study, an affluent school consists of having a free and reduced lunch count of 35% or less.

Emergency Certificate: Teaching staff that lacks formal training through a university's college of education.

High School: For the purpose of this study, a high school consists of a school building configured by grades 9-12.

Middle School: For the purpose of this study, a middle school consists of a school building configured by grades 6-8 or 7-8.

Poverty School: For the purpose of this study, a school of poverty consists of having a free and reduced lunch count of 45% or more.

School Accreditation: "Engages the entire school community in a continuous process of self-evaluation, reflection, and improvement. It invites external scrutiny and welcomes the constructive feedback of peers. It demands rigor, is based in data, and approaches documentation of results with discipline" (AdvancED, 2006, ¶ 2).

Student Achievement: For the purpose of this study, student achievement is success as measured by state achievement tests.

Significance of the Study

This study contributes to the field of education by examining where schools with a substantial makeup of students of poverty differ from their counterparts. By doing this,

quantitative data supports areas of needed improvement for school effectiveness in schools of poverty via examining whether there is a significant statistical difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading and mathematics. By doing so, quantitative data demonstrates whether there is a difference between schools of poverty and affluent schools regarding their scores on state assessments and examining the school effectiveness accreditation standard scores to determine whether they can predict standardized test scores in reading and mathematics. This study provides the predictors that school leadership and instructional staff can focus on to improve their test scores.

Limitations

The investigation was limited by the AdvancED seven standards which serve as the conceptual framework for this study. Also, the study relied on adequate quality of chair training received for each accreditation visit made by AdvancED and the subjective scoring of each school regarding accreditation within each standard.

Delimitations

The study used only the state accreditation scores and assessment results from Illinois, Indiana, Kentucky, Michigan, and Ohio and did not consider schools with free and reduced lunch counts between 36% and 44% in order to have a clear division between schools of poverty and schools of affluence. The study only examined middle and high schools that have membership in the AdvancED school accreditation process and only used data from the 2008-2009 school year. Finally, the study did not take into account the ethnicity of the students within the schools being examined.

Summary and Organization of the Study

This study is divided into five chapters. Chapter 1 provides the problem, the statement of the problem, purpose of the study, research questions, null hypotheses, definition of terms, significance of study, and limitations. Chapter 2 presents a review of the related literature and is subdivided into introduction, vision and purpose, governance and leadership, teaching and learning, documenting and using results, resources and support systems, stakeholder communications and relationships, commitment to continuous improvement, and student achievement by means of standardized testing. Chapter 3 presents information about the methodology used during this study including purpose of the study, research questions, null hypotheses, description of the sample, data sources, data collection procedures, and the method of analysis. Chapter 4 presents findings through the quantitative analyses of hypotheses one, two, and three. Chapter 5 presents a summary of the findings, conclusions, implications, and recommendations for further research.

CHAPTER 2

Review of Related Literature

The review of the literature examines related research that has been conducted over the eight areas enumerated within this study. The areas of the study were determined through the use of the seven standards set forth by the North Central Association Commission on Accreditation and School Improvement (NCA CASI) process; now known as AdvancED through a merger with the Southern Association of Schools. These seven standards: vision and purpose, governance and leadership, teaching and learning, documenting and using results, resources and support systems, stakeholder communications and relationships, and commitment to continuous improvement are examined in regards to their relationship with student achievement.

The seven standards NCA CASI uses come from an extensive literature review that was conducted by the National Study of School Evaluation (NSSE). Through this review, NSSE was able to identify key components that were the same across the literature. Works from school improvement writers were used during this review. In total, the review used over 60 different authors' work to ensure the seven standards was deemed encompassing through the literature.

Vision and Purpose

Vision and purpose are essential to the development of student achievement within our schools. School improvement must start with a shared goal of student learning between all stakeholders and developed by these stakeholders. This vision needs to include high

expectations placed on the student with regards to his/her learning. Bolman and Deal (2008) indicates that the use of a focused vision is essential in order to spur changes in any organization.

The vision created by the school should serve as the focus for improvement. Greenfield, Licata, and Johnson (1992) and Chenoweth (2009) conducted case studies that focused on vision being a shared focus among all stakeholders. Greenfield et al. concluded schools are more successful when the vision that has been established is carried out by the daily conduct of the school community. Chenoweth concluded high-performing schools “succeed where other schools fail because they ruthlessly organize themselves around one thing: helping students learn a great deal” (p. 39). She stated that successful schools start by focusing on the purpose of improving student achievement before building the levels of structure that will sustain the student learning.

Having a strong vision that is shared by all within the building improves the organizational health of the school. Korkmaz (2006) studied 42 elementary schools in Turkey to test the relationship between organizational health of the schools and the perception by teachers of a strong vision. The researcher administered a survey to 842 teachers within the schools. The study concluded a positive relationship between the organizational health of the school and the teachers’ perception of a strong vision. It also concluded the use of a strong vision for schools can help stakeholders plan, develop, and share a common purpose for the future of the school. The sharing of the vision helps all stakeholders attain the desired outcomes for student learning.

The creation of a vision needs to include all stakeholders. Even after the vision has been created, it is essential that all stakeholders know the vision that will serve their school. Kearney (2005) noted that having a vision is not enough in leadership. Instead, you must have a vision that is known by your staff, students, and other stakeholders. Kantabutra (2005) added that

without clear communication of the vision, the stakeholders cannot provide the proper support needed to make it successful.

Gomez and Ang (2007) believed a plan to improve student achievement starts by collaborating with parents, teachers, administration, and other stakeholders to ensure the vision of these individuals is aligned. Weller, Hartley, and Brown (1994) note the importance of allowing all stakeholders to address their needs, goals, and values during the developmental stage of the vision. Murphy, Elliott, Goldring, and Porter (2007) reported that high-performing schools spent a great amount of time developing the vision for education with the various stakeholders that made up their school community.

A study conducted in England by Day (2005) examined successful schools with a substantial free-lunch count. During the study, student assessment results were examined as well as interviews conducted with a variety of different stakeholders. All 10 successful schools examined showed high levels of collaboration with stakeholders while establishing a vision. These schools built on the values through aligning the vision with the community, thus creating cultural capital. All schools focused on increasing stakeholder commitment to the vision and purpose of the schools.

The vision should serve as the means to communicate the high expectations the school has placed on student learning. High expectations by the school, teachers, and students improve student achievement throughout the building. Stein (2007) conducted a study to determine whether students transitioning from middle school to high school believed the schools they attended properly prepared them for academic success by utilizing high expectations. The study found students that perceived higher expectations placed on them by their middle school believed they would be more successful in their next school.

Konings, Brand-Gruwel, van Merriënboer, and Broers (2008) conducted a longitudinal study with 1,335 high school students to determine the effect of expectations on student perceptions of the learning environment in regards to content, learning, autonomy, interaction, and clarity of goals. The authors determined a significant relationship between the expectations placed on the student and the perceptions of the learning environment. The study concluded that a positive relationship between expectations and student perceptions of the learning environment existed. These perceptions affect the student engagement and motivation within the educational process. The authors believe the more that is expected from the child, the more they will produce. They cited a self-fulfilling prophecy theory to explain how expectations play such a critical role in the learning process.

Bui (2007) conducted a study using the National Education Longitudinal Study data of 10,262 students from grades 8, 10, and 12 that were surveyed to aid in determining the relationship between the student's perceptions of educational expectations placed on them and his/her academic achievement. The study concluded that the higher the expectations levels which students perceived, the higher the academic achievement.

Governance and Leadership

Leadership within the building impacts student learning. The leadership team in each building must focus on the vision set forth by all stakeholders, producing a system of equity among students, providing support and resources to staff members, and producing an environment of collective efficacy and empowerment for staff. Cunningham (2006) examined high-poverty schools that were successful with student achievement, based on state testing results, in order to determine what these schools were doing to "beat the odds." She noted that all successful schools had a foundation of strong leadership throughout the administration.

School leaders need to advocate for the vision of the school to impact improvement. The implementation of the vision by the school leadership must rely on collaboration throughout the process. Slater (2005) conducted a qualitative study focused on the importance of collaboration in order for school leadership to improve student achievement. The study concluded school leadership needs to focus on a collective decision-making process that involves students, parents, staff, and community members. The principal is in a central position to help develop a positive school culture that will improve student learning. Leaders use collaboration to empower the schools' stakeholders for necessary areas of improvement. "Tomorrow's principals must create a culture which embraces collaboration and shared governance" (Leech & Fulton, 2008, p. 640).

Collaboration throughout the building leads to improved student achievement for all learners. Research states that leaders need to ensure teachers have the time to collaborate within the building. Printy and Marks (2006) point out that successful principals ensure teachers are able to learn from other teachers, facilitate teacher interaction, support collaboration on the development and implementation of curriculum, and give staff feedback that directly relates to student-learning outcomes. Schools cannot afford to have teachers isolated within their own classrooms failing to draw from the expertise of their fellow teachers.

Leaders must believe that all students can learn and provide them with what is needed to do so. Leaders must promote equity of learning throughout the school. Gurr, Drysdale, and Mulford (2006) conducted a case study within two states of Australia to determine what attributes made up successful principals. Through interviews of five successful principals, the researchers saw common themes expressed by all principals. The principals placed an emphasis on equity within their school. They all believe that every child was important, can succeed, and had unrealized potential that can only be harnessed by creating a culture that promotes equity.

The principals noted the most effective way to produce equity within the school is by setting goals for all learners and continuously raising the expectations.

Equity can be difficult to attain within schools. Goddard and Hart (2007) and Johansson, Davis, and Geijer (2007) completed case studies to determine ways in which principals can seek equity in education. Both studies found the recognition of differences and inclusion strategies to be important in the pursuit of equity. Once the principal understands the cultural values of the students, he/she must seek to use strategies that will help the inclusion process, like staff development for multicultural curriculum and instructional techniques, recruitment of minority teachers, and engaging families of all students.

Leaders provide support for meeting the expectations of student learning within their building. Picucci, Brownson, Kahlert, and Sobel (2004) examined high-performing middle schools from high-poverty areas and noticed that principals were following the middle school concepts of having a common purpose, organizing thoughtful school structures, and attending to the needs of individual students. These concepts were attained by implementing the use of student teams, common planning for teachers, block scheduling, and an extended school day that provides tutorial assistance. These ideas were present in the schools they studied.

However, Styron and Nyman (2008) conducted a study that found higher levels of implementation of these concepts in low-performing schools. The authors did note that this could be due to low-performing schools paying closer attention to the organization of their schools due to the need to meet federal guidelines for restructuring.

Leadership within a building must take on a variety of roles. Andrews and Soder (1987) viewed the role of the principal as a resource provider, instructional resource, and communicator. The role of resource provider is seen when “principals set high expectations for teaching,

learning, and achievement, and hold themselves accountable for providing teachers the necessary resources and support to do their work appropriately” (Printy & Marks, 2006, p. 129).

School leaders must also provide the resources needed for their staff to be successful. Darling-Hammond and Friedlaender (2008) examined five California poverty schools that were exceeding expectations of graduation and college entrance based on serving these students from low-income families with college entrance rates of at least 80%. The authors noted each school had leadership that focused on allocating its financial resources to improve the school. The leadership’s financial allocations went towards reducing class size, recruitment of quality teaching staff, and implementation of professional development for teaching staff that focuses on curriculum, assessments, and instruction to monitor student achievement.

Providing the resources for teachers to excel can enhance the collective efficacy of the teachers within the building. Manthey (2006) pointed out that collective efficacy can greatly improve student achievement within a building. The belief by staff that they can make changes in the building to positively affect student achievement is essential. The author points out that before a school can have a teaching staff with collective efficacy; the administration has to provide the resources and time to foster skills. Administrators have to be persistent in their pursuit of collective efficacy for staff. Goddard, Hoy, and Hoy (2004) pointed out that collective efficacy, the belief that teachers can make a difference through organizing and executing a course of action, is closely tied to student achievement within the building.

Research supports that principals need to make sure they set up their buildings to maximize impact on student achievement. Printy and Marks (2006) noted a lack of leadership to meet the student achievement goals when principals attempt to go alone. Instead, principals must focus on empowering teachers to become leaders within the building. The authors noted

that maximizing results can only occur when the principal uses strong leadership while facilitating the notion of teacher leadership.

Lambert (2006) studied 15 schools that had demonstrated remarkable turnaround due to improving leadership capacity within the schools. All 15 schools had demonstrated improved student achievement scores through a belief that they should not stop until student learning was improved. The leadership within these schools focused on sharing their vision with stakeholders and improving student leadership within the building by having the staff model leadership skills to students. With increased student leadership, the administrators provided more opportunities for student participation within the building. The empowerment of staff and teachers by administrators was seen in all 15 buildings.

Ylimaki (2007) added that principals build successful schools when they are willing to share the instructional leadership with their staff. It is important for a principal to “know what instructional leadership responsibilities they could share and when to gradually release these responsibilities to teachers” (Ylimaki, 2007, p. 17).

Teaching and Learning

Teaching and learning is vital to the growth of the student learner. Students need to have teachers that understand and care about them, provide an environment conducive to their learning style, use researched instructional techniques to deliver their lessons, challenge students through higher-order thinking skills and real-life problems, and use assessment feedback to drive their instruction. All of these factors proved evident in the research conducted towards improving student achievement through teaching and learning.

Teachers need to understand the cultural background of their students. Sato and Lensmire (2009) established this importance within their three key features to improve learning

within schools with substantially low socioeconomic status populations. They believe schools must focus on the students' competencies, improve the teacher's understanding of cultural identity, and foster a professional development model requiring collaboration between the teaching staff. Educators need to understand that students come from different backgrounds. "A key strategy for implementing a successful rigorous curriculum includes the cultural responsiveness to recognize and nurture student strengths, not just understanding them through the lens of the middle class white norm" (Machtinger, 2007, p. 4).

With the understanding of students, teachers can then begin to form a professional relationship that demonstrates their care for the students they serve. With the need for character and virtues goes the sense of caring for the student's well-being. "Students need to feel teachers are involved with them—that adults in school know and care about them" (Klem & Connell, 2004, p. 262). This is supported by a study conducted by Check (1986) in which he surveyed 8th and 12th grade students, as well as college seniors. The survey was used to gather data on positive and negative traits for an effective teacher. The major finding from the survey indicated the high percentage of students at all levels viewed an effective teacher as a helper (99%).

Research indicates that teachers caring about their students are important in the learning process. Bennett (2008) believed teachers must focus on issues that affect students within their classes. With a growing number of poverty students, teachers have to understand the issues these learners face. There is a need for teachers to: (a) have a sense of understanding for socioeconomic differences within their learners; (b) develop empathetic rapport and caring attitudes for each child; and, (c) develop a commitment to culturally responsive teaching within the field.

Klem and Connell (2004) conducted a study to determine what level of teacher support was needed in order to maximize engagement that will result in academic success within the classroom. In this study, engagement factors such as “extent to which students exert effort on schoolwork, pay attention in class, prepare for class, and believe doing well in school is personally important” (Klem & Connell, 2004, p. 264) were measured using the Research Assessment Package for Schools for Students. The study showed a significant positive relationship between the students’ engagement level and the support the teacher gave the student.

The drop-out rates for students from at-risk backgrounds have been proven to decrease when students perceive their teachers care about them. Knesting (2008) conducted a qualitative case study attempting to identify the reasons that at-risk students drop out. She conducted interviews with 17 students, principal, assistant principal, 4 guidance counselors, 2 social workers, and 7 teachers at Washington High School. The study concluded that caring teachers viewed by students’ perceptions were more likely to decrease the dropout rate in schools by increasing the students’ persistence to continue. Students cited an importance of having teachers understand them, believe in them, and accept them.

After the caring relationship has been established between the teacher and student, the motivation of the student needs to be examined. Munns (2007) found that a teacher with an effective relationship with students can focus on four areas to increase student engagement. He believes teachers should focus classroom instruction on getting more student-to-student interaction, providing opportunities for students to become a greater risk-takers in their education, having students discuss their learning from the classroom outside the class, and displaying student work. These four focal points for teachers led to improving the quality of work students completed through their increased sense of motivation.

Meece (2003) conducted research that indicated motivation is positively related to the learning environment. His findings concluded that the students' perception of their learning environment could be used to predict the motivation the student would have towards his/her learning. "Thus, keeping with a learner-centered approach, the classroom needs to be viewed from the student's perspective" (Meece, 2003, p. 114).

As mentioned above, the student's engagement and motivation is often tied to the learning environment in which he/she is placed. Nunn (1995) conducted a quantitative study to determine the effects learning styles and strategies of interventions have on at-risk middle school students. The study consisted of 103 students that were randomly selected from eight school rosters. The study placed students within three groups: at-risk intervention, at-risk nonintervention, and general education control. All students took Canfield's Learning Styles Inventory and Deshler and Shumaker's Strategies of Intervention Model. The schools that were deemed as focusing on providing an environment conducive to the student's learning style and implemented strategies for interventions showed significant improvements in student grade-point average and assessments for the at-risk intervention group compared to the at-risk nonintervention group.

Gaisford (2006) continued this point by noting that school will not be engaging for students unless teachers have the skills to develop and design a learning environment conducive to the students' learning style. "Doing authentic projects, fostering collaborative peer-to-peer interaction, utilizing quality learning resources, and teaching to the whole classroom without losing focus on individual strengths and weaknesses" is vital to ensuring students are engaged throughout the lesson (Gaisford, 2006, p. 29). The creation of this positive learning environment is an important task for the learning process to take place.

The instructional techniques that teachers use can greatly improve the learning of the students that are at-risk. Pogrow (2009) furthered this point with his belief that students of low socioeconomic status backgrounds often are viewed as lacking knowledge when they enter the middle school grade levels. He believes that teachers can combat these perceived knowledge gaps by offering instruction that allows the student to “internalize” the lesson so they are able to commit it to their long-term memory. He points out this will improve the likelihood that students will learn the content on the first attempt.

Teachers must use researched-based instructional techniques that foster engagement and ownership for learning with each student. Murnane (2007) pointed out that children living in poverty tend to be highly concentrated in the worst schools. These schools have inadequate resources coupled with teaching staffs that are not prepared for the taxing challenge of teaching these students. He notes teachers and administrators need to have the knowledge base that can serve these students, but often do not. Due to the challenges of teaching in a high-poverty area, teachers tend to choose these employment opportunities when they are not hired by the wealthier schools.

The use of differentiated instruction is an important aspect of instruction that can be aimed at reducing the learning gap these students face. Rodriguez (1990) saw the only way to reduce the number of students that are failing to meet the expectations set for their learning is to provide the best possible instruction. Cobb (2004) pointed out that differentiation is more than grouping students within different activities. Instead, it is directly matching the instruction to what teachers want the students to learn, assessing each child to determine where they are, and then adapting instruction to get all students to meet the desired goals. “Differentiation calls for clearly defined goals and standards that provide teachers with a road map for designing

instruction” (Cobb, 2004, p. 104). Dunn, Honigsfeld, and Doolan (2009) stated “differentiated instruction has become part of every school systems’ lexicon but without learning styles as its cornerstone, no one knows how to differentiate instruction or on what to base differentiation” (p. 139).

Alignment of instructional practice with the curriculum is important for student learning. “Certainly, we should be consistent on the desired outcome for youth: successful learning. But we must be flexible on strategies to accomplish that goal” (Conrath, 2001, p.586). Learning should be a constant progression made up of little goals that ultimately lead to the big goals. “Although content is a paramount component of systemic effectiveness, its delivery must be effective or else the information and its quality cannot be consumed” (Polk, 2006, p. 24).

Another quality instructional technique identified in the research is the use of modeling. Polk (2006) saw modeling as an alternating process of teacher demonstrations followed by student imitation. Teachers become better at modeling the more they practice this technique. The author believes the better the teachers become at modeling, the more significant growth that occurs within the student learning.

Research indicates that the use of modeling is enhanced when teachers use it to produce lessons that balance creativity with the content. Burke-Adams (2007) believed “it is evident that balancing standards and creativity not only equalizes classroom methodology, but also allows for individuality in learning to occur” (p. 59). The author believed emphasis should be placed on students becoming creative problem solvers that can face the challenges within our society.

Teachers need to have high expectations that are being pursued through the use of researched-based instructional techniques. Cotton (1995) established an effective school has teachers that ensure the school climate promotes high expectations for student learning. This

creates a system that will increase student motivation to learn as long as the expectations are not perceived as unattainable. Enhanced learning is accomplished when teachers hold students accountable for work through the use of these expectations and establishing guidelines for student actions throughout the learning process. Students are made aware of the guidelines through the use of constant feedback on their performance. The use of high expectations that are guided through by measures of learning that are accountable, seen through constant feedback, promotes a positive school climate for learning.

The use of high expectations in learning is often tied to the type of instruction the teacher provides the student. The high-expectation teachers are more likely to use problem-based learning that encapsulates higher-order thinking skills and real-life problems the student can internalize according to the research conducted by Sungur and Tekkaya (2006). These researchers examined the impact problem-based learning (PBL) has on student motivation to learn. The students were divided into two groups, PBL group and a control group that used traditional instruction. The groups were given a motivation survey instrument and no significant difference was deemed between the groups. The PBL group completed a six-week instructional program focused on problem-based learning. After the instruction was complete, both groups took the motivation survey instrument again. This time the motivation in the PBL group was deemed significantly greater than the control group. The PBL group was identified as having more motivation to attempt challenging problems, higher levels of educational curiosity, and greater interest in learning. Authors cite that PBL approach can improve the performance of students by teaching them how to learn.

Teachers should use real-world problems and higher-order thinking skills throughout their instruction. Wenglinsky (2004) conducted a qualitative study to determine what kinds of

instructional practices have the greatest impact on reducing the achievement gap between low socioeconomic status and high socioeconomic status student populations. The study used data from 15,694 eighth grade students on the National Assessment of Educational Progress (NAEP) in 2000 from the area of mathematics. The study showed that students doing more ‘real-world’ math problems led to greater achievement.

Critics of higher-order thinking skills, like Booker (2007) cited these skills should be geared more toward the college student. Booker believes these values have been inappropriately pushed on the K-12 schools without the students having the maturity to handle such demands. He believes that American schools are falling behind their international counterparts due to the lack of respect that is given to knowing facts and substantive knowledge by our schools. He believes that students in K-12 schools need to have a better foundation before attempting to tackle higher-order skills.

Instruction of the students must center on feedback from the assessment instruments within the school. Bloom (1984) sought to find a way to match student achievement that was being accomplished in studies where students were tutored one-on-one. The tutored student within these studies was two standard deviations above the traditional classroom student. Bloom felt the need to conduct research to see what could be done to improve student achievement, yet still be economically feasible to the district. The study sought to find methods of teaching that an educator could use with minimal time invested in training and low levels of cost for the school. Substantial gains were seen when teachers used a prerequisite cognitive-knowledge deficits focus completed during the first week of the course and corrective feedback from assessments throughout the course. Continued growth in student achievement was seen when

teachers used higher-order thinking skills tied directly to real-life problems that allowed the student to understand the underlying concepts to the problems.

The improvement of instruction and curriculum development is closely tied to the use of formative assessments. Heritage (2007) viewed formative assessment as a process in which the teacher identifies the gap between what is known by the student and stated goal. After the student's gap has been determined, a feedback process begins which the teacher informs the student of the gap, the goal, and how they can remedy the gap. The teacher identifies what measures will be taken to address the gap, such as modifying instruction before a retest is given to determine if the goal has been met. This process continues until the goal has been met while ensuring that student involvement is occurring during this process.

Teachers need to give students frequent feedback in a variety of ways. "Assessment is often viewed as something in competition with teaching, rather than as an integral part of teaching and learning" (Heritage, 2007, p. 140). Wormeil (2006) believed assessment and feedback are vital to the education of the child. These two factors promote skills that benefit the student throughout their educational pursuit. He believes teachers need to stop teaching accountability through punishments, but instead use assessment and feedback. Wormeil states, "Assessment and feedback, particularly during the course of learning, are the most effective ways for students to learn accountability in their work and personal lives" (p. 26).

Documenting and Using Results

Schools need to use a comprehensive assessment system that is valid and reliable. Research finds that it should measure higher-order thinking skills. Data should not only be used at the school level, but should include formative assessments that give detailed information to each student. "Formative assessment is a systematic process to continuously gather evidence

about learning. The data are used to identify a student's current level of learning and to adapt lessons to help the student reach the desired learning goal" (Heritage, 2007, p. 141).

Through surveying high-performing high-poverty schools, Parrett and Budge (2009) found that administrators and teachers considered the use of data in making decisions as the prime reason for the success of these schools. The use of data to determine their progress towards measurable student improvement goals was the cornerstone to these successful high-poverty schools. Picucci et al. (2004) point out that data is the key to streamlining instruction to meet the desired goals of the curriculum. It helps to narrow the focus on what needs to be accomplished during instructional time.

The assessments should be used to yield information that is useful to administration, teachers, and other stakeholders. Henning (2006) conducted a study in which he examined how teacher leaders are using data. The sample of this study consisted of seventeen elementary teachers and seven middle school teachers participating in a graduate program for teacher leaders. The teacher leaders used the Iowa Test of Basic Skills (ITBS) scores in their reports.

Henning (2006) concluded the reports that the teachers created fell within five types: correlating data (standardized test scores correlated with each other), disaggregating data (single-year test results were disaggregated to compare results from different student groups), analyzing trends (data analyzed over years to determine trends in student performance), analyzing trends against the norm (data analyzed over years to determine trends and compared to national norms), and analyzing trends of disaggregating data (data trends for different student populations over the years). The study indicated different ways in which teachers were able to use standardized achievement of test scores to improve their instruction.

Variety within the assessments a school uses to measure student achievement is essential to the improvement of instruction. Assessments need to include work the student is doing in the classroom. Stiggins and Chappuis (2005) argued that student assessment cannot be clearly measured without considering the work the student does in the classroom. In order for teachers to use the classroom work, the assessment must have a clear purpose, address appropriate achievement expectations, reflect the students' knowledge, and be used in teaching. The authors note the results must be timely and understandable. They believe students need to be active in student-involved assessments as they help identify strengths and weaknesses in their work while keeping a record of it. They also believe students should take an active part while communicating their perspectives of their self-assessments with others. The authors note these types of assessments have been linked to improved levels of motivation within the students, especially for low-achieving students. The authors also argue that students need something other than standardized testing in order to consider themselves as productive learners.

Instruction needs to challenge student learners to use higher-order thinking skills and the assessments should measure such skills. Criswell and Criswell (2004) believed assessments that include the use of essays can allow higher-order thinking to take place, but teachers within the classroom must be trained on the different purposes for an essay. The authors note that restricted-response and extended-response are the two most popular forms of essay questions. Restricted-response eliminates guessing and demonstrates the students' knowledge, comprehension, and application of their learning. In order for higher-order thinking to be used, the assessment must use the extended-response format while requiring the student to use analysis, synthesis, and evaluation. The authors believe essay questions placed on assessments

can give a much clearer picture of what the students know, and can challenge them by using these higher-order thinking skills.

Too many assessments fail to measure higher-order thinking skills that are needed throughout a student's life. Brown and Conley (2007) examined 60 math and English assessments given in 20 states to determine their alignment with the Knowledge and Skills for University Success Standards. The purpose of this study was to determine whether the assessments given in these 20 states met the requirements needed to be successful learners in the university setting. Through the alignment process, the authors found reading comprehension was deemed aligned in 83% of the test, writing 50%, critical thinking 30%, and research skills only 3%. Mathematical alignment in the state assessments occurred in the following areas: algebra 63%, geometry 60%, and trigonometry 3%. The study also concluded that the questions that made up the state assessments were basic, unaligned, and did not require higher-order thinking.

Resources and Support Systems

Schools currently need to maximize the resources and support systems available to them in order to improve school effectiveness and student achievement. The research indicates professional development for staff, partnerships with universities, and variety among programs offered are ways to maximize the resources available to schools.

Studies show schools are having difficulty meeting the needs of their students with shortages in highly-qualified teachers and financial resources. Hanushek, Kain, and Rivkin (2004) cited the growing shortage of qualified teachers available compared to the increases in population. The authors believe there is a lack of teachers to fill urban positions for teaching poverty students, especially in the areas of math, science, and special education.

The school has to ensure that its staff is well qualified within their teaching area. Oakes (1989) cited the importance of tying both the student's access of knowledge within the school and the importance the school places on higher-order learning to teachers' professionalism. Le Cornu (2005) believed teachers need to have professional learning communities in order for them to be well qualified to teach. He believes the use of these professional learning communities can replace the outdated mentoring programs. The professional learning communities allow members to interact with each other and use critical reflection throughout the process.

Kent (2004) discussed the importance of professional development in order to correct the numerous teachers that are unprepared to teach within our schools. She cited the lack of pedagogical knowledge and motivation as key components to why teachers are not successful in the classrooms. Her answer to this problem was professional development that can improve school reform through improved teacher quality.

The school should provide quality professional development for all staff in order to improve their effectiveness throughout the school according to Doolittle, Sudeck, and Rattigan (2008) as they examined the benefits Professional Development Schools (PDS) can have on improving schools with whom they partner. The authors cited several advantages to working with the PDS such as: improving teaching and learning, understanding the students' needs, and knowledge of research-based instructional techniques. They argued for sufficient planning in order to maximize the effects PDS can have on their partner schools. They believe university faculty plays a significant role in improving the teaching staff of their partner schools. The university faculty offers the teaching staff insight into new researched-based methods through

reflection of current methods employed. The authors note PDS can provide a system for improvement for schools that often lack the capacity to make such changes.

Miller, Duffy, Rohr, Gasparello, and Mercier (2005) investigated a school in North Carolina that has experienced substantial results in a school consisting of low-income students. In 1998, the school had 43.6% of the students in fifth grade scoring proficient on the North Carolina End-of-Grade Reading Test compared to 84.9% in 2004. The change occurred in 1999 when the principal within this school established a relationship with a local university to have the junior and senior college students work with students in the building along with the university professors working with staff. The university and school leadership team developed teaching practices that would improve student achievement.

Miller et al. (2005) focused on the following areas: (a) Judgment-focused teaching, (b) Problem-driven instruction, and (c) Practice-based learning. In judgment-focused teaching, the “teachers routinely assess students’ progress during instruction, and if many students are not catching on as anticipated in the original lesson plan, teacher provide additional support as needed” (p. 63). In problem-driven instruction, the teacher focuses on challenging the student with tasks that assess comprehension and literacy. The practice-based learning helps to ensure that the students within the school are given enough time to learn.

Ledoux and McHenry (2008) pointed out several pitfalls to partnerships between universities and public schools. They believed universities send unqualified teacher candidates into classrooms and to run after-school tutoring programs and this can negatively impact the school. They also believe teacher candidates that view their supervising teacher negatively can hinder student learning.

Students in our education system need a variety of programs to meet the needs they have throughout all aspects of their lives. Poynton, Carlson, Hopper, and Carey (2006) believed not all programs need to be focused on solely student achievement, but instead the overall growth of the student must be considered by the school. One example of a support program that schools use was demonstrated by their study which was conducted to determine the effectiveness of a standardized conflict resolution curriculum that is linked to problem-solving strategies. The study concluded students that were taught conflict resolution demonstrated higher levels of self-efficacy within problem solving and logical reasoning.

The school should use resources to meet the needs of all learners within the building to excel in learning, but schools are finding this difficult due to the lack of funds that are available. Schools have to maximize the effectiveness of their financial resources. Bray (2003) examined 1,504 school district within four southern states to determine what highly successful schools were spending their financial resources on in comparison to their low-achieving counterparts. Throughout the higher-achieving schools, there was an increased spending on instruction while there was evidence of reducing spending on administration. An emphasis on increasing the amount of professional development offered to all staff was also present in these higher-achieving schools.

Archibald (2006) conducted a study examining the effect of per-pupil expenditures on student achievement. The sample consisted of grades three through six in 2002-2003 for Washoe County School District. The data used came from student test results and the district financial records. The study found that per-pupil spending was positively related to the achievement in reading and math, and was statistically significant in the area of reading. The

author claims the importance of available resources for teacher instruction in order to improve student achievement.

Du and Hu (2008) examined the allocation of resources and compared it to the achievement of students within their sample schools. They used a multiple linear regression model to help predict which factors of resource allocation impacted student achievement in poverty schools throughout China. The study looked at human, material, and financial resources. When investigating the relationship between these three resources and academic achievement, material resources demonstrated the highest significant relationship. The teacher-quality factor that was measured in the human-resource section showed a positive relationship to academic achievement, but not as great as material resources.

Stakeholder Communication and Relationships

Schools need to have the understanding and commitment of all of their stakeholders. “High-performing/high-poverty schools do not go it alone. Instead, they build positive and productive relationships with students’ families and broader neighborhood and community” to help support learning for all students (Parrett & Budge, 2009, p. 27). Studies show schools improve when they involve the parents in the education of their child. Schools need to understand that the problem is not the students’ ability to learn, but the struggle they have trying to overcome the lack of opportunities to learn that are provided at home. Schools have to provide “compensatory instructional benefits to make up for the cognitively and socially stimulating activities many of these children lacked” (Neuman, 2009b, p. 586).

Schools are coming under public scrutiny over failing to meet the needs of students. Lewis (2004) reported on the sentiment of schools failing low socioeconomic status students around the country by citing headlines like *Poverty Takes Toll on School Performance* which ran

in the Orlando Sentinel in August 2004. The story focused on “how low-income students lag on every academic measure from kindergarten readiness to high school graduation rates” (p. 100). Lewis (2004) pointed out schools cannot do it without help, and need the support of the legislators.

An important step for schools to improve includes incorporating stakeholders within the process of improving school effectiveness. School personnel should provide all stakeholders the opportunity for collaboration and shared decision making to improve student learning. The relationships a principal makes with outside stakeholders has the “the most robust impact” on improving student achievement (Nettles & Herrington, 2007, p. 733). Reavis, Vinson, and Fox (1999) believed it is imperative that leadership within a building not only propose ideas for improvement toward stated goals and values of the school, but listen to the responses they receive. The authors believe the conversation must be two-sided, between principal and teachers, in order for the school to offer the best services to its students.

Doyle (2004) added that school leadership needs to change from traditional top-down management approaches to a more collaborative approach in order to develop a community of learners within their building. She states the stakeholders that have a vested interest in the school include: parents, teachers, students, community members, as well as administrators. With this in mind, Doyle seeks to have leadership become a democratic process which empowers all stakeholders. She believes the leadership needs to use this empowerment to develop relationships and commitment for the school. Doyle stated that when “decisions are made collectively, authority becomes dependent on expertise rather than on position” (p. 197). Doyle believed this method will lead to commitment of all stakeholders to the improvement of the school.

Schools have to examine the organization to determine whether they are correctly prepared to reform their school. Herrmann (2006) examined what organizational requirements had to be in place for school reform to take place. She interviewed 57 administrators, 192 teachers, and 30 stakeholder focus groups to determine the impact stakeholder support has in the school-reform process. She believes stakeholders have to understand and support the movement of the school for it to become successfully implemented. These stakeholders have to be able to identify with the changes requested in order to buy into the philosophy and processes. She states when they were able to internally understand the need for the changes, they became committed to the process.

The incorporation of stakeholders within the school has reflected in student achievement growth in various studies. One study completed by Du and Hu (2008) concluded a significant relationship between parent involvement in education and academic achievement. The authors concluded that administration needs to ensure the parents are committed to the school. The authors believe this commitment by the parents can have a substantial impact on the academic achievement of the students.

Commitment to Continuous Improvement

Schools have to constantly focus on improving effectiveness in order to maximize student achievement. It is important to understand that continuous improvement will require changes to be made that will take time. Any new improvement effort should be a derivative of the earlier results being reflected on. Sato, Coffey, and Moorthy (2005) further these points by stating “Professional development should focus on the idea of development and come to grips with the necessity of recognizing that it takes time to make an idea or practice one’s own” (p. 190).

Schools that are able to make changes to improve have a constant focus on improvement. Chapman and Harris (2004) examined schools that were of high-poverty student populations to determine what steps these schools were taking to become successful. These schools were located in areas of the poorest neighborhoods. The authors noted that the schools that have made successful turnarounds focused on improving their school as a core value. All schools within this study that demonstrated substantial growth created a system in which collaboration was used to determine what areas of the school needed improvement. These schools committed themselves to improving their professional development while creating learning communities within the staff, reflecting on whether their practices matched their goals, and using data to make decisions in the classrooms and school as a whole.

West, Ainscow, and Stanford (2005) examined 34 secondary schools in England that had a history of not meeting standards or being able to keep staff, yet they have shown dramatic improvement over the last six years. The case study's purpose was to determine what steps leadership took to elevate these schools, and provide a framework for other schools still struggling. The central theme pulled out of the interviews with the leadership of these schools focused on an emphasis on improving through changing the culture of the school, focusing on instructional techniques, and constant review of the school through the use of data.

Teachers are part of the overall stakeholder group that must be included when planning changes for improvement, as school culture must be examined. Creemers and Reezigt (2005) examined the link between school effectiveness and school improvement. The Effective School Improvement (ESI) project was sponsored by the National School Improvement (NSI) in the Netherlands. The review of the literature concluded that effective school improvement deals with educational change to improve the student learning through enhancing the schools' ability

to manage change. The study linked school effectiveness to school improvement through the planning process. The researchers concluded school culture has to be considered before the planning process can begin.

Halsall (1998) agreed with this sentiment by stating “one of the most consistent messages from the school improvement literature is that school culture has a powerful impact on any change effort” (p. 29). He points out those schools with a teaching staff that feel they can make a difference were more likely to accept the plans for change. He believes the engagement of the staff within the building was determined the most important factor to developing a plan for improvement.

Schools need to use outside agencies to allow for the development of staff. Sharp (2004) examined the LEA’s role in improving schools within England and Wales. The LEA’s have examined the research to give practical advice to schools on ways to improve. The study concluded the LEA’s were a valuable resource for these schools by providing research and providing professional development focus for these schools. The author noted through the use of LEA’s, the teaching staff began to understand the way in which their students learn, which then showed substantial improvement in students’ test scores. The teachers within these schools use the research given to them by the LEA to stimulate discussion among them in order to constantly improve on their instruction.

Focus on improvement is essential to advancing school effectiveness, but it is also important that during these preparations for continuous improvement schools use data to help drive decisions. Wohlstetter, Datnow, and Park (2008) believed schools should use a collaborative approach to perpetuate an ongoing process for improvement and should match the expectations the school has placed on each student for his/her learning. These authors examined

the impact of data-driven decision-making practices in successful schools. They found that effective data use allows schools to understand themselves better by identifying their successes and challenges that face them.

In order for data to guide the building, Wohlstetter et al. believed meaningful and challenging goals for student performance to determine desired outcomes and the alignment of goals, curriculum, and assessments were necessary before decisions on the data could be made. All schools in the study met these two criteria. Also, schools demonstrated teacher empowerment within their classrooms and school building. Teachers were able to help create policy within the school.

Anderson-Butcher, Lawson, Bean, Flaspohler, Boone, and Kwiatkowski (2008) examined a new school improvement model in Ohio called the Ohio Community Collaboration Model for School Improvement (OCCMSI). The model focuses on bringing in all stakeholders while developing plans for school improvement. This model uses external resources, such as families, community agencies, and all adults that serve children to improve student learning by increasing the readiness level for each student to learn. The OCCMSI uses school improvement planning teams to gain a variety of input from school and community stakeholders. Leadership within the building shares data with other stakeholders to determine the best plan of action.

Schools need to use all possible resources to improve effectiveness in educating students. Demie (2003) conducted a case study to determine why schools with high-poverty makeup were being successful in some areas of England. He determined the success stemmed from the partnership the schools created with the English local educational authority (LEA). The LEA was providing valuable information for schools to consider. The schools in this area of the country were given school profiles from the LEA to allow them to determine performance

effectiveness in educating students. The reports given to them allowed schools to compare effectiveness to other schools' effectiveness in the area. This promoted a series of discussions in these schools on what they can do to improve instruction. The LEA also provided training to the staff of these schools on understanding data and the implications of the data presented to allow the schools to self-evaluate and set new goals. The setting of goals resulted from the results of earlier goals. The author points out the LEA information allowed the school to determine the strengths and weaknesses before establishing the new goals.

Student Achievement By Means of Standardized Testing

The use of standardized testing as a means of measuring student achievement is a highly debated topic in our educational system. Public perception of the testing practice placed on our schools by No Child Left Behind had become negative according to Rose (2007), who also points out the PDK/Gallup polls have shown a growing percentage of the population that view the No Child Left Behind legislation (NCLB) as a failure. He cites the public's viewpoint of the law lacking the ability to make changes in the educational field through improved student achievement for all. In the poll, 68% of the public expressed no impact or a negative impact for NCLB on schools. The use of adequate yearly progress (AYP) measures for determining school effectiveness has created this opposition. Rose points out that the poll concluded 82% of the public prefers measuring schools based on improvement rather than percentage passed on standardized testing. He also points out that the public has growing concerns for the importance placed on and the frequency of standardized testing.

Many factors can account for the test scores schools receive. The teachers' perception of the principal, the students' perception of the teachers, the lack of home support for students, and

the failure to teach literacy skills can all impact student achievement scores. Schools must seek ways to remedy these problems if they are persistent.

“Findings suggest that teacher perceptions of the principal as an instructional leader are crucial to the reading and mathematics achievement of students, particularly among low-achieving students” (Andrews & Soder, 1987, p. 11). According to Andrews and Soder (1987), principals play an important part in the improvement process for the scores on standardized testing.

The principal is not the only individual in the building that can significantly impact the results students have on standardized testing. Teachers play a vital part in the process as well. The perception of the teachers within the building regarding their students will impact the score results. Poplin and Soto-Hinman (2005) pointed out:

We are left with disturbing questions why middle-class educators so strongly resist achievement measures as a marker for success for other people’s children. These are the same tests that their own children do quite well on. Social justice is when you want for other people’s children what you want for your own. (p. 44)

The attitude the teacher portrays to the student regarding standardized testing impacts how seriously the student takes the test.

Teachers need to portray to students the need to achieve. “Teachers’ achievement goal beliefs are likely to affect their classroom behaviors and through those behaviors, the classroom goal structure” (Haselhuhn, Al-Mabuk, Gabriele, Groen, & Galloway, 2007, p. 15). The authors continue this argument by pointing out achievement goals placed within the curriculum impact the results of the standardized testing. “Designing curriculum and instruction to meet the literacy

and learning needs of all students is increasingly the charge laid at the doorstep of American schools” (Janisch & Johnson, 2003, p. 295).

Many factors are contributing to the lack of success at-risk students are having on standardized testing. Milne and Plourde (2006) conducted a qualitative study to identify the factors of low socioeconomic status affecting student achievement. The literature review of this study identified three problems facing students of low-income backgrounds: (a) escalating number of divorces leading to an increase in the number of hours single-parents have to spend outside the home away from the child, (b) overcrowding in these home causing a decrease in the time a parent spends with each child, and (c) a consistent lack of educational materials within the home. Milne and Plourde’s study concluded that in each of the high-achieving low-SES student’s homes educational materials were present, time was spent each day doing homework with the parent, all participants had attended preschool, parents spent as much time as possible with their children, and every parent stressed the importance of education to their child.

“Today’s standards-based accountability systems focus most on student performance on standardized tests” (Archibald, 2006, p. 26). Archibald (2006) believed with the number of factors that impede at-risk student success on standardized tests, it is important that schools attempt to provide as much as possible to meet the needs of these learners. He believes several factors can aid in this process. Literacy needs to be an important part of the schools’ agenda for each student. “Developing the literacy of children from poverty backgrounds can be done through a systematic approach that involves high-powered curriculum wedded to the use of powerful teaching and learning models” (VanTassel-Baska & Stambaugh, 2006, p. 63). The authors continue this point by addressing the need for multiple means of assessment to accurately portray the students’ knowledge of the content.

“Literacy is, in reality, the cornerstone of student achievement, for any student in any grade” (Wise, 2009, p. 373). Guthrie and Davis (2003) noted that as students transition from elementary to middle schools, reading within the school changes due to “detachment of reading instruction from content, formidable texts and textbook structures, formal, non-personal response expectations, diminished student choice, isolation of students from teachers, and minimal linkage of real-world interaction with reading” (p. 66). The authors note these are detrimental choices for schools to make when teaching literacy.

Instead, schools should focus on “learning and knowledge goals, real-world interactions, interesting texts, autonomy support, strategy instruction, and collaborative support.” (Guthrie & Davis, 2003, p. 78) This model will produce increased engagement for the reader while improving literacy skills that are needed to be successful on standardized tests.

Colvin and Schlosser (1998) believed that literacy is a valuable component of the curriculum. Teachers have to diligently work to build literacy skills that will benefit the student in all areas of learning. The authors believe the teacher should focus on understanding the relationship between the students’ beliefs about literacy and their behaviors. They add understanding the behaviors can give the teacher a clearer picture into the literacy needs of the student.

By challenging students in their reading programs, students will improve on the standardized testing. Mucherah and Yoder (2008) examined the relationship between middle school students’ motivation to read and their reading score on the Indiana Statewide Testing for Educational Progress (ISTEP+). The study consisted of 388 middle school students that were given the Motivation for Reading Questionnaire (MRQ) to help determine the student’s motivation for reading. The study found that students who had high self-efficacy in reading,

challenged themselves in their reading selections, and varied the types of reading selections they choose outperformed readers who merely read for social reasons on the ISTEP+. The students' reading efficacy and value placed on reading challenging materials showed a significant effect on predicting reading scores.

The use of standardized testing to measure school effectiveness has people on both sides of the fence. Many advocates state it helps ensure students are learning. Wolf (2007) advocates the benefits of standardized testing, noting that they provide valuable feedback to teachers, parents, and students. The assessments allow teachers to determine areas of their instruction that are not meeting standards, and allow them to focus on these deficiencies in future classes. It also focuses the instruction, because what will be tested will be taught. The use of standardized testing provides mastery of the material since students are more likely to commit this knowledge to their long-term memory if they know it will be tested. Testing allows for identification of problems in learning for students and provides early detection for any learning issue.

Standardized testing gives the schools a measure of student growth in relationship to the curriculum and instruction that is taking place, but this measure has been argued to be unreliable due to test anxiety. Mulvenon, Stegman, and Ritter (2005) conducted a study to determine the amounts of test anxiety for students, parents, teachers, counselors, and principals during standardized testing. The sample consisted of 251 5th grade students and their parents, 141 teachers, 7 principals, and 8 counselors. Surveys were designed specifically for each group to measure their overall attitude, opinion, concern, and perception of standardized testing.

Mulvenon et al. (2005) concluded the surveys did not identify anxiety levels in any subgroups due to standardized testing. Students demonstrated anxiety related to school climate due to negative pressure surrounding standardized testing from the school and parents. The

pressure put on students by parents lead to lower test scores. Parents identified the need for testing and did not believe they placed pressure on their students.

Many advocates of standardized testing point out that preparing for these tests actually improve the skills of the students. The results of the tests mirror the instruction that is being provided to the students. Improving instruction and learning in the classroom leads to improvements in standardized testing. Supon (2008) suggested that teachers take the following steps to increase student performance on standardized testing: being early, synthesize curriculum alignment to standards, use vocabulary development that focuses on state glossary of terms, prepare students with test-taking strategies, and make sure assessment within instruction is closely tied to state standards.

There are many challengers regarding the use of standardized testing to measure school effectiveness as well. Barrier-Ferreira (2008) expressed discontent with the extreme focus of standardized testing in the American educational system. She concedes the testing provides focus for instruction, but she cites a problem exists when assessments are used as the sole indicator of success in schools. The amount of time spent preparing for the test leaves virtually no time to develop the emotional and spiritual side of the child. Students need to be prepared to deal with the outside world they will face, but will not be unless the emotional skills are there to cope with such problems. She cites the focus on standardized testing has actually restricted the growth of students by limiting their instruction to content and skills. The balance between academic, emotional, and social well-being is not being reached.

Guisbond and Neill (2004) believed standardized testing should not be used to measure the success of schools because they are not reliable. They argue these tests are not measures of growth, but instead 'snapshots' of student achievement from one day. The use of these tests

limits educators' instruction to test preparation rather than producing high-quality education while developing responsible citizens. States cannot measure growth of students using tests that are norm referenced where a percentage of the students are set up to fail, lack higher-order questioning, are not valid due to question and scoring errors, are culturally biased, and often do not measure the standards for which they are intended. Standardized testing does not promote equity, but instead promotes inequality as poverty students are more likely to become discouraged and give up.

Ricci (2004) argued that standardized testing contradicts the purpose of educating students to become active productive citizens in our democracy. Standardized testing has too many teachers teaching to the test rather than preparing students with the knowledge needed to thrive in a democracy. The use of centrally-controlled standards that guides the tests leaves little room for creative lessons to meet the local problems. Standardized tests become the catalyst for the central government (state or federal) to mandate what is being taught in the school, rather than give the educator some control to venture into local problems the student will face after he or she exits this school.

Hursh (2005) believed standardized testing has not met its goals of ensuring economic productivity or equity in education. Instead, he cites standardized testing has made the educational system worse by transferring power away from teachers and towards politicians. These politicians have established a system that does not value improvement, but sets thresholds for achievement. Schools are not measured on improving student learning, but on what percentage of students pass a test that can easily be manipulated by raising or lowering the cut score. Also, the use of subgroups, allows one group to fail resulting in the school being labeled a failure. Hursh advocates the use of standardized testing is not a legitimate practice in the field of

education since these tests can easily be manipulated and schools are labeled as failures without considering growth.

There are also individuals that think testing needs to be tied with other forms of assessment to get a better picture of the schools' effectiveness. Plitt (2004) saw the importance of testing to help measure what students have learned during their time in school, but feels we fail to understand what is truly learned when we do not include other measures, especially for at-risk students. Plitt saw the solution to these problems as relevant, authentic, and challenging learning experiences that will lead to increased critical-thinking skills and motivation.

Rothstein, Jacobsen, and Wilder (2009) also believed that standardized testing has its place in education, but should not be used as a single determination on school effectiveness. The authors cite that an effective accountability system would require the measurement of items that are not being measured on standardized testing. Instead of placing testing as the measure of school effectiveness, the authors call for a system that includes testing as part of the determination of success for the school. The use of an outside accreditation agency such as AdvancED would serve the purpose the authors discuss. They call for accreditation to be mandatory for all schools and tests scores to be part of the accreditation process. Accreditation committees who are trained on insights of school quality are able to effectively judge the schools' effectiveness when they are able to examine test scores, school documents, interviewing teachers, students and administrators, and examine portfolios of student work. These reports created by the committees can guide the proposed goals for improvement within the building and provide recommendations on how to reach these goals. Other nations, with much more limited budgets than the United States, are using this type of system to produce effective schools that seek to educate the whole child.

Summary

This chapter developed the research foundation for the seven standards of the North Central Association Commission on Accreditation and School Improvement. Each standard was discussed with its influence on student achievement mentioned. Student achievement as measured by standardized testing was also reviewed.

The review of literature provided a basis for the topic of the study. Chapter 3 discusses the methodology for the study which investigates the relationship between the seven NCA CASI standards and student achievement in the states of Illinois, Indiana, Kentucky, Michigan, and Ohio.

CHAPTER 3

Methodology

Purpose of the Study

The purpose of this quantitative study was to determine whether there are significant differences among AdvancED accredited middle and high schools that consist of those with high poverty populations and those affluent accredited schools regarding school effectiveness. This study examined whether there is a significant difference between schools of poverty and affluent schools on reading and mathematics state assessments. This study also examined which AdvancED school effectiveness accreditation standards predict student achievement success through standardized test performance in both reading and mathematics.

Research Questions

The research questions for this study are as follows:

1. Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards?
2. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading?
3. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics?

4. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading?
5. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Null Hypotheses

The following null hypotheses were generated through the research questions:

1. There is no significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards.
2. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading.
3. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics.
4. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of reading.
5. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of mathematics.

Description of the Sample

The study consists of school effectiveness accreditation scores provided by AdvancED. Data was collected on 449 schools for this study. These schools came from Illinois, Indiana, Kentucky, Michigan, and Ohio. The schools involved in this study that were within the 36% to

44% free and reduced lunch count were discarded in order to represent a clear division between schools of poverty and affluent schools.

Data Sources

For this study, an Excel database was acquired from AdvancED listing school accreditation scores for all schools in Illinois, Indiana, Kentucky, Michigan, and Ohio which participated in the accreditation process. Each school hosts a quality-assurance review team that examines and documents the schools' effectiveness in the seven standards. Schools are rated for each standard as being highly functional, operational, emerging, or not evident. For the purpose of this study, these ratings were converted to a four point scale with highly functional serving as a 4, operational serving as a 3, emerging serving as a 2, and not evident serving as a 1.

The 2008-2009 free and reduced lunch percentages, reading scores, and mathematics scores were gathered from the state department of education sites for each school in the study. For reading and mathematics scores, the percentage of students that met or exceeded proficiency on the state assessment was used for this study. In order to norm for variations of difficulty between the different state assessments given, the percentage of students that rated as meeting or exceeded the state assessment was divided by the state average for meeting or exceeding the test.

Data Collection Procedures

An email inquiring whether AdvancED would grant access to their data was sent on December 12, 2009 and a permission to use letter was received on December 21, 2009 (Appendix A). On May 28, 2010, the internal review board (IRB) determined this study was exempt from review. That day another email was sent to AdvancED requesting information on school accreditation scores for the five states in the study. The request sought accreditation scores for the 2008-2009 school year for all schools that participated in the school accreditation

process. The schools were identified on the database for purposes of matching their accreditation scores with poverty and state assessment scores. None of the schools in this study were identified within the findings.

The free and reduced lunch percentages, percentage of students that met or exceeded state assessment for reading, and percentage of students that met or exceeded state assessment for mathematics for each school within the study was gathered from the Department of Education for each state. This data was added to the database of school accreditation scores from AdvancED.

Method of Analysis

The first null hypothesis examines whether there are differences between AdvancED accredited schools of poverty and accredited schools of affluence in the seven school effectiveness standards was tested using a multivariate analysis of variance (MANOVA). The means of the schools of poverty and affluent schools on standard accreditation scores were examined to determine whether there is a significant statistical difference between the two sample groups. This analysis was selected since it allows for one test to measure whether there is significant differences among the two sample groups in each standard, and reduces the chance of type-I error rate inflation that running multiple *t*-tests could encounter. If the MANOVA determines significance difference in the samples, then univariate tests were used as a follow up to determine which school effectiveness standard(s) are significantly different between the two samples.

The second and third null hypotheses that examine whether there are differences between AdvancED accredited schools of poverty and accredited schools of affluence in state achievement scores in reading and mathematics were tested using *t*-tests for reading and

mathematics. The means of the AdvancED accredited schools of poverty and accredited affluent schools were examined to determine whether there is a significant statistical difference between the two sample groups.

The procedures used for testing the fourth and fifth null hypotheses were dependent on the results from the first null hypothesis. If the null was rejected in the first hypothesis and three or more of the seven school effectiveness standards were found to be significantly different, then the fourth and fifth null hypotheses of the study were split into two sample groups (AdvancED accredited schools of poverty and accredited affluent schools). This resulted in two multiple regression tests being run for the fourth null hypothesis and two multiple regression tests being run for the fifth null hypothesis. If there would not have been at least three standards that demonstrate significant difference within the first null hypothesis, then the two sample groups would have been combined and a single multiple regression test would have been run for each of the fourth and fifth null hypotheses. These multiple regression tests were used to determine whether any of the seven AdvancED school effectiveness accreditation standards could be used to predict success in student achievement through standardized test performance for reading or mathematics.

Summary

The importance of educating all students within the school is a pressing concern for educators today. This study has taken the task of analyzing what the differences are between schools of poverty and affluent schools in the seven AdvancED standards for school effectiveness. This provides quantitative data on the deficiencies within accreditation that schools of poverty must overcome. This study also examined whether the results from schools on the seven standards of school effectiveness from AdvancED can be used to predict the

schools' success on standardized achievement tests in reading and mathematics. This will provide quantitative data for administrative teams to help focus their improvement strategies towards providing education for all students.

CHAPTER 4

Findings of the Study

Research Questions

The research questions investigated for this study include the following:

1. Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards?
2. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading?
3. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics?
4. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading?
5. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Presentation of Study Sample

For this study, a collection of data was gathered from AdvancED on school effectiveness within the states of Illinois, Indiana, Kentucky, Michigan, and Ohio. Within these five states, all middle and high schools that had entered into the school accreditation process were labeled on each of the seven AdvancED standards, with schools under the district accreditation process

exempted from the study. Schools were labeled as highly functional, operational, emerging, or not evident among the seven standards. For the purpose of this study, those ratings were converted to a four-point scale with highly functional serving as a 4, operational serving as a 3, emerging serving as a 2, and not evident serving as a 1.

Among the five-state region, there were 449 public secondary schools that were seeking school accreditation through AdvancED in 2008-2009. For the purpose of this study, the schools were then divided into two groups, schools of poverty and schools of affluence. This division was determined based on the percentage of free and reduced lunch students at each school. Schools of poverty consisted of all schools which had 45% or higher free and reduced lunch count. Schools of affluence consisted of all schools that had 35% or less free and reduced lunch count. Any school that was between these two categories was exempt from the study. The sample consisted of 169 schools of poverty and 222 schools of affluence. Fifty-eight schools were exempt from the study due to falling between the subgroup thresholds.

Table 1

Sample Description for Schools of Poverty

State	<i>N</i>	F/R Lunch Mean %	<i>SD</i>	Enrollment Mean	<i>SD</i>
Illinois	72	80.79	17.35	1,288.6	844.38
Indiana	23	57.57	13.01	904.3	520.97
Kentucky	13	57.39	11.71	812.7	412.82
Michigan	40	57.33	9.09	870.1	525.20
Ohio	21	81.29	19.54	919.8	317.82

The schools of poverty consisted of 169 schools from the five states; with Illinois having 72, Indiana having 23, Kentucky having 13, Michigan having 40, and Ohio having 21 as reflected in Table 1. The overall mean for free and reduced lunch percentage for schools of poverty was 70.34 with a standard deviation of 19.01. The overall mean for enrollment was 1054.81 students with a standard deviation of 684.85. AdvancED standard scores for schools of poverty are reflected in Table 2.

Table 2

AdvancED Standards Rating Distribution for Schools of Poverty

Standard	<i>M</i>	<i>SD</i>	Highly Functional (4)	Operational (3)	Emerging (2)	Not Evident (1)
Vision/ Purpose	2.85	.55	13	118	37	1
Governance/ Leadership	3.05	.58	32	115	21	1
Teaching/ Learning	2.82	.53	10	120	38	1
Documenting/ Using Results	2.69	.61	12	94	62	1
Resources/ Support Programs	3.07	.46	24	133	12	0
Stakeholder Communications/ Relationships	2.99	.56	25	117	27	0
Commitment to Continuous Improvement	2.80	.54	11	113	45	0

Resources and support programs ($M = 3.07$, $SD = .46$) and Governance and Leadership ($M = 3.05$, $SD = .58$) were rated the two highest standards among schools of poverty and were the only two standards in which there were more highly operational schools than emerging. While examining score distribution among the seven standards, a majority of the scores (58.91%) fell within the operational rating for schools of poverty. Governance and Leadership ($N = 32$) received the most ratings of highly operational among the standards. Only four ratings (.25% of all ratings given) received a not evident rating among all the standards.

The schools of affluence consisted of 222 schools from the five states; with Illinois having 17, Indiana having 75, Kentucky having 3, Michigan having 84, and Ohio having 43 (Table 3). The overall mean of free and reduced lunch count for schools of affluence was 21.25 with a standard deviation of 8.02. The overall mean for enrollment was 983.55 students with a standard deviation of 625.12. Standard Scores for schools of affluence are reflected in Table 4.

Table 3

Sample Description for Schools of Affluence

State	<i>N</i>	F/R Lunch Mean %	<i>SD</i>	Enrollment Mean	<i>SD</i>
Illinois	17	21.88	10.24	1,393.3	680.18
Indiana	75	22.97	6.97	812.8	600.21
Kentucky	3	17.33	12.74	982.7	548.37
Michigan	84	20.43	7.98	939.2	583.92
Ohio	73	19.88	8.32	1,206.1	317.82

Table 4

AdvancED Standards Rating Distribution for Schools of Affluence

Standard	<i>M</i>	<i>SD</i>	Highly Functional (4)	Operational (3)	Emerging (2)	Not Evident (1)
Vision/ Purpose	2.92	.66	36	137	45	4
Governance/ Leadership	3.17	.54	53	155	13	1
Teaching/ Learning	3.02	.55	36	155	31	0
Documenting/ Using Results	2.74	.61	18	131	71	2
Resources/ Support Programs	3.27	.50	66	151	5	0
Stakeholder Communications/ Relationships	3.14	.54	51	152	19	0
Commitment to Continuous Improvement	2.84	.64	28	134	52	3

Like schools of poverty, schools of affluence had resources and support programs ($M = 3.27$, $SD = .50$) and Governance and Leadership ($M = 3.17$, $SD = .54$) rated as the two highest standards. Among schools of affluence, four of the standards had more ratings as highly operational than emerging: governance and leadership, teaching and learning, resources and support programs, and stakeholder communications and relationships. While examining score distribution among the seven standards a majority of the scores (65.32%) fell within the

operational rating for schools of affluence. Resources and support programs ($N = 66$) received the most ratings of highly operational among the standards. Only 10 ratings (.64% of all ratings given) received a not evident rating among all the standards.

While examining the descriptive data from this sample, an emergent question became apparent within this study. Do schools of poverty differ significantly from schools of affluence in regards to enrollment size for this study? In order to determine whether these two groups significantly differed within this study based on enrollment, a t -test was conducted. The assumption of independence for this t -test was not violated as each enrollment size was independent from all other enrollment sizes. The assumption of equality of variances was not violated with a Levene's test for equality of variances significance level of .497. The assumption of normality was not violated as skew and kurtosis of both samples fell within acceptable ranges. This test determined there was no significant difference between the schools of poverty and schools of affluence within this study regarding enrollment size with a $t(1, 389) = 1.071, p = .285$.

Reading and mathematics assessment scores were also collected for each school within the study. Both of these scores were calculated by taking the percentage of students within the school met or exceeded the cut score on the test and dividing it by the percentage of students that met or exceeded within the state. A score of 1.00 for schools on either test would signify the school met the state average. A score below 1.00 would signify the school fell short of the state average, whereas a score above 1.00 would signify the school exceeded the state average for that assessment.

The mean on the reading assessments for all schools within the study was .90 ($SD = .31$). This shows that schools within this five-state region that seek AdvancED accreditation are

falling short of the state average with regards to reading assessment scores. When schools in this study were divided into their groups based on poverty level, schools of affluence ($M = 1.09$, $SD = .13$) outperformed schools of poverty ($M = .66$, $SD = .31$).

The mean on the mathematics assessments for all schools within the study was .88 ($SD = .39$). This shows that schools within this five-state region that seek AdvancED accreditation are falling short of the state average with regards to reading assessment scores. When schools in this study were divided into their groups based on poverty level, schools of affluence ($M = 1.12$, $SD = .20$) outperformed schools of poverty ($M = .57$, $SD = .37$).

Hypotheses Testing

The following are the null hypotheses that were tested:

H₀1. There is no significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards.

H₀2. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading.

H₀3. There is no significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics.

H₀4. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of reading.

H₀5. The AdvancED school accreditation standards do not serve as predictors of success on student achievement through standardized test performance in the area of mathematics.

Differences Between Schools of Poverty and Schools of Affluence on Standard Ratings

The first null hypothesis examined whether there were differences within the linear composites between AdvancED accredited schools of poverty and accredited schools of

affluence in the seven dependent variables (school effectiveness standards). This null was tested using a multivariate analysis of variance (MANOVA). The assumptions within a MANOVA were examined to ensure a lack of violation or correction if violations occurred. The assumptions regarding linearity and independence were not violated during this test, however the assumption of multivariate normality and homoscedasticity were violated.

With regards to multivariate normality, this assumption was violated due to having a dependent variable (resources and support systems within schools of poverty) with a positive kurtosis of 1.69. The test was still completed even though this assumption was violated due to MANOVA testing being robust with regards to moderate violations of normality and sample sizes were close in proximity to each other. The violation of normality could have also led to the violation of the assumption of homoscedasticity (equal covariances) that was identified with a significant Box's test of equality of covariance matrices, $F(28, 455) = 1.516, p = .039$. Thus equal variances cannot be assumed. Due to violating the assumption of homoscedasticity, the MANOVA was tested using the Pillai's Trace test rather than the more standard Wilks' Lambda test since the Pillai's Trace test is more robust to a violation of the assumption of homoscedasticity.

The means of the schools of poverty and affluent schools on standard accreditation scores were examined to determine whether there is a significant statistical difference between the two sample groups. The MANOVA determined the two groups were significantly different through the use of the Pillai's Trace test with $F(1, 389) = 3.312, p < .001$. In order to determine which of the standards caused this significant difference, separate univariate tests were completed.

Table 5

Means, Standard Deviations, Mean Differences, F-Values, and Significance for Schools of Poverty and Schools of Affluence on Standard Rating

Standard	Schools of Poverty Mean	SD	Schools of Affluence Mean	SD	Difference Between Means	F	Sig.
Vision/ Purpose	2.85	.55	2.92	.66	.07	1.530	.217
Governance/ Leadership	3.05	.58	3.17	.54	.12	4.324	.038*
Teaching/ Learning	2.82	.53	3.02	.55	.20	13.152	.000*
Documenting/ Using Results	2.69	.61	2.74	.61	.05	.671	.413
Resources/ Support Systems	3.07	.46	3.27	.50	.20	17.339	.000*
Stakeholder Communication/ Relationship	2.99	.56	3.14	.54	.15	7.738	.006*
Continuous Commitment to Improvement	2.80	.54	2.84	.64	.04	.503	.479

As presented in Table 5, the univariate tests determined the following standard means were significantly different between schools of poverty and schools of affluence: Governance and Leadership, Teaching and Learning, Resources and Support Systems, and Stakeholder Communication and Relationships. In each of these standards, schools of poverty scored significantly lower than schools of affluence. In Governance and Leadership, schools of poverty

($M = 3.05$, $SD = .58$) scored significantly lower than schools of affluence ($M = 3.17$, $SD = .54$), $F(1, 389) = 4.324$, $p = .038$, partial $\eta^2 = .011$. In Teaching and Learning, schools of poverty ($M = 2.82$, $SD = .53$) scored significantly lower than schools of affluence ($M = 3.02$, $SD = .55$), $F(1, 389) = 13.152$, $p < .001$, partial $\eta^2 = .033$. In Resources and Support Systems, schools of poverty ($M = 3.07$, $SD = .46$) scored significantly lower than schools of affluence ($M = 3.27$, $SD = .50$), $F(1, 389) = 17.339$, $p < .001$, partial $\eta^2 = .043$. In Stakeholder Communication and Relationships, schools of poverty ($M = 2.99$, $SD = .56$) scored significantly lower than schools of affluence ($M = 3.14$, $SD = .54$), $F(1, 389) = 7.738$, $p = .006$, partial $\eta^2 = .020$.

The univariate tests examined the following standard means and determined they were not significantly different between schools of poverty and schools of affluence with an alpha level of .05: Vision and Purpose, Documenting and Using Results, and Commitment to Continuous Improvement. In each of these standards, schools of poverty still scored lower than schools of affluence, but there was not a significant difference. In Vision and Purpose, schools of poverty ($M = 2.85$, $SD = .55$) scored lower than schools of affluence ($M = 2.92$, $SD = .66$), $F(1, 389) = 1.530$, $p = .217$, partial $\eta^2 = .004$. In Documenting and Using Results, schools of poverty ($M = 2.69$, $SD = .61$) scored lower than schools of affluence ($M = 2.74$, $SD = .61$), $F(1, 389) = .671$, $p = .413$, partial $\eta^2 = .002$. In Commitment to Continuous Improvement, schools of poverty ($M = 2.80$, $SD = .54$) scored lower than schools of affluence ($M = 2.84$, $SD = .64$), $F(1, 389) = .503$, $p = .479$, partial $\eta^2 = .001$.

Standardized Reading Assessments Outcomes Based on Poverty Group

The reading scores for all schools within this study were determined by taking the percentage of students within the school that met proficiency on their state assessment and dividing it by the average percentage of students meeting proficiency within their state. The

sample for this test did not violate the assumption of independence as all scores were independent of each other. The assumption of normality was not violated as both schools of poverty and schools of affluence skew and kurtosis fell within acceptable ranges. Levene's test for equality of error variances indicated a violation of homogeneity of variance assumption. Degrees of freedom were adjusted to correct for this.

The means of the AdvancED accredited schools of poverty and accredited affluent schools reading scores were examined to determine whether there is a significant statistical difference between the two sample groups through the use of a *t*-test. Schools of affluence ($M = 1.09$, $SD = .13$) significantly outperformed schools of poverty ($M = .66$, $SD = .31$) with a $t(1, 215.036) = 16.709$, $p < .001$, $d = 1.878$. Due to the assumption of equal variances being violated within this test the degrees of freedom were adjusted.

In this study, since accreditation appears not to be able to close the gap between accredited schools of poverty and accredited schools of affluence, an emergent question became necessary. Is there a significant difference between accredited schools of poverty and schools that do not seek AdvancED accreditation? In order to seek a solution to this answer another *t*-test was completed that compared these two groups. Data from schools of poverty not accredited was collected. In order to ensure a random sample with a close to equal N as the accredited schools of poverty sample, all middle and high schools that met or exceeded the poverty threshold of 45% free and reduced lunch count within the five-state region were placed on a list. The AdvancED accredited schools, either through school or district accreditation, were removed. From the remaining schools, a lottery system was employed to determine which schools would be compared to the original accreditation sample. Thirty schools from each of the five states were selected. Student achievement data for these schools in reading and mathematics was

collected in exactly the same process as the accredited schools of poverty data. The results of the mathematics testing are discussed in the next section.

While running this test, the assumption of normality was not violated as both sets of schools skew and kurtosis fell within acceptable ranges. Levene's test for equality of error variances indicated a violation of homogeneity of variance assumption. Degrees of freedom were adjusted to correct for this.

The means of the AdvancED accredited schools of poverty and schools of poverty not accredited through AdvancED reading scores were examined to determine whether there is a significant statistical difference between the two sample groups through the use of a *t*-test. AdvancED accredited schools of poverty ($M = .66, SD = .31$) significantly outperformed schools of poverty not accredited through AdvancED ($M = .58, SD = .26$) with a $t(1, 315.749) = 2.541, p = .012, d = .288$. Due to the assumption of equal variances being violated within this test the degrees of freedom were adjusted.

Standardized Mathematics Assessments Outcomes

The mathematics scores for all schools within this study were determined by taking the percentage of students within the school that met proficiency on their state assessment and dividing it by the average percentage of students meeting proficiency within their state. The sample for this test did not violate the assumption of independence as all scores were independent of each other. The assumption of normality was not violated as both schools of poverty and schools of affluence skew and kurtosis fell within acceptable ranges. Levene's test for equality of error variances indicated a violation of homogeneity of variance assumption. Degrees of freedom were adjusted to correct for this.

The means of the AdvancED accredited schools of poverty and accredited affluent schools mathematics scores were examined to determine whether there is a significant statistical difference between the two sample groups through the use of a *t*-test. Schools of affluence ($M = 1.12, SD = .20$) significantly outperformed schools of poverty ($M = .57, SD = .37$) with a $t(1, 244.154) = 17.604, p < .001, d = 1.937$.

The means of the AdvancED accredited schools of poverty and schools of poverty not accredited through AdvancED mathematics scores were examined to determine whether there is a significant statistical difference between the two sample groups through the use of a *t*-test. While running this test, the assumption of normality was not violated as both sets of schools skew and kurtosis fell within acceptable ranges. Levene's test for equality of error variances indicated a violation of homogeneity of variance assumption. Degrees of freedom were adjusted to correct for this. AdvancED accredited schools of poverty ($M = .57, SD = .37$) significantly outperformed schools of poverty not accredited through AdvancED ($M = .50, SD = .19$) with a $t(1, 256.407) = 2.113, p = .036, d = .299$. Due to the assumption of equal variances being violated within this test the degrees of freedom were adjusted.

School Effectiveness Standard Predictors for Standardized Reading Assessments

The null hypothesis that examined whether AdvancED school effectiveness standards could be used to predict success on reading assessments was broken into two multiple regressions with schools of poverty and schools of affluence separated since the first null was rejected. With four out of the seven standards being significantly different between the two subgroups based on the results of the MANOVA completed to test the first null hypothesis, it was prudent to determine which standards, if any, could help predict success on student

achievement testing in the area of reading. For both schools of poverty and schools of affluence predictors were determined through multiple regressions.

Schools of poverty. The assumptions for multiple regression needed to be examined to ensure the data gives accurate predictors. The assumption of linearity was examined to ensure the relationship between X and Y was linear in nature. To determine whether this assumption was met, an examination of the scatterplot of residuals was done to ensure that almost all of the residuals fell within the 95% confidence bands around zero (between +2 or -2). This assumption has been met as almost all points on the scatterplot fall within this range. The assumption of no multicollinearity ensures the predictors within the test are not too strongly intercorrelated. This assumption was met due to having tolerance levels for all of the predictors (school effectiveness standards) well above the .2 minimum that is needed for this assumption. The tolerance levels for the predictors in this regression ranged from a low of .476 to a high of .687.

While examining the assumptions for the residuals, the assumption of independence was met as there was no systematic pattern on the plot of residuals. The assumption of normality was tested by examining the normal probability plot to assess overall normality of the residuals. Based on the distribution of residuals in the p-p plot we can assume that the assumption has been met. The assumption of homogeneity of variance of residuals was met as the residuals are the same across all values of X. There was a constant scatter of residuals among all values of X for this regression, so we can assume this assumption has been met.

The multiple correlation coefficient shows the correlation between the observed and predicted values of the criterion (Table 6). With a multiple correlation coefficient of .397, one would consider this a moderate correlation between the predictors and criterion. The coefficient of multiple determination gives us the proportion of the total variance in the criterion (reading

scores) that is shared with the linear combination of the predictor variables (school effectiveness standards). With a coefficient of multiple determination (R^2) value of .158, 15.8% of the variance in the reading scores can be explained by the school effectiveness standard scores. The adjusted R^2 gives us an unbiased estimate of R^2 for the population as it corrects R^2 based on the number of predictors relative to the number of subjects. R^2 was .158, but adjusted R^2 was .121 as the number of predictors and subjects were examined. The .037 difference between the R^2 and adjusted R^2 is the shrinkage in the model. The standard error of the estimate (.294) measures the amount of variability in the points around the regression line. It is the standard deviation of the data points as they are distributed around the regression line. This means this model has a standard deviation of .294 units of reading scores regarding the distance of the residuals from the regression (prediction) line.

Table 6

Model Summary Statistics for Criterion Variable (Reading Assessment Scores) for Schools of Poverty

Criterion Variable	R	R^2	Adjusted R^2	Shrinkage	SE of the Estimate
Reading Assessments	.397	.158	.121	.037	.294

Table 7

ANOVA Model Statistics for Criterion Variable (Reading Assessment Scores) for Schools of Poverty

F Value	Significance Value
4.31	.000

This multiple regression revealed that the predictors (school effectiveness standards) have the ability to predict reading scores for schools of poverty. An ANOVA was completed to test the significance of R^2 within the model. It determined that school effectiveness standards can be used to predict reading scores within schools of poverty. The ANOVA was significant, $F(7, 161) = 4.31, p < .001$, thus showing a linear relationship between school effectiveness standards and reading scores within poverty schools as presented in Table 7.

Table 8

Unstandardized and Standardized Partial Regression Coefficients for Reading Assessment

Scores

Independent Variables	B	SE	β	t	Sig.
Vision/ Purpose	-.70	.059	-.123	-1.195	.234
Governance/ Leadership	-.015	.055	-.028	-.271	.787
Teaching/ Learning	.161	.057	.271	2.813	.006*
Documenting/ Using Results	.101	.052	.196	1.943	.054
Resources/ Support Programs	.180	.060	.262	2.991	.003*
Stakeholder Communication/ Relationships	-.023	.049	-.040	-.463	.644
Continuous Commitment to Improvement	-.194	.061	-.335	-3.200	.002*

Through the use of stepwise regression, the model indicated three predictors (school effectiveness standards) that significantly predict reading scores: Resources and Support Systems, Teaching and Learning, and Commitment to Continuous Improvement. Resources and Support Systems was a significant predictor of reading scores, $t(7, 161) = 2.99, p = .003$. Teaching and learning was a significant predictor of reading scores, $t(7, 161) = 2.813, p = .006$. Commitment to continuous improvement was a significant predictor of reading scores, $t(7, 161) = -3.20, p = .002$ and is presented in Table 8.

Resources and Support Systems had an unstandardized partial regression coefficient of .180, which means reading scores are predicted to change .180 with a one unit increase in resources and support systems, while removing the effects of the other predictors. Teaching and learning had an unstandardized partial regression coefficient of .161, which means reading scores are predicted to change .161 with a one unit increase in teaching and learning, while removing the effects of the other predictors. Commitment to continuous improvement had an unstandardized partial regression coefficient of -.194, which means reading scores are predicted to decrease .194 with a one unit increase in commitment to continuous improvement, while removing the effects the other predictors.

The standardized partial regression coefficients (β weight) for each predictor (standard) allows us to measure the impact of each standard on reading scores in standardized units through the use of z -scores. Resources and support programs has a standardized partial regression coefficients (β weight) of .262, teaching and learning had a standardized partial regression coefficients (β weight) of .271, and commitment to continuous improvement had a standardized partial regression coefficients (β weight) of -.335. This shows us the amount of impact each variable has regarding the prediction of reading scores. Commitment to continuous

improvement has the largest impact on predicting reading scores even though it is the only significant predictor with a negative relationship with reading scores.

Schools of affluence. Another multiple regression was completed to determine if any of the school effectiveness standards could be used to predict reading scores. The assumption of linearity was met in the regression with almost all of the residuals falling within the 95% confidence bands around zero (between +2 or -2) on the scatterplot of residuals. The assumption of no multicollinearity was met due to having tolerance levels for all of the predictors (school effectiveness standards) well above the .2 minimum that is needed for this assumption. The tolerance levels for the predictors in this regression ranged from a low of .439 to a high of .687.

While examining the assumptions for the residuals, the assumption of independence was met as there was no systematic pattern on the plot of residuals. Based on the distribution of residuals in the p-p plot we can assume that the assumption has been met. The assumption of homogeneity of variance of residuals was met as the residuals are the same across all values of X. There was a constant scatter of residuals among all values of X for this regression.

Table 9

Model Summary Statistics for Criterion Variable (Reading Assessment Scores) for Schools of Affluence

Criterion Variable	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Shrinkage	<i>SE</i> of the Estimate
Reading Assessments	.394	.155	.128	.027	.125

The multiple correlation coefficient shows the correlation between the observed and predicted values of the criterion. With a multiple correlation coefficient of .394, one would

consider this a moderate correlation between the predictors and criterion. The coefficient of multiple determination gives the proportion of the total variance in the criterion (reading scores) that is shared with the linear combination of the predictor variables (school effectiveness standards). With a coefficient of multiple determination (R^2) value of .155, 15.5% of the variance in the reading scores can be explained by the school effectiveness standard scores. The adjusted R^2 gives us an unbiased estimate of R^2 for the population as it corrects R^2 based on the number of predictors relative to the number of subjects. R^2 was .155, but adjusted R^2 was .128 as the number of predictors and subjects were examined. The .027 difference between the R^2 and adjusted R^2 is the shrinkage in the model. The standard error of the estimate (.125) measures the amount of variability in the points around the regression line. It is the standard deviation of the data points as they are distributed around the regression line. This means this model has a standard deviation of .125 units of reading scores regarding the distance of the residuals from the regression (prediction) line. These data are presented in Table 9.

Table 10

ANOVA Model Statistics for Criterion Variable (Reading Assessment Scores) for Schools of Affluence

<i>F-Value</i>	<i>Significance Value</i>
5.264	.000

The multiple regression revealed that the predictors (school effectiveness standards) can be used to predict reading scores for schools of affluence. An ANOVA was completed to test the significance of R^2 within the model. It determined that school effectiveness standards can be used to predict reading scores within schools of affluence. In Table 10, the ANOVA was

significant, $F(7, 214) = 5.264, p < .001$, thus showing a linear relationship between school effectiveness standards and reading scores within schools of affluence.

Table 11

Unstandardized and Standardized Partial Regression Coefficients for Reading Assessment Scores

Independent Variables	B	SE	β	t	Sig.
Vision/ Purpose	-.033	.019	-.160	-1.696	.091
Governance/ Leadership	.014	.022	.056	.650	.516
Teaching/ Learning	-.021	.022	-.085	-.939	.349
Documenting/ Using Results	.050	.019	.228	2.575	.011*
Resources/ Support Programs	-.017	.021	-.065	-.847	.398
Stakeholder Communication/ Relationships	.080	.019	.323	4.261	.000*
Continuous Commitment to Improvement	.017	.020	.080	.844	.400

Through the use of stepwise regression, the model indicated two predictors (school effectiveness standards) that significantly predict reading scores: Documenting and using results, as well as stakeholder communications and relationships. In Table 11, documenting and using results was a significant predictor of reading scores, $t(7, 214) = 2.575, p = .011$.

Stakeholder communication and relationships was a significant predictor of reading scores, $t(7, 214) = 4.261, p < .001$.

Documenting and using results had an unstandardized partial regression coefficient of .05, which means reading scores are predicted to increase by .05 with a one unit increase in documenting and using results, while removing the effects of the other predictors. Stakeholder communications and relationships had an unstandardized partial regression coefficient of .08, which means reading scores are predicted to increase .08 with a one unit increase in stakeholder communication and relationships, while removing the effects of the other predictors.

The standardized partial regression coefficients (β weight) for each predictor (standard) allows us to measure the impact of each standard on reading scores in standardized units through the use of z -scores. Documenting and using results has a standardized partial regression coefficients (β weight) of .228, and stakeholder communication and relationships had a standardized partial regression coefficients (β weight) of .323. This shows us the amount of impact these two significant predictor variables has regarding the prediction of reading scores. Stakeholder communication and relationships has the largest impact on predicting reading scores in schools of affluence.

School Effectiveness Standard Predictors for Standardized Mathematics Assessments

Like the fourth null hypothesis, the fifth null hypothesis that examined AdvancED school effectiveness standards ability to predict mathematic assessment results was broken into two multiple regressions since the first null was rejected with schools of poverty and schools of affluence separated. With four out of the seven standards being significantly different between the two subgroups based on the results of the MANOVA completed to test the first null hypothesis, it was prudent to determine which standards, if any, could help predict success on

student achievement testing in the area of mathematics. For both schools of poverty and schools of affluence, predictors were determined through multiple regressions.

Schools of poverty. The assumptions for this multiple regression were all met. The assumption of linearity was met in the regression with almost all of the residuals falling within the 95% confidence bands around zero (between +2 or -2) on the scatter plot of residuals. The assumption of no multicollinearity was met due to having tolerance levels for all of the predictors (school effectiveness standards) well above the .2 minimum that is needed for this assumption. The tolerance levels for the predictors in this regression ranged from a low of .439 to a high of .687.

While examining the assumptions for the residuals, the assumption of independence was met as there was no systematic pattern on the plot of residuals. Based on the distribution of residuals in the p-p plot we can assume that the assumption has been met. The assumption of homogeneity of variance of residuals was met as the residuals are the same across all values of X. There was a constant scatter of residuals among all values of X for this regression.

Table 12

Model Summary Statistics for Criterion Variable (Mathematics Assessment Scores) for Schools of Poverty

Criterion Variable	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Shrinkage	<i>SE</i> of the Estimate
Mathematics Assessments	.409	.167	.131	.036	.341

The multiple correlation coefficient shows the correlation between the observed and predicted values of the criterion (Table 12). With a multiple correlation coefficient of .409, we

would consider this a moderate correlation between the predictors and criterion. The coefficient of multiple determination gives us the proportion of the total variance in the criterion (mathematic scores) that is shared with the linear combination of the predictor variables (school effectiveness standards). With a coefficient of multiple determination (R^2) value of .167, 16.7% of the variance in the mathematic scores can be explained by the school effectiveness standard scores. The adjusted R^2 gives us an unbiased estimate of R^2 for the population as it corrects R^2 based on the number of predictors relative to the number of subjects. R^2 was .167, but adjusted R^2 was .131 as the number of predictors and subjects were examined. The .036 difference between the R^2 and adjusted R^2 is the shrinkage in the model. The standard error of the estimate (.341) measures the amount of variability in the points around the regression line. It is the standard deviation of the data points as they are distributed around the regression line. This means this model has a standard deviation of .341 units of mathematic scores regarding the distance of the residuals from the regression (prediction) line.

Table 13

ANOVA Model Statistics for Criterion Variable (Mathematics Assessment Scores) for Schools of Poverty

<i>F-Value</i>	<i>Significance Value</i>
4.614	.000

The multiple regression revealed that the predictors (school effectiveness standards) can be used to predict mathematic scores for schools of poverty. An ANOVA was completed to test the significance of R^2 within the model. It determined that school effectiveness standards can be used to predict mathematic scores within schools of poverty (Table 13). The ANOVA was

significant, $F(7, 161) = 4.16, p < .001$, thus showing a linear relationship between school effectiveness standards and mathematic scores within poverty schools.

Through the use of stepwise regression, the model indicated four predictors (school effectiveness standards) that significantly predict mathematic scores: Resources and Support Systems, Teaching and Learning, Documenting and Using Results, and Commitment to Continuous Improvement. Resources and Support Systems was a significant predictor of mathematic scores, $t(7, 161) = 3.036, p = .003$. Teaching and learning was a significant predictor of mathematic scores, $t(7, 161) = 2.813, p = .006$. Documenting and using results was a significant predictor of mathematic scores, $t(7, 161) = 2.081, p = .039$. Commitment to continuous improvement was a significant predictor of mathematic scores, $t(7, 161) = -3.207, p = .002$. These data are contained in Table 14.

Resources and Support Systems had an unstandardized partial regression coefficient of .212, which means mathematic scores are predicted to increase by .212 units with a one unit increase in resources and support systems, while removing the effects the other predictors. Teaching and learning had an unstandardized partial regression coefficient of .188, which means mathematic scores are predicted to increase by .188 units with a one unit increase in teaching and learning, while removing the effects of the other predictors. Documenting and using results had an unstandardized partial regression coefficient of .126, which means mathematic scores are predicted to increase by .126 units with a one unit increase in documenting and using results, while removing the effects of the other predictors. Commitment to continuous improvement had an unstandardized partial regression coefficient of -.226, which means mathematic scores are predicted to decrease .226 units with a one unit increase in commitment to continuous improvement, while removing the effects of the other predictors.

Table 14

*Unstandardized and Standardized Partial Regression Coefficients for Mathematics Assessment**Scores*

Independent Variables	B	SE	β	<i>t</i>	Sig.
Vision/ Purpose	-.097	.068	-.144	-1.416	.159
Governance/ Leadership	.005	.064	.008	.077	.939
Teaching/ Learning	.188	.067	.270	2.813	.006*
Documenting/ Using Results	.126	.061	.209	2.081	.039*
Resources/ Support Programs	.212	.070	.265	3.036	.003*
Stakeholder Communication/ Relationships	-.036	.057	-.055	-.631	.529
Continuous Commitment to Improvement	-.226	.071	-.334	-3.207	.002*

The standardized partial regression coefficients (β weight) for each predictor (standard) allow us to measure the impact of each standard on mathematics scores in standardized units through the use of *z*-scores. Resources and support programs has a standardized partial regression coefficient (β weight) of .265, teaching and learning had a standardized partial regression coefficient (β weight) of .270, documenting and using results had a standardized partial regression coefficient (β weight) of .209, and commitment to continuous improvement

had a standardized partial regression coefficients (β weight) of $-.334$. This shows us the amount of impact each variable has regarding the prediction of mathematic scores. Commitment to continuous improvement has the largest impact on predicting mathematic scores even though it is the only significant predictor with a negative relationship to mathematic scores.

Schools of affluence. Another multiple regression was completed to determine if any of the school effectiveness standards could be used to predict mathematic scores for schools of affluence. All assumptions were met. The assumption of linearity was met in the regression with almost all of the residuals falling within the 95% confidence bands around zero (between $+2$ or -2) on the scatter plot of residuals. The assumption of no multicollinearity was met due to having tolerance levels for all of the predictors (school effectiveness standards) well above the $.2$ minimum that is needed for this assumption. The tolerance levels for the predictors in this regression ranged from a low of $.439$ to a high of $.687$.

While examining the assumptions for the residuals, the assumption of independence was met as there was no systematic pattern on the plot of residuals. Based on the distribution of residuals in the p-p plot we can assume that the assumption has been met. The assumption of homogeneity of variance of residuals was met as the residuals are the same across all values of X. There was a constant scatter of residuals among all values of X for this regression.

The multiple correlation coefficient shows the correlation between the observed and predicted values of the criterion (Table 15). With a multiple correlation coefficient of $.394$, we would consider this a moderate correlation between the predictors and criterion. The coefficient of multiple determination gives the proportion of the total variance in the criterion

Table 15

Model Summary Statistics for Criterion Variable (Mathematics Assessment Scores) for Schools of Affluence

Criterion Variable	R	R^2	Adjusted R^2	Shrinkage	SE of the Estimate
Mathematics Assessments	.394	.155	.127	.028	.188

(mathematics scores) that is shared with the linear combination of the predictor variables (school effectiveness standards). With a coefficient of multiple determination (R^2) value of .155, 15.5% of the variance in the mathematics scores can be explained by the school effectiveness standard scores. The adjusted R^2 gives an unbiased estimate of R^2 for the population as it corrects R^2 based on the number of predictors relative to the number of subjects. R^2 was .155, but adjusted R^2 was .127 as the number of predictors and subjects were examined. The .028 difference between the R^2 and adjusted R^2 is the shrinkage in the model. The standard error of the estimate (.188) measures the amount of variability in the points around the regression line. It is the standard deviation of the data points as they are distributed around the regression line. This means this model has a standard deviation of .188 units of mathematics scores regarding the distance of the residuals from the regression (prediction) line.

The multiple regression revealed that the predictors (school effectiveness standards) can be used to predict mathematics scores for schools of affluence. An ANOVA was completed to test the significance of R^2 within the model. It determined that school effectiveness standards can be used to predict mathematics scores within schools of affluence. The ANOVA was

significant, $F(7, 214) = 5.607, p < .001$, thus showing a linear relationship between school effectiveness standards and mathematic scores within schools of affluence (Table 16).

Table 16

ANOVA Model Statistics for Criterion Variable (Mathematics Assessment Scores) for Schools of Affluence

<i>F-Value</i>	<i>Significance Value</i>
5.607	.000

Through the use of stepwise regression, the model indicated two predictors (school effectiveness standards) that significantly predict mathematic scores: Documenting and using results, as well as stakeholder communications and relationships. Documenting and using results was a significant predictor of mathematic scores, $t(7, 214) = 2.591, p = .010$ as reflected in Table 17. Stakeholder communication and relationships was a significant predictor of mathematic scores, $t(7, 214) = 4.371, p < .001$.

Documenting and using results had an unstandardized partial regression coefficient of .075, which means mathematic scores are predicted to increase by .075 with a one unit increase in documenting and using results, while removing the effects of the other predictors. Stakeholder communications and relationships had an unstandardized partial regression coefficient of .122, which means mathematic scores are predicted to increase .122 units with a one unit increase in stakeholder communication and relationships, while removing the effects of the other predictors.

Table 17

*Unstandardized and Standardized Partial Regression Coefficients for Mathematics Assessment**Scores*

Independent Variables	B	SE	β	<i>t</i>	Sig.
Vision/ Purpose	-.014	.029	-.045	-.479	.633
Governance/ Leadership	-.009	.033	-.024	-.280	.780
Teaching/ Learning	-.035	.033	-.096	-1.062	.290
Documenting/ Using Results	.075	.029	.229	2.591	.010*
Resources/ Support Programs	.019	.031	.048	.624	.534
Stakeholder Communication/ Relationships	.122	.028	.331	4.371	.000*
Continuous Commitment to Improvement	-.012	.030	-.037	-.388	.698

The standardized partial regression coefficients (β weight) for each predictor (standard) allow us to measure the impact of each standard on mathematics scores in standardized units through the use of *z*-scores. Documenting and using results has a standardized partial regression coefficients (β weight) of .229, and stakeholder communication and relationships had a standardized partial regression coefficients (β weight) of .331. This shows us the amount of impact these two significant predictor variables has regarding the prediction of mathematics

scores. Stakeholder communication and relationships has the largest impact on predicting mathematic scores in schools of affluence.

Summary

Throughout this chapter, quantitative data was used to find answers to the five research questions found in this study. Research question one demonstrated that schools of poverty are being rated significantly lower than schools of affluence in the following AdvancED school effectiveness standards: Governance and Leadership, Teaching and Learning, Resources and Support Systems, and Stakeholder Communication and Relationships. Research question two demonstrated that schools of poverty do score significantly lower on reading assessments than schools of affluence even when all the schools are accredited. Research question three demonstrated that accredited schools of poverty do score significantly lower on mathematic assessments than accredited schools of affluence.

Through the use of multiple regression, research question four showed that reading assessment scores in schools of poverty can be predicted through the use of AdvancED school effectiveness standard ratings in the following standards: teaching and learning, resources and support systems, and commitment to continuous improvement. With teaching and learning, as well as resources and support systems, a positive relationship with reading assessment scores was seen. Commitment to continuous improvement showed a negative relationship with reading assessment scores in state assessments. Within schools of affluence, documenting and using results, as well as stakeholder communications and relationships showed positive relationships to raising reading assessment scores.

Research question five demonstrated that teaching and learning, documenting and using results, resources and support programs, and commitment to continuous improvement were

significant predictors for mathematic assessment scores in schools of poverty. Teaching and learning, documenting and using results, and resources and support programs showed to have a positive relationship with mathematic assessment scores, whereas commitment to continuous improvement had a negative relationship with mathematic assessment scores. In schools of affluence, documenting and using results, as well as stakeholder communications and relationships showed positive relationships with mathematic assessment scores.

CHAPTER 5

Results, Implications, and Recommendations

The final chapter of this study is divided into five sections: summary, results, discussion, conclusions, and recommendations for further research. The summary section addresses the purpose of the study, why AdvancED school effectiveness standards were chosen as a framework for this study, and who benefits from the study. The results section provides a summary of the data that was previously presented in Chapter 4. The discussion section interprets the results while linking them to the AdvancED school effectiveness framework and look for similarities between the standards that can explain the results. The conclusions section provides insight into what needs to be done in order to eliminate the deficiencies found between schools of poverty and schools of affluence in student achievement results. Finally, the recommendations for further study provide suggestions on additional testing that could enhance the current study.

Summary

The purpose of this quantitative study was to determine whether there are significant differences among AdvancED accredited middle and high schools that consist of those with high poverty populations and those affluent accredited schools regarding school effectiveness. This study examined whether there was a significant difference between accredited schools of poverty and accredited affluent schools on reading and mathematics state assessments. This study also

examined which AdvancED school effectiveness accreditation standards predict student achievement success through standardized test performance in both reading and mathematics.

This study was conducted to investigate the following questions:

1. Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards?
2. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading?
3. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics?
4. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading?
5. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Research substantiates the claim that schools of poverty trail behind schools of affluence with regards to standardized testing results. This study attempted to provide insight on how this difference can be diminished. In order to determine areas of need within schools of poverty, it was important to first define the elements of school effectiveness to include within this study. AdvancED school effectiveness standards were chosen to serve as the conceptual framework for this study because the standards provide a comprehensive look at what successful schools do well based on the research.

The AdvancED research team created seven standards for school effectiveness after two years of reviewing literature for common themes regarding the improvement of student achievement. The review included analysis of thousands of articles from peer-reviewed journals

and dissecting information in hundreds of scholarly books. This exhaustive process determined key factors in improving student achievement as the following: vision and purpose, governance and leadership, teaching and learning, documenting and using results, resources and support systems, stakeholder communications and relationships, and a commitment to continuous improvement were key factors in improving student achievement.

This study benefits school administrators, teachers, and students. By examining the data, this researcher linked school effectiveness standards to student achievement data. Through this study, principals and teachers that serve schools of poverty and schools of affluence are able to identify areas of school effectiveness to focus on in order to improve student achievement. Ultimately, this study's main purpose was to improve student achievement for all students with a special focus on students of poverty.

Results

The findings of this study were presented in the previous chapter. The study centered on the following questions relating AdvancED school effectiveness data and student achievement data:

1. Is there a significant difference between accredited schools of poverty and accredited affluent schools in the seven AdvancED school effectiveness accreditation standards?
2. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in reading?
3. Is there a significant difference between AdvancED accredited schools of poverty and accredited affluent schools in state achievement scores in mathematics?
4. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of reading?

5. Are the AdvancED school accreditation standards predictors of success on student achievement through standardized test performance in the area of mathematics?

Through comparing schools of affluence and schools of poverty accreditation ratings provided by AdvancED, it was determined schools of poverty are being rated significantly lower by quality assurance review teams in the following standards: governance and leadership, teaching and learning, resources and support systems, as well as stakeholder communication and relationships. In these four areas of school effectiveness, schools of poverty were falling behind in comparison to the schools of affluence that entered into the same accreditation process.

Question two and three are answered at the same time due to similar results for both questions. Similar to other research conducted prior to this study, schools of poverty within this study showed a significant difference when compared to schools of affluence in reading and mathematics assessment scores. Schools of poverty as a whole do not score as well as schools of affluence. Within chapter four, it was also presented that accredited schools of poverty significantly outperformed schools of poverty that did not participate in the accreditation process, but it should be noted the actual difference determined through effect size of data was small.

Questions four and five are also answered at the same time due to similar results for both questions. Through the use of a regression analysis between the school effectiveness standards and the student achievement data, significant predictors for success on reading and mathematics assessment were identified. In schools of affluence, documenting and using results, as well as stakeholder communications and relationships were significant predictors for both reading and mathematics assessments. In schools of poverty, teaching and learning, as well as resources and support systems were significant predictors for both reading and mathematics assessments.

Documenting and using results was a significant predictor for mathematics assessments, but it should be noted this standard only missed meeting the alpha level of significance in reading by .004. Commitment to continuous improvement was determined to be a negative predictor for both reading and mathematics assessment in schools of poverty.

Discussion

The data findings presented evidence that schools of poverty are being viewed as performing significantly lower in governance and leadership, teaching and learning, resources and support systems, as well as stakeholder communication and relationships. It was important to examine what quality assurance review (QAR) teams are not seeing within these schools for common themes. This researcher began by giving a brief summary of items that QAR teams look for within the four standards deemed significantly lower within Chapter 4.

Within the governance and leadership (standard 2), QAR teams rate schools high when they are able to display proof of fostering a learning community, giving empowerment to staff, incorporating stakeholders into decisions, and ensuring all staff members focus on improving student performance. QAR teams score schools high in the area of teaching and learning (standard 3) when they provide evidence they are aligning the curriculum with their instruction, utilizing data to make instructional choices, promoting equity within the school by ensuring all students are challenged, protecting instructional time, and actively monitoring school climate. Within the resources and support systems (standard 5), QAR teams rate schools high when evidence demonstrates they are employing and assigning qualified teaching staff in each position, providing professional development to improve student performance and teacher efficiency, and offering all students the supports they need to maximize their learning. Finally, QAR teams score schools high in the area of stakeholder communication and relationships

(standard 6) when they view them as ensuring collaboration with all stakeholders is taking place, clearly communicating expectations regarding student performance to all stakeholders, and providing opportunities to lead with a variety of stakeholders.

This researcher believes it was important to examine what is measured in each of the standards that were determined deficient in order to find common themes among these standards. After examining what was measured in each of the standards, it was evident that standards two, three, and five place high emphasis on teacher quality. Research supports the importance of teacher quality, as it has a direct link to the quality of instruction the students in these schools receive. A common theme in the research was schools of poverty lagging behind the affluent schools with regards to teacher quality. These schools of poverty are often unable to hire the qualified candidates that schools of affluence are attracting. Thernstrom and Thernstrom (2003) pointed out many of the schools serving students of poverty have one main central theme: they lack the quality of teachers their affluent counterparts have. Thernstrom and Thernstrom believed there is a 'consensus' in the field of education that students of poverty need better teachers than what they are receiving. If, as much of the research states, the quality of teaching within the schools serving students of poverty is not at the level of the schools serving students of affluence, then something must be done to remedy this. This is discussed in more detail later in this chapter.

When examining the teacher demographics within schools serving student populations of poverty through the department of education websites for each of the five states, it was not uncommon to see teachers with emergency certificates being used to fill positions of high need within schools of poverty. Such high needs areas included mathematics, science, and special education. Our society has placed such a high emphasis on mathematics and science yet school

districts have to fill these positions with emergency certificates in many of our schools serving poverty students. The level of difficulty poverty schools have attracting the best and the brightest was very apparent. Schools serving poverty students are often forced to hire the teachers that fail to gain employment in affluent districts.

Another area of concern based on the emphasis within the four standards of school effectiveness is school climate and culture. This study identified schools of poverty as lagging behind affluent schools in the factors of school climate and culture. Research has identified important leadership skills in the pursuit of developing more effective schools. Evidence supports the use of high expectations, intervention techniques for at-risk students, and the use of data to guide instruction, but Deal and Peterson (2009) point out that strategies like these will not “succeed without being deeply embedded in supportive, spirit-filled cultures” (p. 248). Schools serving students of poverty will continue to struggle until the culture of the school changes, thus creating a positive and purposeful environment for learning. School climate and culture often trump curriculum as they are embedded within the hidden curriculum. This can be seen in Cotton (2003) as she was examining the differences between high and low performing schools, she points out “that climate is often singled out as a key feature of high performing schools” (p. 14).

So why are schools of poverty having trouble with school climate and culture? The best explanation this researcher can provide comes from the work of Marzano, Waters, and McNulty (2005) in their book *School Leadership that Works*. Schools of poverty tend to be labeled under No Child Left Behind (NCLB) legislation as failing schools since they often find difficulty in meeting adequate yearly progress (AYP). When schools are seen as failing, it is time for a dramatic change in what they are doing. Marzano et al. identified this type of a deep change

process as being 'second-order' change. Through a meta-analysis of essential responsibilities that school leaders have, they were able to identify 21 responsibilities, with cultural leadership being one of the 21.

Marzano et al. (2005) continued from this meta-analysis to engage in a factor analysis that sought to identify the importance of these responsibilities regarding the change process. Culture was acknowledged as having the strongest negative relationship with regards to second-order change. So, as schools involve themselves in deep change (often needed and required under NCLB restructuring provisions), they find themselves negatively impacting the culture of the school. This then results in continued problems with raising student achievement.

Even though the work of Marzano et al. (2005) pointed out the deep change often needed in schools of poverty can be very challenging and can negatively impact the culture of the school, Belasco (1990) pointed out a five-step program to minimize the negative impact change can have on culture. Belasco believed it was important that the following steps be taken in any change process to avoid negatively impacting the culture of the organization: remember the good of the old system, promise staff a better future, use moderate risk for staff to come together, remind all staff of common values, and celebrate the change after it is complete. By following these steps, Belasco believed the shift of culture could actually improve through the change.

Through the use of regression analysis, this study also provided which standards when seen by the QAR teams as being successfully implemented within the schools, demonstrated higher levels of student achievement. Within schools of affluence, standard four (documenting and using results) and standard six (stakeholder communication and relationships) were significant predictors of success for student achievement. It is easy to see the importance of using data to guide instruction and having a positive school climate, which are staples of these

standards, but the real question that must be discussed regards the absence of teaching and learning as a predictor.

At first glance, the failure of the teaching and learning standard to be shown as a predictor was alarming to this researcher due to the vast amount of research that supports the direct link between the teacher and student achievement, but this can be explained. As stated earlier, the research shows that schools of affluence tend to have the most talented teachers. In schools of affluence, the QAR teams found teaching and learning to be either highly functional or operational in 86% of the accreditation visits completed.

As seen in Table 18, when examining the data further, this researcher noticed the gains in student achievement for schools of affluence that scored highly functional compared to being scored emerging was .15 in reading and .22 in mathematics for documenting and using results, .15 in reading and .24 in mathematics for stakeholder communication and relationship, whereas the teaching and learning standard had gains of .07 in reading and .10 in mathematics. As shown, the difference pointed out between the two significant predictors identified in this study was more than double that of teaching and learning in both reading and mathematics. This researcher believes, as previously stated, these differences can be explained due to the level of teachers each school of affluence is able to employ.

Within schools of poverty, standard three (teaching and learning), standard four (documenting and using results), and standard five (resources and support systems) were determined to be significant positive predictors for student achievement, while standard seven (commitment to continuous improvement) was a significant negative predictor. It should be noted that standard four was a significant predictor for mathematics only as it missed the reading

alpha level by .004, but for discussion purposes it shall be included as an overall student achievement predictor.

Table 18

Highly Functional and Emerging Mean Difference in Schools of Affluence for Reading and Mathematics Student Achievement for the Two Significant Predictors and Teaching and Learning

Standard	Highly Functional Mean	<i>SD</i>	Emerging Mean	<i>SD</i>	Difference
Teaching/Learning for Reading	1.14	.18	1.07	.10	.07
Documenting/Using Results for Reading	1.21	.19	1.06	.12	.15
Stakeholder Communication/ Relationships for Reading	1.17	.16	1.02	.14	.15
Teaching/Learning for Mathematics	1.18	.24	1.08	.20	.10
Documenting/Using Results for Mathematics	1.29	.19	1.07	.18	.22
Stakeholder Communication/ Relationships for Mathematics	1.25	.23	1.01	.22	.24

The research previously presented in Chapter 2 supports the importance of teaching and learning, documenting and using results, resources and support systems, as well as commitment to continuous improvement. This discussion does not have to continue with the merits of these standards in regards to student achievement, but rather should attempt to explain why commitment to continuous improvement was seen in this study as a negative predictor in schools of poverty for student achievement. During an interview with one of the state directors of

AdvancED, it was noted that QAR teams often ‘throw the school a bone’ in this standard if they are struggling to find any other standard upon which to rate them high. This standard is chosen due to the criteria the QAR teams use to evaluate it. When examining what is required to get a rating of highly functional or operational in this standard, it became evident that a collaborative plan of improvement was sufficient. The overall implementation of the plan or success of the plan was not a critical factor for the rating within this standard. This researcher believes having a plan that is developed by all stakeholders is not adequate, but a plan that is being implemented within the school while constantly being monitored for effectiveness and adapted when needed is essential to overall school effectiveness. These reasons can be used to explain AdvancED plans of dropping the commitment to continuous improvement standard in the near future.

Conclusions

This section focuses on what needs to be done to improve the situation of schools of poverty. The major emphasis of this section is the improvement in student achievement for schools of poverty since they were found to be scoring significantly lower than schools of affluence. This section centers itself on answering the following question: What can schools of poverty do for themselves to improve their student achievement?

In this study, schools of poverty were identified as having significantly lower achievement scores in reading and mathematics assessments than schools of affluence. This gap cannot be closed without significant improvement in student achievement for schools serving poverty students. Tileston and Darling (2009) emphasize student achievement can be improved in each school through focusing on curriculum, instruction, and assessment. They believe that every school can improve student achievement by focusing on these three core factors, but the achievement gap between students of poverty and their counterparts can only be closed through

using research-based instructional strategies that connect the learning that is taking place with the cultural backgrounds of the learners. This researcher agrees with the importance of curriculum, instruction, and assessment, but feels other factors must be in place for students of poverty achievement growth to take place.

First and foremost, schools of poverty must develop a positive school climate and culture that will serve to foster a learning community throughout the building. Ultimately, for the school culture to improve in each of these schools of poverty they must develop trust among all stakeholders. The administration, faculty, staff, community, and students must work collaboratively to enhance and support the schools' focus on learning.

The instructional culture within each room dictates how well the school does at improving the student achievement of students of poverty. Howard, Dresser, and Dunklee (2009) believe that culture within the classroom is an essential part of student achievement for students of poverty. They identified the following strategies for improving the culture within the classroom for students of poverty: implementing a democratic learning environment, providing positive feedback early and often, structuring time effectively, having cultural and academic flexibility, and celebrating students' successes. Teachers need to be provided opportunities to enhance their approaches to these areas. This need for teacher growth leads us to the next focus for schools of poverty.

Secondly, schools of poverty must improve teacher quality. Teaching is a challenging profession that takes time to develop. "At its core, teaching is an art that calls on its practitioners to work simultaneously in multiple media, with multiple elements" (Tomlinson & McTighe, 2006, p. 12). Professional development must become a focus for change regarding teacher quality in schools of poverty. Tienken and Achilles (2003), as well as Lieberman and Wilkins

(2006) were able to link the commitment to professional development for staff within schools to student achievement. As the level of focused professional development was raised in schools so was the level of student achievement. Schools must allocate teachers with professional development to improve the student achievement throughout the building.

Next, schools of poverty must continue to develop the parent-school relationship. High-performing schools work diligently to establish a positive relationship with the parents of their students. High-performing schools ensure they are informing parents of the schools goals, getting input from the parents, and serving the needs of the community (Cotton, 2003). Through the development of the teacher-parent relationship, teachers can help to change perspectives in low-income homes. Often parents from this type of background do not always support the importance of education. Through developing the relationship and expressing the importance of education, the mindsets of people close to the students can help improve the student's motivation to learn. It is through the alignment between parents and teachers that students will hear similar messages throughout their day (Farr, 2010).

Finally, schools of poverty must become more efficient in how they perform. This can only be done through constant monitoring of data. Secretary of Education Duncan summarized the importance of using data when he stated "I am a deep believer in the power of data to drive our decisions. Data gives us the road map to reform. It tells us where we are, where we need to go, and who is most at risk" (as cited in Farr, 2010, p. 178). All schools need to focus on the incorporation of data in order to make informed decisions regarding student achievement.

Schools of poverty should not settle on examining state assessment data, but must ensure a system is established to measure students prior to, during, and after instruction in order to demonstrate growth and guide instruction. Stronge (2007) establishes the importance of using

data prior to instruction. He believes that effective teachers use assessment results to plan and guide their instruction. The use of data can help guide instruction that will challenge each individual student through the establishment of “ambitious and measureable targets for academic performance” (Farr, 2010, p. 41).

Recommendations for Future Research

To further the findings of this study, this researcher proposes that this study could be expanded to include data on all 30 states that AdvancED currently serves and expanded to include data from multiple years as well as a follow-up study that specifically addresses what actions occur within classrooms of high-performing schools of poverty but not in low-performing schools of poverty. In addition, follow-up study that specifically addresses ways in which high-performing schools of poverty utilize data to make decisions would be helpful, plus a follow-up study that specifically addresses the link between documenting and using results and student achievement. It would also be helpful to include follow-up study that specifically addresses levels of school climate in high-performing schools of poverty compared to low-performing schools of poverty.

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December 21, 2009

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