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A Comparison of Educator Perceptions of Data Use within Seven Characteristics of Accountability Systems

Peggy Marie Stoming
Georgia Southern University

A COMPARISON OF EDUCATOR PERCEPTIONS OF DATA USE WITHIN SEVEN CHARACTERISTICS OF ACCOUNTABILITY SYSTEMS

by

PEGGY MARIE STOMING

(Under the Direction of Lucindia Chance)

ABSTRACT

Due to the reauthorization of the Elementary and Secondary Education Act, known as *No Child Left Behind*, many changes in public education and leadership have occurred. The increased accountability demands have led to an increase in practices such as data-driven decision-making and the establishment of accountability systems designed to ensure an increase in student achievement. With such high demands, it is imperative that data use be pervasive and systemic throughout a school. In an effort to gain a better understanding of the perceived implementation of specific measures of accountability systems, the following characteristics were examined: (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. The study was conducted in an East Georgia School system and utilized an adapted survey from a series of studies performed by Dr. Kerry Englert and her fellow researchers at McRel. Descriptive statistics were used to examine the use of data in a holistic manner. One-way ANOVA analyses were performed to compare educator perceptions at the three traditional school levels and t-tests analyses were performed to

compare administrator responses to those of teachers. The researcher's findings revealed a moderate level of agreement in terms of perceived data use throughout the school system. The analyses also revealed that there were no significant differences in perceptions between administrators and teachers. Significantly different perceptions between the elementary and high school educators were revealed when considering the quality of the state assessment, the expectations of learning, the resources available to use data to improve instruction, the communication of these results to stakeholders, and the use of data to improve instruction. Significant differences between middle and high school educators were also observed when considering the communication characteristic and the resource characteristic. The research also revealed that educators at the elementary and middle school levels have more positive perceptions about data use than their counterparts at the high school level.

INDEX WORDS: Accountability Systems, Georgia, Data-driven Decision-making, School Levels, Administrators, Classroom Teachers, Dissertation

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by

PEGGY MARIE STOMING

Bachelor of Science, Augusta College, 1991

Masters of Education, Augusta State University, 1996

Educational Specialist, Georgia College & State University, 2003

A Dissertation Submitted to the Graduate Faculty of Georgia Southern University in Partial Fulfillment of the Requirements for the Degree

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PEGGY MARIE STOMING

Major Professor: Lucindia Chance
Committee: Gregory Chamblee
J. W. Good

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DEDICATION

This dissertation is dedicated to my parents:

to my Dad who earned his PhD while raising two young children and supporting his family. His dedication to education and teaching helped me to realize that satisfaction in one's profession is far more important than wealth or other fleeting commodities. His devotion to God and his family are unmatched and have had a tremendously positive impact on my life. His unconditional love, even when I was at my worst, never wavered. He is the solid rock upon which my life has developed.

to my Mom who is my role model and quite honestly my hero. Her sacrifices to our family were and continue to be countless. Most notably, she delayed her own college education and career to provide a stable, supportive life for my brother and me. Years later, she provided me with the proudest moment of my life by graduating with a bachelor's degree from UGA, in spite of many challenges which would have discouraged most people. Her faith, strength of spirit and selfless concern for others has become the standard to which I aspire. She is the most remarkable woman I know.

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CHAPTER ONE

INTRODUCTION

Accountability systems with a heavy emphasis on data-driven decision-making (D^3m) have recently gained much attention in most public schools. D^3m, a process of collecting and using student data in order to accurately assess student learning, has become, according to Denis Doyle (2003) a "school-reform mantra" (p.19). Kate Jamentz (2001) noted that "data mania" has led to an unprecedented number of products and professional development sessions designed to assist administrators interpret student data. Jamentz emphasizes the impetus of this movement by calling data-driven decision-making the "newest merit badge for school leaders" (p.8). D^3m is much more than simply examining test scores. According to Rudy and Conrad (2004), key researchers in this area, the intent of this type of decision-making must be "to collect, analyze, and interpret meaningful school improvement data to make a positive impact on curriculum, instruction, and student learning" (p.40). The very nature of this definition indicates the importance of data use at all levels in the school district. Rudy and Conrad reemphasize this as they suggest that the data need to be aligned with and tied to student performance goals at the district, school, and classroom level.

Overview

The driving force behind this recent upsurge of the use of data as well as the implementation of accountability systems can be attributed to federal and state law. The reauthorization of the Elementary and Secondary Education Act, known as *No Child Left Behind* (NCLB) was signed into law by President George W. Bush on January 8, 2002 (Public Law 107-110, 2002). With its passage, lawmakers require mandatory testing of

all students in grades three through eight, use of the test results to evaluate school performance, and reporting of test results to parents and other stakeholders. Schools are also required to make adequate yearly progress or face serious sanctions. Adequate Yearly Progress, commonly known as AYP, is a designation associated with NCLB. Adequate Yearly Progress is measured primarily through test results in the areas of English/Language Arts and Mathematics. There are also accountability measures in regards to a Secondary Indicator. Schools and school systems must meet a fixed standard, known as absolute bar, in all areas or make significant statistical improvement in order to "make AYP" and avoid sanctions.

In Georgia, much of the accountability emphasis began with the passage of the House Bill 1187, known as the *A+ Education Reform Act of 2000*. With the passage of this law, policymakers required that each student in grades one through eight take the Criterion-Referenced Competency Test (CRCT) in the areas of Mathematics, Reading, and English-Language Arts. The following year Governor Roy Barnes added to the law a new section mandating the end to social promotion. Under this new law, students in grades three, five and eight must pass the CRCT in order to move to the next grade, raising the stakes once again. At the high school levels students are expected to pass the Georgia High School Graduation Test (GHSGT) in Mathematics, English/Language Arts, Science, Social Studies, and Writing in order to receive a diploma.

Due to the aforementioned requirements and high-stakes testing, school leaders are experiencing many role changes. In an Education Week poll, nearly 75% of district leaders surveyed agreed or strongly agreed that this legislation has forced them to be more active in guiding the type of instruction occurring in the classroom (Archer, 2004).

The role of the principal and superintendent as data-driven decision-makers is of great importance with these new accountability measures. Schools are no longer simply given a grade on their test scores but are also expected to improve student achievement for all students or face serious consequences.

Accountability systems which encourage planning based on data use have become an important focus for many school administrators. The respondents in the Education Week poll indicated an increase in the use of data to make decisions (Archer, 2004). Principals and teachers in nearly 90% of all districts involved in the survey have been trained in the use of data to make instructional decisions and 40% of these have begun this within three years prior to the survey (Archer, 2004). Optimal data analysis involves much more than examining state testing results; it requires examination to address the root cause of the problem rather than the symptom.

An essential determinant of efficacious data-driven decision-making is the establishment and implementation of an effective accountability system. In a series of studies, a research team from Mid-continent Research for Education and Learning (McREL), led by Englert, and consisting of Fries, Goodwin, Martin-Glenn, and Michael (2003, 2004 & 2005) examined the use of data by district level superintendents, school principals, and teachers within the environment of accountability. The researchers used previous studies and current literature to identify critical characteristics of accountability assessment systems. The following seven characteristics were examined in both the study using principals as subjects as well as the one using teachers: (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e)

multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. Among other significant results which will be examined in greater detail in the literature review section, the researchers claim that the findings of their study "indicate a strong association between using data and improving academic achievement" (Englert et al., 2005, p. 16). Hence, it is important to discuss the various aspects of using data to make educational decisions in the context of accountability systems.

One important characteristic of student success and accountability systems is the expectation that all students succeed. Since Rosenthal and Jacobson (1968) published Pygmalion in the Classroom, the shocking study relating teacher expectations to student achievement, there has been and continues to be a tremendous amount of research regarding the effect of teacher expectations on student achievement. Recently there is also a growing amount of research linking similar findings to school-wide expectations. Goodwin, Englert, and Cicchinelli (2003) performed an analysis and synthesis of recommendations, guidelines, rating systems, and research regarding accountability systems. In doing so, researchers identified high expectations for all students as one of the consistent characteristics throughout many accountability systems that were suggested and/or evaluated by such organizations as CRESST, EdWeek, Princeton Review, Rand, and WestED. This theme also appeared consistently throughout an analysis of educational research (Sirotnik& Kimball, 1999, Walberg, 2002). Researchers such as Rosenthal, Jacobson, Sirotnik, Kimball and Walberg among others suggest achieving a culture of high expectations can be accomplished by exerting a concerted effort to improve academic achievement for all students but particularly for the low-achieving students. The passage of NCLB emphasized the expectation that all students

succeed and tried to ensure accountability through the expectation that student achievement results on certain standardized tests be disaggregated to ensure all subgroups are being provided opportunities to achieve.

Another characteristic of comprehensive accountability systems which directly affects school-level educators is the alignment of state educational standards with the assessment instruments. Alignment is particularly important when the test results are used to determine the proficiency with which the standards are being taught. As in all types of research, the standardized instruments used to rate or judge schools and teachers must have two characteristics in order to be fair and accurate: reliability and validity. The reliability of the test is important in that it refers to the consistency or precision of the test. This measurement is often associated with measurement error (Gall, Gall & Borg, 2003). A test with a large measurement error may not provide as descriptive and meaningful results as one with a small measurement error. One issue, mentioned by Robert Linn (2001), a leading author and researcher in the area of educational evaluation, suggests that improper accounting for measurement error can mislead actual results. He uses the example of the 30 point margin of error reported by the Stanford Achievement Test (SAT). He points out that misleadingly, a score of 530 appears to be superior to a score of 500. However, both scores are within the bounds of what might be expected with a 30 point margin of error.

In order to promote successful accountability systems, another characteristic high-stakes assessments must have is validity. Validity refers to the "appropriateness, meaningfulness, and usefulness of specific inferences made from the test" (Gall, Gall & Borg, 2003, p.148). This definition seems to encompass the importance of the alignment

of the tests. In order to produce useful inferences, the test should have instructional sensitivity associated with it. In other words, if the standards are being taught appropriately and effectively, then the test scores should be indicative of that. The acceptance of the quality, validity, and reliability of the assessment instruments will enable school-level educators to employ curriculum and instructional strategies based on standards with the confidence that their efforts will produce positive results. With the ever-growing use of sanctions and rewards to motivate educators to produce results, good test quality is essential to fairness.

Although some forms of sanctions and rewards have been used throughout educational history, never has such employment been enacted as with the passage of NCLB. Through the passage of this law, districts and schools are held accountable for increases in student achievement and may face sanctions if gains are not made. Goodwin, Englert, and Cicchinelli (2003) found sanctions and rewards to be a consistent characteristic in their review of accountability systems, regardless of lack of evidence to determine the effectiveness of either. However, Walberg (2002) indicates that mere publishing of the results does not seem to be sufficient to guarantee progress. Although a few states offer incentive rewards to schools based on performance, most use sanctions to motivate educational agencies to improve student achievement. In Georgia, policy makers have clearly stated their intention to predominantly use sanctions to achieve results with the passage of Policy 160-7-1-.04 (2009), Accountability System Awards and Consequences. In the nine page policy, there is one paragraph outlining the rewards available to schools and systems. These rewards include public recognition, increased flexibility, and financial rewards which are contingent on appropriation. The remaining

eight and one half pages clearly delineate the sanctions that will be imposed for schools and school systems which fail to make AYP and those which become labeled "Needs Improvement" for failing to make AYP two or more consecutive years in the same subject area. The sanctions increase in severity as the number of years in the Needs Improvement status increase. The sanctions include mandated two-year school improvement plans, school choice for students within failing schools, replacement of school staff who are relevant to the school not making AYP, and possibly becoming a contract-management school in which management of the school is contracted to a private management company. With such policy, lawmakers in Georgia, much like those in other states, are following the lead of the mandates set by federal lawmakers with the passage of NCLB.

The common use of a single assessment and the variability of the reliability and validity of these high-stakes assessments used to determine the AYP results of a school and occasionally the promotion or retention of students has led many researchers and educators to suggest the use of multiple measures to report the appropriateness and educational progress of both schools and students. There is a belief that one assessment should not be the only determining factor, especially with sanctions and rewards being linked directly to the assessments. Along with those sources examined by Goodwin, Englert, and Cicchinelli (2003), other researchers in the area of educational testing and evaluation believe that the use of multiple measures in determining student achievement is paramount to fairness, validity, and reliability. For example, Sirotnik and Kimball (1999) assert that a single assessment cannot accurately represent all that is occurring in a school "any more than the temperature reading on a thermometer can represent all that is

going on in a body" (p.211). In the same vein, Baker (2003) reports that multiple assessment varieties and measures can provide a fuller representation of educational evaluation. She also suggests the use of different measures to serve different purposes. For example, diagnostic tests would provide different information than a test designed to measure progress toward a specific goal. Although many agree that a single assessment contains major drawbacks, the use of multiple measures contains inherent complexity, cost, and varied interpretation of results. However, it does seem clear that in order to accurately judge the progress and educational value of a school, the use of a single assessment is far from ideal. This indicates the need for educators to use many differing types of assessments to ensure student achievement and progress. It also suggests the importance of such diagnostic use within effective accountability systems.

The need to raise expectations and achievement for all students and the threat of sanctions create inherent costs. Resource allocation has long been a topic of debate in education. This debate has intensified with increased accountability measures. In the study by the RAND Corporation, authors Grissmer and Flanagan (1998) examined two states, Texas and North Carolina, which had significant gains in student achievement. In their examination, the researchers found that both states had significant, common features of educational reform. One such reform included the "explicit shifting of resources to schools with more disadvantaged students" (p.20). The evidence of rapidly improving scores of disadvantaged students in Texas and North Carolina seem to lend credibility to the authors claim. In a more recent study investigating high school resource allocation in North Carolina, the researchers claim that regular classroom spending is tied to achievement (Robelen, 2008).

In addition to increased classroom spending, adequate incorporation of data-driven decision-making and accountability systems require additional resources. In a project funded by the United States Department of Education and sponsored by the American Association of School Administrators, the National School Boards Foundation, and University of California, Los Angeles' National Center for Research on Standards and Student Testing (CRESST) 50 school districts were assisted in the attempt to realize the potential of data-driven decision-making. The study known as, The District Data Use Project, was, in part, made possible through the use of support tools and CRESST's free web-based software, Quality Schools Portfolio (QSP). Through this project, Rudy and Conrad (2004) identified four key elements that promote successful use of data. These elements are curriculum and instruction based leadership, performance indicators, technology, and staff development. The findings highlight the importance of resource alignment in that half of the four findings, technology and staff development, are highly dependent on resource alignment.

Another key characteristic of accountability systems is the appropriate use of data to achieve what should amount to the ultimate goal of schools, student achievement. The increase in accountability is transforming the method of making educational decisions previously largely based on assumptions and intuition into a research-based, scientific method. As an example of the importance of decisions based on diagnostic data use, educators in a Washington school realized there was a problem when nearly one-third of their incoming freshmen were doing poorly in class. This led to the assumption that there were problems in the curriculum at the middle school level. Upon an in depth review of several different types of data, it was discovered that the problem started at the

elementary school level. The students were not able to read at grade level (Stover, 2003). This allowed the district to intensify their reading program in order to better serve their students. This example is but one drop in an ever-growing ocean of examples that demonstrate the importance of examining the data in depth in order to make corrections to curricular programs and thus increase student achievement. With the passage of NCLB and accountability demands, data-driven decision-making has moved to the forefront of educational discussion. The increase in testing associated with state and national accountability standards have led to an increase in available student achievement data. The presence of data is just the beginning; it is equally important that schools use this and other forms of data to strategically implement changes (Englert, et al., 2005). The emphasis of data use can be seen in current educational literature which is rife with research papers, articles, and books concerning this subject.

The final common characteristic of effective accountability systems pertinent to schools is the ability to keep all stakeholders, including parents and the community, informed about student achievement and progress (Englert, et. al, 2005). Walberg (2002) contends that user-friendly, accurate, and useful data are important to educators, board members, parents, and students can make sense of the data. Baker and her fellow researchers at CRESST (2002) state the importance of communicating the results as well as measurement errors, validity, and reliability of the instruments. This should be done in a clear manner to allow for sufficient understanding of the appropriate interpretation of results as well as any possible illegitimate interpretations. In an evaluation of state accountability systems, the Princeton Review (2002) addresses the need for public understanding of data by determining whether the data presented was to the public with

an explanation appropriate for a general audience. The Quality Counts report published by Education Week (2002) suggests that rather than simply reporting the data, it is important to publish school data in comparison to similar schools. The usefulness of the reported data is the critical portion to be examined.

The systemic application of the seven characteristics of assessment and accountability systems is important, specifically (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. This systemic approach is one of the key intentions of lawmakers with the passage of NCLB. It is suggested that administrators and teachers monitor student progress and make required improvements to increase student success. Within the seven characteristics of assessment and accountability systems identified in literature, there seems to be a difference in administrator and classroom teacher perception regarding implementation. In a comparison of administrators and classroom teachers, Englert (2005) and her fellow researchers found that there were significant differences between principals and teachers, as measured by effect size, in five of the seven characteristics of assessment and accountability systems. Differences in perceived implementation existed in the quality and utility of the state assessments, the application of sanctions and rewards, the use of data by district and school personnel, and the informing of parents and the community. Principals and teachers demonstrated no significant difference in the constructs measuring high expectations and the alignment of resources.

Accountability systems and D^3m are rapidly spreading trends in education. The practice has been brought to the forefront due to NCLB and its testing, reporting, and accountability requirements. Through the passage of this law, politicians have undoubtedly changed the landscape of public education and educational leadership. Because of this changing landscape, school-level educators throughout the nation are under considerable pressure to meet the demands of accountability systems. Although this adaptation will require considerable energy and a change in culture, current researchers suggest that these accountability systems as well as decision-making based on reliable data can lead to positive results in student achievement.

Statement of the Problem

Due to the recent emphasis on research-based evidence to make instructional decisions, many educational leaders and teachers are practicing some version of data-driven decision-making (D^3m) and striving to enhance the accountability systems of their schools. Stringent accountability measures have led to an increase in testing and therefore an increase in available student achievement data. The flood of test results has in turn caused a tremendous increase in the number of training sessions and special products designed to assist principals in reading and interpreting student data. In addition to student achievement data, leading authors suggest the use of multiple measures which allow for the intersectional analysis of the other data types. This in turn leads to a truer view of the strengths and weaknesses of a school or district. However, the complex nature and technical requirements of D^3m, as it pertains to accountability, create wide variation in the actual practice and perceived effectiveness of this type of decision-making. Researchers have examined some of these issues at the district level, however

there is limited empirical data regarding the implementation of effective accountability measures and use of the different forms of data by school principals and teachers. To the researcher's knowledge, there is also little comparison of beliefs and perceptions between administrators and teachers or among educators at the three traditional school levels, elementary, middle and high. Therefore it is the researcher's purpose to examine and compare teacher and school-level administrator perceptions of Englert's (2004) seven characteristics of accountability systems in a school system which has been given the pseudonym Jude County of the purpose of this study. The researcher will also examine the perceptions of educators across elementary, middle and high schools.

Research Questions

The overarching question for this research is: What are the beliefs and/or perceived implementation of practices and policies in Jude County based on the research-based characteristics of assessment accountability systems as identified by Englert, et al of school-level educators? The researcher will use the following sub-questions to further delve into the over-arching research question:

1. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ between school-level administrators and teachers on the following characteristics as identified by Englert, et al.:
   (a) high expectations for all students,
   (b) high-quality assessments aligned with standards,
   (c) alignment of resources, support, and assistance for improvement,
   (d) sanctions and rewards linked to results,
   (e) multiple assessment measures,

(f) diagnostic uses for data,

(g) readily understandable to the public.

2. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ among school level educators, to include administrators and classroom teachers, at the three traditional levels of schools (elementary, middle and high)?

Significance of the Study

The significance of this study is multidimensional. Primarily, this study should be of interest to school principals since they are encountering new pressure in their D^3m practices. The information gathered in this study should provide information to principals in their effort to become efficient data-driven decision-makers and establish effective accountability systems throughout their school. This study will provide valuable information regarding the actual practices and perceptions of the various stakeholders in regards to data use and accountability systems in schools. With such information, both practicing and aspiring administrators will be able to assess current practices and improve on this evolving form of decision-making.

Both superintendents and local school board members should also benefit from this study. The data gathered in this study will provide a snapshot of the various forms of data used by educators and will allow for a measure of effectiveness of an assessment accountability system. The information will allow superintendents and school boards to formulate staff development plans and allocate resources in an effort to make more-informed decisions based on actual data.

This study will also add to an ever-growing body of literature relating to D^3m. As stated earlier, this type of decision-making has recently become a "buzzword" in educational leadership. Recent educational literature is rife with articles relating to D^3m, however, to the researcher's knowledge, very little empirical evidence exists relating to the perception of accountability systems of principals and teachers. This study will provide information regarding the perceptions of D^3m by a group of educators from the Southeastern United States as well as a comparison of administrator and teacher perceptions.

As a practicing administrator with a science background, the researcher possesses a passion for evidence and the use of data to make better-informed decisions. This study will enable the researcher to gain a deeper understanding of the various degrees of implementation of D^3m and actual practices of current educators within her system. Through data collection, the researcher will gain valuable knowledge from currently practicing data-driven decision-makers that in turn will increase the researcher's capacity for making data-informed decisions. This increased capacity should allow the researcher to assist in the realization of improved student achievement at her school.

Procedure

Research Design

The researcher chose a descriptive research design in an effort to examine current practices of the various stakeholders of Jude County, a Southeastern United States school system. According to Gall, Gall and Borg (2003), descriptive studies can be used to describe phenomena of interest to the researcher and have "yielded much valuable

knowledge about opinions, attitudes, and practices"(p. 290). In order to answer the research questions, the researcher used a quantitative methodology.

Population

The population for this research study consisted of all principals and full time teachers from Jude County. At the time of the study, the system consists of 17 elementary schools, 8 middle schools, and 4 high schools. Surveys were given as described below. Due to the limited number of schools and therefore a limited number of school level administrators, each school principal and assistant principal in the system received a survey. A stratified random sample of full-time classroom teachers in Jude County was also selected. The sample of teachers was selected so as to obtain representative numbers of teachers from each school within the system. In an effort to obtain useful data, teachers employed only half-time were not included in the selection process. Each participant was presented a survey and given an opportunity to participate in the study by completing a survey designed for school-level administrators and classroom teachers.

Instrumentation

The instrumentation used was adapted and shortened from a survey used in a study by Englert, Fries, Martin-Glenn and Michael (2004), researchers with the Mid-continental Research for Education and Learning organization. The Assessment and Accountability Survey was one of three developed in a series of studies by the researchers. Englert and her fellow researchers developed separate surveys for superintendents, principals and teachers. To allow for better comparison and consistency, the survey originally developed for Englert's study titled Understanding How Principals Use Data in a New Environment of Accountability was reworded to allow for use in the

current study with school level administrators as well as classroom teachers. Validity and reliability of the original survey instrument were established by Dr. Englert and her fellow researchers. Since the current researcher's survey included only minimal changes, the reliability and validity of the original survey remained intact and will be discussed in greater detail in Chapter Three. The original survey contained demographic items, items requiring responses on a five point Likert scale, and open-ended questions. The items were developed to identify the extent of perceived implementation of policies and practices which relate to the seven characteristics of effective accountability systems identified previously. For the current study, some of the items were slightly adapted and others will be omitted to fit the purpose of this study. The Likert items were changed from five-point items to four-point items in an effort to create a forced choice.

Data Collection

The researcher used Survey Monkey (2009) to deliver on-line surveys transmitted through the use of email. The names and e-mail addresses were obtained through the data base of the school system. The surveys were sent to each elementary, middle and high school principal and all assistant principals within the district. A stratified random sample of full-time teachers was invited to participate in the study. The researcher sent a brief letter of introduction via e-mail prior to the distribution of the electronic survey. The responses to the survey were entered into a statistical package for data analysis purposes.

Delimitations

1. The educators may not have been given enough choices on the survey.

Limitations

The following limitations are associated with this study:

1. Only educators from a single district were surveyed in this study. Every school system has different accountability systems and means to institute data-driven decision-making.
2. Researcher is an employee of the district surveyed.

Definition of Terms

The following terms shall have these specific meanings for the purpose of this study:

1. Data-driven decision-making (D^3m) – the collection, analysis, and interpretation of "meaningful school improvement data to make a positive impact on curriculum, instruction, and student learning" (Rudy and Conrad 2004, p.40).
2. Classroom teachers – a full-time, certified staff member responsible for educating an assigned group of students at the classroom level. These individuals are associated with only one school. Counselors, media specialists, teacher's aides and paraprofessionals were not included in this study.
3. Data-driven decision technology systems – software tools that assist decision-makers make efficient and data-informed decisions. Examples include student information systems, data warehousing programs, data mining platforms, and report writers (Mattei, 2005).
4. Disaggregated data – Data broken down into student subgroups such as gender, ethnicity, and race (Bernhardt, 2000).
5. Elementary School – a school serving students in Pre-Kindergarten through grade five.
6. Expectancy Theory – refers to the phenomena whereby the expectations for a person's behavior tend to serve as a self-fulfilling prophecy (Rosenthal, 2002).

Studies suggest that teacher expectations as well as school-wide expectations can significantly influence student achievement.

7. High School – a school serving grades nine through twelve.
8. Instructional Sensitivity – represents the degree to which test performance accurately reflects the quality of instruction provided. (Popham, 2007). This concept should accurately reflect the alignment of state educational standards with curriculum.
9. Middle School – a school serving grades six through eight.
10. Multiple measures – the use of a variety of data to "ensure a more complete and accurate assessment of students, teachers and schools" (Englert, et al., 2005).
11. No Child Left Behind Act of 2001 (NCLB) – The reauthorization of the Elementary and Secondary Education Act of 2001 mandating annual testing and the disaggregated reporting of results. (Public Law 107-110, 2002).
12. Perceptional Data – Data that are based on the perceptions of teachers, students, parents, and other stakeholders. These data are often gathered through surveys, interviews, and observation (Bernhardt, 2004b).
13. Rewards – Something given or received in recompense for worthy behavior. In education, rewards are occasionally used to encourage improvement efforts (Goodwin, Englert & Cicchinelli, 2003).
14. Sanctions – A penalty that acts to ensure compliance. In education, sanctions are often used to encourage improvement efforts (Goodwin, Englert & Cicchinelli, 2003).

15. School-level administrator – refers to Principals and Assistant Principals assigned to a single school.
16. School process data – Data that include a description of school programs and the administration of such (Bernhardt, 2004b).

Summary

The concept of data-driven decision-making in relation to accountability systems is becoming a major concern for educational leadership. The reauthorization of ESEA with mandated adequate yearly progress, as well as required disaggregation and reporting of data have sent shockwaves impacting nearly every public school educator in the United States. Resources such as data analyzing technology, tools, and training are being provided to assist educators in becoming data-informed decision-makers in the hopes of realizing improved student achievement.

Literature is filled with methods and techniques to become more adept at this data-driven decision-making, but to the researcher's knowledge very little empirical information exists relating to the perceptional differences of principals and the teachers in their schools. Included in this apparent "gap" in the literature is the extent to which there are perceptional differences in educators at the three typical school levels, elementary, middle and high. The researcher believes that this study will provide valuable information regarding the perceptions of data use by educators in relation to accountability systems. Through the collection of limited demographic data, the study could also provide empirical evidence regarding the relationship among D^3m and school level.

CHAPTER 2

REVIEW OF RESEARCH AND RELATED LITERATURE

Introduction

The current culture surrounding public education and therefore public school leaders can be summarized in one word, accountability. This trend found its beginnings in the public school system in the 1960s when the federal government required standardized testing in an effort to gauge the success of the Title I programs funded under the Elementary and Secondary Education Act of 1965. Due to the above stated requirement, most states had extensive standardized testing programs by the late 1960s. These test results were used in a variety of high-stakes decisions that caused much discussion of the subject matter of these tests. This led to the trend of criterion-referenced and minimum competency tests (Kennedy, 2003). The next major event in accountability came in the form of the 1983 National Commission on Excellence in Education report, *A Nation at Risk* (1983). The introduction of the report, as seen below, seems to accurately reflect the mission of public education in America.

> "All, regardless of race or class or economic status, are entitled to a fair chance and to the tools for developing their individual powers of mind and spirit to the utmost. This promise means that all children by virtue of their own efforts, competently guided, can hope to attain the mature and informed judgment needed to secure gainful employment, and to manage their own lives, thereby serving not only their own interests but also the progress of society itself." (p.1)

However, the remainder of the report was a scathing description of American Public Education and possible consequences of inaction. The report suggested that America's democracy, stature, economy, and future could suffer serious consequences if reform did not occur. Berube (1996) indicated that the graveness of the report prompted a movement in education known as excellence-reform. Out of this reform movement came a greater need to evaluate the effectiveness of school reform. Hogan (1985) pointed out the implications of this caused an increased use of standardized testing as well as other accountability measures.

This accountability movement gained a great deal more momentum, particularly in the form of standardized testing, with the reauthorization of the Elementary and Secondary Education Act in 2001, known as *No Child Left Behind* (NCLB), which requires mandatory testing of all students in grades three through eight, use of the test results to evaluate school performance, and reporting of test results to parents and other stakeholders. Kennedy (2003) contends that the main emphasis of this law requires the use of high-stakes standardized testing and explicitly links the student outcomes with consequences for educators and schools. Through the authorization of this law and its accountability measures, lawmakers have undoubtedly changed the landscape of public education and leadership (Baule, 2004).

Accountability Systems

Lawmakers, with the passage of NCLB, sent a clear message that the primary purpose of accountability systems is to improve student learning. Accountability systems, by definition, must hold individuals responsible for their results. Through NCLB, lawmakers aim to accomplish school improvement through the implementation of

accountability systems. Section 1111 b(2) of the law delineates the requirement that each state should implement a single, state-wide accountability system to ensure all schools strive to make AYP. By law, the systems must be standards-based, account for the achievement of all elementary and secondary school students, and include sanctions and rewards to hold educational agencies accountable for student achievement. (No Child Left Behind, 2002). In their review of accountability systems Goodwin, Engert, and Cicchinelli (2003) identify the most common assumptions about the manner in which accountability systems can improve student learning. Accordingly, effective accountability systems can positively affect schools by

- "informing students, parents, and teachers about student progress;
- monitoring the learning process and holding students, schools, educators, and states responsible for attaining learning outcomes;
- certifying teacher quality on the basis of student achievement;
- evaluating the overall effectiveness of schools or reforms and assisting education policymakers and administrators with programmatic decisions; and
- ensuring that equitable opportunities to learn are available for students." (p.4)

As such, after a review and analysis of a mixed collection of rating systems, guidelines, research, and recommendations, Goodwin, Englert and Cicchinelli (2003) identified 12 essential characteristics of accountability systems. They found that (a) clear standards and expectations, (b) high-quality assessments aligned with standards, (c) multiple measures, (d) high expectations for all students, (e) results readily

understandable to the public, (f) diagnostic applications, (g) results linked to sanctions and rewards, (h) flexibility, (i) alignment of resources, support, and assistance, (j) balanced comprehensive design, (k) stakeholder support/engagement, and (l) fairness provisions were key characteristics of state and district-wide accountability systems (See Figure 1). Of these twelve, Englert, Fries, Goodwin, Martin-Glenn and Michael (2004) consider seven to be particularly "relevant to the way educators use and perceive their accountability systems" (p.2). These characteristics include: (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. The other five characteristics, (a) clear expectations and standards, (b) flexibility, (c) stakeholder support, (d) fairness provisions, and (e) balanced design were omitted from the Englert, et al. studies as well as the current study. These five characteristics were deemed by Englert, et al. to either be outside of the influence of school level educators or irrelevant to their practices regarding accountability systems and data use. This lack of influence on practices led to their omission.

The importance and relevance of the seven characteristics examined in the Englert, et al. studies when using data within the demands of accountability systems have been documented. Because of the pertinence of each, these characteristics are discussed in detail in the following sections.

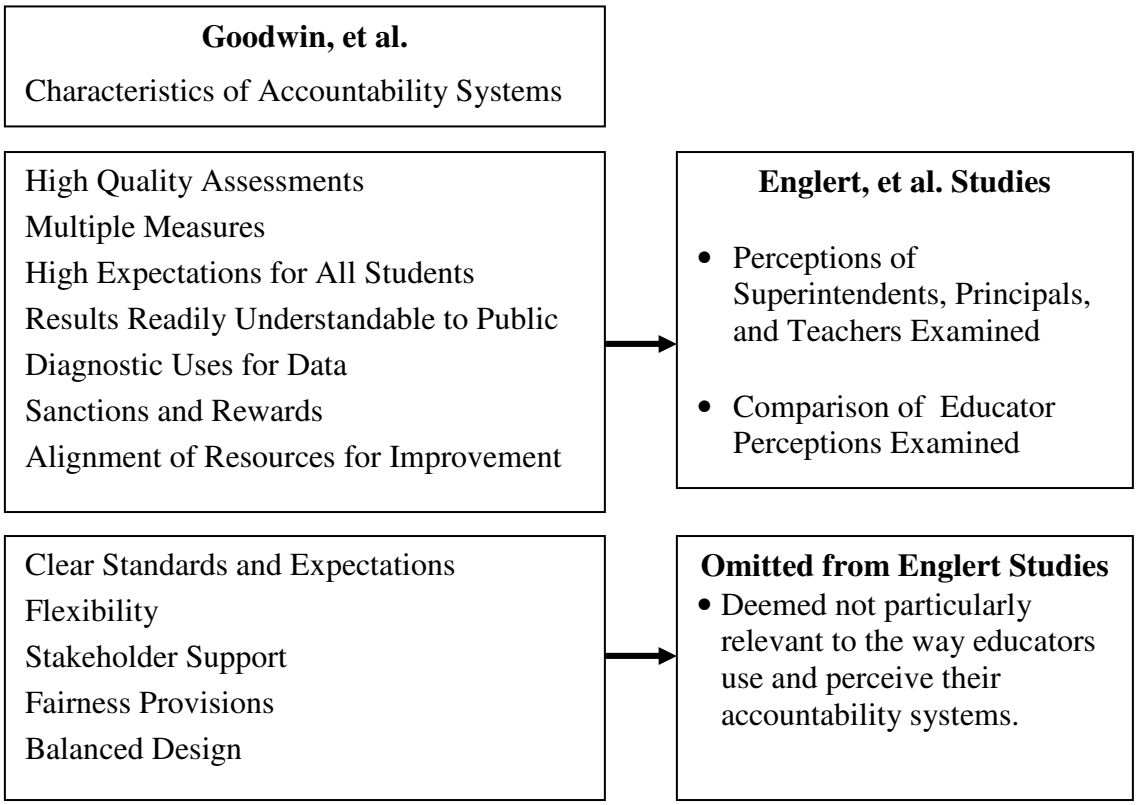

Figure 1. Breakdown of evolution of the Goodwin characteristics of accountability systems to the Englert studies.

High Expectations for All Students

According to Englert, Fries, Goodwin, Martin-Glenn, and Michael (2004) providing all students with equal access to learning opportunities is an important aspect of an accountability system, which can be promoted by ensuring that high expectations are set for all students. Literature is filled with evidence which leaves little doubt as to the influence of teacher expectations on student achievement (Rosenthal & Jacobson, 1968, Walberg, 2002, and Marzano, 2007)

Although the seminal work of Robert Rosenthal was in the field of psychology, it has had a tremendous and lasting effect on many other fields including education.

Rosenthal's original hypothesis, which he labeled unconscious experimenter bias, was discovered when he nearly ruined the results of his doctoral dissertation (Rosenthal, 2002). He states that he may have treated the research participants in such a manner as to lead them to respond in accordance with his hypothesis. He stated:

> "The implication is that in some subtle manner, perhaps by tone, or manner, or gestures, or general atmosphere, the experimenter although formally testing the success and failure groups in an identical way, influenced the success subjects to make the lower initial ratings and thus increase the experimenter's probability of verifying his hypothesis." (cited in Marzano, 2007, p.163)

This result in turn led him to examine this concept of unconscious experimenter bias or interpersonal expectancy more closely. According to Rosenthal, "Interpersonal expectancy effects refer to the phenomena whereby one person's expectation for another person's behavior comes to serve as a self-fulfilling prophecy." (Rosenthal, 2002, p.839) This led to the investigation of this phenomenon in many different fields of study, including education.

The impact of this theory in the field of education was realized in 1968 when Lenore Jacobson and Rosenthal published the findings of their study of teacher expectancy in the book *Pygmalion in the Classroom*. The experimenters administered a nonverbal intelligence test to elementary students at each grade in May before the experimental year, January and May of the experimental year and two years after the experimental year. Jacobson and Rosenthal randomly selected 20 percent of the students at each grade to be part of the experimental group and told teachers that these students had scored on the "Test of Inflected Acquisition" such that the teachers could expect to

see dramatic gains in academic performance from these students during the next eight months (Rosenthal, 1997). When retested at the end of the year, the "spurters" experienced more academic gain than the other 80 percent of the students. Due to shocking nature of the results and the controversy and questions surrounding methodological techniques, a multitude of studies and meta-analysis of these findings ensued (Marzano, 2007).

Two dozen years after the initial Pygmalion study, a meta-analysis of 479 studies led Rosenthal (2002) to claim that there is a significant impact on the outcome due to interpersonal expectancies and self-fulfilling prophecies. Similar meta-analysis statistical evidence seems to reiterate the initial findings of the Pygmalion experiment; the theory of educational self-fulfilling prophecy and its effects on student achievement have been established. For instance, in a more recent study of 21 High-Performing, High-Needs (HPHN) rural schools by Barley and Beesley (2007), high expectations were identified as one of five consistently reported factors of success.

Upon examination of the aforementioned research, it would seem prudent to include the establishment of high expectations for all students into any well-developed accountability system. Englert, Fries, Goodwin, Martin-Glenn, and Michael (2004) suggest that one means to ensure that all staff members have the same high expectations for all students is to test every student. This initiative, if properly employed, can assist teachers in the ultimate goal of ensuring that each student is learning at the prescribed level. This concept is a key component to NCLB legislation and an accountability system that requires analysis and reporting of all student data, including the disaggregating of scores of various subgroups of students. High expectations for all students and the

evaluation of student progress are at the heart of the D^3m movement and accountability systems.

High-Quality Assessments Aligned with Standards

The second characteristic of an effective accountability system, as identified by Goodwin et al. (2003), is the use of high quality assessments which are aligned with state standards. In order for this to occur, the assessment must have proven reliability, validity, and alignment. Linn and Gronlund (1995) assert the validity of an assessment is characterized by the "adequacy and appropriateness" of the assessment as well as the interpretation of results. DeVaus (2004) adds that a valid assessment measures what it is intended to measure. One key requirement for an assessment to be valid is reliability, which is the consistency or repeatability of assessment results (Linn, 2005). Linn and Gronlund also point out that validity is a matter of degree, not an all-or-none determination.

With so much at stake, validity of the standardized, high stakes test has become a major concern with many researchers and educators. A key question to ponder is: are the results of the assessment a measure of educational quality or do other factors, such as socioeconomic status, play a significant role in the results? A key term associated with the ability to link test results directly to instruction is "instructional sensitivity". James Popham (2007), a renowned author and researcher in the area of assessment, coined this term to signify the importance of assessments being aligned with curriculum to ensure that the quality of instruction is the key facet being measured by the test. This concept is essential to the development of standards-based accountability systems. In fact, one of the

components written in NCLB is the requirement that states provide evidence that their academic standards and assessments are aligned (Linn, 2006).

Interestingly, there is a difference in perception of the alignment of state assessments between teachers and administrators. In the a study of California, Georgia, and Pennsylvania systems of implementation of standards-based accountability, Hamilton et al., 2007 noted that most administrators believed the test scores were reflective of student achievement while the majority of teachers felt there was a lack of consistency between local curricular practices and state standards. Similar results were noted in the comparative analysis of superintendent, principal, and teachers' perceptions of accountability systems performed at McREL. In this study, there was a statistically significant difference in administrators' and teachers' perceptions in terms of the quality of the state assessment (Englert, et al., 2005). Lawmakers hope to rectify any inconsistencies through the NCLB peer review process. According to Linn, the peer review process should provide evidence that assessments cover the full-range of the content, measure what students know and what they can do, reflect similar degrees of emphasis as seen in the standards, reflect the full range of difficulty and cognitive complexity of the standards, and yield results which represent the levels specified in the standards. If the high level of alignment delineated above is attained, teacher perceptions relating to the instructional sensitivity of the tests should improve.

Resource Alignment

The implementation of accountability systems and data-driven decision-making practices has created a need for an increase or shift in resource allocation. In 1998 Grissmer and Flanagan published findings that suggest resource levels can make a

significant difference in achievement, particularly among disadvantaged students. Robelen (2008) cites a North Carolina study with similar findings. The study, commissioned by Governor Michael Easley and completed by the Frank Porter Graham Child Development Institute, indicate that more resources targeted to low-performing schools are needed to improve student performance. Although research suggests the potential of added resources to increase student achievement, proper allocation of the resources is required.

The changing climate of educational environments has necessitated an increase in resources being allocated to properly employ accountability systems. The tremendous amount of data available and the emphasis to use this data to make research-based decisions has led to a demand for specific types of resources such as computer hardware and software, staff development and training, and assessment tools. In the 2004 District Data Use Project, Rudy and Conrad identified four key components necessary for the successful promotion of data use to improve student achievement. The four characteristics include instructional leadership, performance indicators, staff development and technology. The importance of proper resources for using data to improve student achievement is demonstrated by Rudy and Conrad as two of the four identified characteristics, staff development and technology, are directly dependent on resource allocation.

With the passage of NCLB, lawmakers have created an environment sparking a tremendous increase in standardized testing and the necessity to track student progress. This has created a great need for appropriate technological support in order to properly analyze and use data. Proper technology plays a large role in helping schools and districts

examine disaggregate data, as required by NCLB. With the District Data-Informed Decision Making research project, Conrad and Eller (2003), investigated how 57 public school districts used data-informed processes and data support tools to address district issues. Through their investigations, the researchers were able to identify key themes and challenges associated with data use. One of these themes involved building technical capacity. The use of traditional methods of collecting data using charts and results provided by the state testing companies limited the ability to identify patterns and weaknesses of student achievement. Schools must be equipped to efficiently handle massive amounts of data.

Understanding and using this data would be an impossible task without technological assistance. Unfortunately, as Watson and Mason (2003), point out the process required to efficiently use data has multiple inherent costs. Software known as Quality School Portfolio (QSP) has proven effective in consolidating many types of data in an effort to identify and address necessary school improvement initiatives (Rudy & Conrad, 2004; Mitchell & Conrad, 2003; Conrad & Eller, 2003; Watson, 2002). In his study of the QSP program in the Milwaukee Public Schools (MPS), Watson evaluated four technological tools on the basis of functions considered important to the data-driven decision-making process. In his evaluation of QSP, Excel, Brio, and School Management Systems, he found that QSP had certain limitations particularly in regards to the import of data from other systems. Certain data maintenance systems also had compatibility issues with grading programs such as Scan-tron (Mitchell & Conrad). Watson also found that the configuration of the large data sets of districts require users to possess sophisticated

computer skills in order to make them usable. This leads directly to another key element described by Rudy and Conrad.

The increase in technological functions necessitates an increase in staff development and training. Jeff Wayman, associate researcher at The Center for Social Organization for Schools at Johns Hopkins University focuses on the appropriate use of data. He states that it is crucial to provide professional development for educators. Doing so will allow schools to tap into resources never before available (Pascopella, 2005). Conrad and Eller (2003), also found staff development to be a key characteristic for building the organizational capacity to effectively collect, organize, and analyze the data. In their study, most of the respondents rated the staff development provided for improving data use as successful. The need for specialized training was also evidenced in the Chicago Public Schools (Mitchell & Conrad, 2003). The facilitators were necessary to provide assistance to teachers in analyzing and transforming data into useable knowledge. The importance of the facilitators can also be observed in the Conrad and Eller study. In a survey of all district personnel, over half of the respondents questioned the ability of the district to use data independently without outside support. This suggests that more intensive training is required to instill confidence in the instructional use of data.

Sanctions and Rewards

By requiring accountability systems, lawmakers, established mandated sanctions and rewards, in an attempt to hold educators responsible for student achievement. Guskey (2007) suggests that there were two main reasons policymakers suggested the use of sanctions and rewards in an effort to improve education. The first evolved from practices in business which provided incentives to reach specific goals. Hence sanctions and

rewards were suggested despite a lack of evidence to show these strategies would work in the educational setting without significant adaptations (Stecher & Hamilton, 2002). Guskey also cites the frustration of policymakers with educators who seemingly refused to accept responsibility for student learning outcomes as the other key reason for the implementation of sanctions. As a result, written into the NCLB legislation is the mandate that state educational agencies must establish accountability systems that shall "include sanctions and rewards, such as bonuses and recognition, the State will hold educational agencies and public elementary schools and secondary schools accountable for student achievement and for the ensuring that they make adequate yearly progress in accordance with the State's definition under subparagraphs (B) and (C)" (No Child Left Behind, Section 1111 b(2) iii). The passage of this law and the incremental increases in proficiency requirements have had a dramatic effect on school improvement methods, high stakes testing, and pressures associated with public school education. In spite of what seems to be a lack of solid evidence that strategies using sanctions or rewards is ineffective (Goodwin, et al., 2003), proponents of the use of sanctions and rewards claim that simply publishing results does not seem to be enough (Walberg, 2002).

In order to comply with NCLB regarding accountability systems, Georgia has established Policy 160-7-1-.04 which is labeled Code: IAB(4) and addresses sanctions and rewards associated with the state accountability system. Unfortunately, the limited use of rewards is overshadowed by the vast employment of sanctions associated with not making Adequate Yearly Progress (AYP). The limited list of possible rewards includes recognition, flexibility as allowed by law, and financial awards. It should be noted that the financial awards are subject to appropriation and are likely to be eliminated in

financially difficult times. Through examination of the remainder of the policy, it would appear that like most states, lawmakers in Georgia intend to rely primarily on the use of sanctions to address educational shortcomings. The sanctions begin when a school or district receives the label "Needs Improvement" (NI) which is obtained when the school has not made AYP in the same subject (Reading/Language Arts or Mathematics) for two or more consecutive years. Below are listed the school-level consequences, stated in Georgia Policy 160-7-1-.04 that are imposed at the different levels of NI (Georgia Department of Education, 2009).

- Needs Improvement Year 1 – the school shall develop a School Improvement Plan and present this plan to the Georgia Department of Education (GDOE). The Local Educational Agency (LEA) shall provide students enrolled in that school the option to transfer to another school not identified as NI and ensure transportation for those students.
- Needs Improvement Year 2 – The same consequences for NI Year 1 apply with the additional requirement that the district will offer instructional extension services with priority being given to the lowest achieving students.
- Needs Improvement Year 3 - The sanctions include those associated with NI Year 2. The LEA must also develop and implement a School Corrective Action Plan to be approved by GDOE and must include one of the following actions:
    - Replacement of school staff relevant the failure to make AYP

    - Institution of a new curriculum with the provision of providing professional learning opportunities to improve achievement for low-achieving students.
    - A significant decrease in the management authority at the school level.
- Needs Improvement Year 4 – The school must follow NI Year 3 sanctions and create a School Restructuring Plan to be implemented for a minimum of two years beginning the following year. The plan must include one of the following options:
    - Reopening the school as a charter school.
    - Replacing the staff relevant to not making AYP.
    - Contracting a private management company.
    - Any other restructuring of the school
- Needs Improvement Year 5 – NI Year 4 sanctions including the implementation of the School Restructuring Plan.
- Needs Improvement Year 6 –The school shall continue implementation of the School Restructuring Plan which will be subject to a School Performance Review. The LEA must enter into an Improvement Contract to be implemented in NI Year 7. Additionally, school personnel could be removed.
- Needs Improvement Year 7 - The school shall be classified as a Contract Monitored School

- Needs Improvement Years 8, 9, and 10– GDOE will make recommendations to the State Board of Education concerning interventions needed to address findings from the System Performance Review. A Management Contract to ensure the implementation of the interventions will be formulated and signed. Other sanctions include possible school closure and a decrease of authority for the superintendent and the local board of education. This could also include the assignment of a management team to operate the LEA.

Through the examination of the above-stated sanctions, it is clear that the implications associated with a lack of student achievement can lead to detrimental results.

Although most educators appreciate the intent of the law, a great deal of controversy surrounds the use of punitive and often under-funded mandates to ensure improvement. Opponents to the use of sanctions, such as Sirotnik and Kimball (1999), cite principles of learning theory, and claim that punishment does not seem to be an effective means to change behavior. In a more recent analysis, Nichols, Glass and Berliner (2006) examined the relationship between student achievement and high-stakes testing across 25 states. After regression and correlation analyses, no relationship was found between pressure on high-stakes tests and reading achievement at any grade level or for any subgroup. Chester (2005), through a review of reports of cheating on state assessments, contends that another drawback to the increased pressure applied to educators through federal and state laws has had a negative impact on the ethics and professionalism of educators.

Lawmakers and other proponents of NCLB and its accountability requirements suggest that the law has changed the view of improving education. The main belief is that the use of rewards and sanctions will spur educators and administrators to be more effective and thus improve student learning (McDonnell, 2005).

Multiple Measures

Another key characteristic of effective accountability systems identified by Goodwin, Englert, and Cicchinelli (2003) is the use of multiple measures to determine the success of educational programs guiding student improvement. The main reason for analyzing multiple factors relates to the reliability and validity of the high-stakes tests being given. Elliott Asp (2000) asserts that this movement toward the use of multiple measures is partially due to changes in the regulations regarding the evaluation of Title I programs and the need to improve the identification and classification of students as well as the overall accuracy of the process. With the use of multiple measures, it is hoped that curriculum focused nearly entirely on a single accountability measure can be avoided and a better assessment of actual student progress can be made. According to Asp, with the use of multiple measures, "report cards" of schools could be more fairly and accurately provided to the public by including a variety of assessments combined with their relative importance. The use of multiple measures could also provide more fairness to individual students by providing the students with more opportunities to demonstrate competency (Baker, 2003). Sirotnik (2002) points out the irresponsibility of a single high-stakes assessment being used to determine and attempt to ensure the educational well-being of a student or a school. He uses examples from other fields, such as economics and health care, to demonstrate the irrationality of increasing the number of standardized tests and

using this type of testing as a sole indicator of efficacy in schools. For instance, he states "No sensible hospital director would mandate more frequent temperature-taking to cure patients and no governmental body would endorse more frequent calculation of the GNP to improve the economy" (p.665). In response to this argument, there are some researchers who are exploring the possibility of incorporating other forms of assessment such as norm-referenced tests, teacher judgment, and student performance tasks in an effort to provide a deeper understanding of individual student achievement (Asp, in Brandt). Although the use of multiple measures is strongly suggested as a key factor in an effective accountability system, the cost and subjectivity of such methods create roadblocks to widespread use.

In addition to the use of multiple measures to determine the accountability of schools, many researchers contend that multiple measures should also be used within the accountability system to determine the effectiveness of the instructional programs as they relate to student learning and achievement. Due to NCLB and the weight of the results of standardized testing in determining AYP results, administrators often become solely focused on these results. Two prominent authors in the area of assessment and data usage, Victoria Bernhardt (2004a) and Dennis Fox (2001) suggest that this type of analysis is just the beginning. Bernhardt and Fox recommend the use and analysis different types of data when assessing the instructional program of a school. Both authors suggest the use of student achievement data, demographic data, and school process data. In addition, Bernhardt suggests the use of perceptional data in conjunction with the three aforementioned data types to provide a detailed and informative analysis of student learning.

Student achievement data, which Fox (2001) refers to as outcome data, include not only results from standardized test scores but also assessment results from such things as student portfolios, performance tasks, and teacher-made assessments, to name a few. According to Bernhardt (2004a), demographic data play an equally important role in the process of D^3m. Often demographic data are pigeon holed into two or three areas such as race, socioeconomic status, and free and reduced lunch. Fox identifies other, less examined examples of demographic data such as mobility rate, attendance patterns, family support, preschool experience, parent education, and primary language. Bernhardt and Fox, as well as other researchers suggest that the analysis of both teacher and student demographics can provide a representation of how the teachers are aligned with the students and the means to which the school is preparing to meet the needs of the students (Bernhardt). Another type of data which both Fox and Bernhardt deem necessary to a healthy D^3m system are school process data. Examples of school process data include instructional strategies, specialized programs, curricular organization, teacher expectations, and assessment strategies (Fox, Bernhardt).

Perceptional data can also be a valuable source of information as to the efficacy of a school. An example of perceptional data use involved a small rural community in Northern California. This community saw 95% of its students who went to college drop out by the end of the first year. The teachers and community assumed that the root cause of this was a lack of experience in social settings and began restructuring curriculum to help students improve their social and communication skills. This focus changed when a consultant urged the teachers to conduct a survey of graduates to find the reason the students dropped out of college. The results were eye opening; nearly without exception,

the students cited their inability to write as the reason for returning home from college (Bernhardt, 2004b). This example illustrates the positive results that can be gained through the examination of perceptional data.

Data Use

Due to the accountability conditions, planning based on data use has become an important focus for many schools and school districts. As mentioned in Chapter One, according to Rudy and Conrad (2004) the intent of this type of decision-making must be "to collect, analyze, and interpret meaningful school improvement data to make a positive impact on curriculum, instruction, and student learning" (p.40). The possible benefits of this type of analysis and decision-making are numerous and profound.

Victoria Bernhardt (2004b), the Executive Director of Education for the Future and author of a series of books devoted to using school data to improve student learning, suggests several purposes the analysis of data can serve.

She claims, the use of data "can help to

- replace hunches with facts concerning what changes are needed,
- facilitate a clear understanding of the gaps between where the school is and where the school wants to be,
- identify the root causes of these gaps, so the school can solve the problem and not just treat the symptom,
- understand the impact of the processes on the student population,
- assess needs to target services on important issues,
- provide information to eliminate ineffective practices,
- ensure the effective and efficient use of dollars,

- show if school goals and objectives are being accomplished,
- ascertain if the school staffs are implementing their visions,
- promote understanding of the impact of efforts, processes, and progress,
- generate answers for the community related to: What are we getting for our children by investing in the school's methods, programs, and processes?,
- continuously improve all aspects of the learning organization,
- predict and prevent failures, and
- predict and ensure successes". (p.3)

If realized, each of these claims could certainly help schools to improve student learning and increase academic success.

The use of data for decision-making should be systemic. The District Data Use Project, funded by the United States Department of Education and sponsored by the American Association of School Administrators, the National School Boards Foundation, and University of California, Los Angeles' National Center for Research on Standards and Student Testing (CRESST), assisted more than 50 school districts to realize the potential of systemic data-driven decision-making. This was, in part, made possible through the use of support tools and CRESST's free web-based software, Quality Schools Portfolio (QSP). Through this project, Rudy and Conrad (2004) identified four key elements that promote successful, systemic use of data. These elements critical to effective data use are curriculum and instruction based leadership, performance indicators, technology, and staff development.

As is evidenced by literature and research, strong leadership is an important component of success for an organization particularly in the area of data use. For

example, in his analysis of companies that were able to sustain great results, Jim Collins (2001) identified leadership as the key component. Collins identified key characteristics that the leaders of these economically successful companies shared. The leaders were humble yet focused and were not afraid to "confront the brutal facts" (Collins, p. 65). Deborah King (2003), of the Annenberg Institute for School Reform has also identified characteristics of effective school leaders that closely parallel those identified by Collins. She also contends there is a requirement for leadership that is focused on instruction, curriculum, and student achievement. It is in this that certain difficulties arise. Many school and district leaders are inundated with non-instructional tasks that prohibit a leadership that is focused on instruction. In an Education Week national poll of district leaders regarding issues that prevent them from leading instructionally, 89% cited money, 69% cited competing priorities, 61% cited a lack of district staff, 55% cited teachers' concerns about lost creativity, 53% cited a lack of proven instructional strategies, 45% cited union contracts, and 44% cited principals' concerns about lost autonomy (Archer, 2004). The respondents of this poll illustrate the magnitude of the difficulty facing educational leaders in maintaining focus on instructional leadership.

Although there is little argument that competing forces are strong and evident, there is also little argument about the importance of leadership in fostering an instructional program based on data. In both the District Data Use project and the Chicago Public Schools initiative, the role of school leadership played a key role (Rudy & Conrad, 2004; Mitchell & Conrad, 2003). Bernhardt (2004a) also adds that a clear and shared vision in leadership plays a major role in this type of decision-making process. Mitchell and Conrad found similar characteristics necessary to leadership as identified by Jim Collins

(2001), specifically in the area of confronting negative data. According to Collins, the leader should maintain humility, openness, and honesty when dealing with data in order to make quality decisions based on the data. In the Chicago initiative, Mitchell and Conrad found reluctance on the part of certain administrators to share negative results with teachers as well as community members. This was attributed to the increased accountability measures but negatively impacted the effectiveness of the data analysis in formulating an appropriate school improvement plan. The results of the aforementioned studies and current literature suggest the role of the leader is indeed important in the data evaluation process.

Another key element to successful data use as suggested by Rudy and Conrad is the use of performance indicators (2004). Based on their study, these researchers contend that districts that promote data collection at both the school and district level are better able to achieve school improvement goals that address key questions related to student achievement. The Education Week survey found that 68% of the superintendents said they give periodic student assessments (Archer, 2004). These assessments, often given in elementary and middle grades in reading and math enable teachers, principals, and superintendents to identify and address weaknesses in student performance and allow for remediation before the standardized assessment.

Results of current research indicate an increase in efficacy of schools and districts which base decisions and improvement plans on data analysis. At the district level, Conrad and Eller (2003) found three positive themes emerged in their study of four school districts specifically relating to their use of data to make informed decisions. The

use of intense data analysis encouraged a culture of inquiry within the districts, caused an increase in organizational capacity, and improved the ability to build technical capacity. The participants in this study claimed that the increased spirit of inquiry had a direct link to student performance (Conrad & Eller, 2003). They found that the primary focus of this increased inquiry process was on student academic achievement. Participants from one district indicated data were used to identify students achieving below grade level who did not make more than one years expected progress, those students who had a significant drop in achievement from one year to the next, and students performing at or above grade level. This analysis enabled educators in this district to provide opportunities for remediation or enhancement as appropriate to the individual student. By identifying individual needs using factual data, districts are better able to improve the instructional process. Mitchell and Conrad (2003) had similar findings. The teachers were able to perform action research projects and implement corrective actions immediately in the classroom. While the positive effects of using data to make informed decisions regarding student achievement and continuous school improvement are documented by research, there are a few hurdles that must first be overcome by organizations in building cultures of data use.

One of the key issues educational organizations must address is the negative connotation associated with “data”. Doyle (2003) suggests teachers dread data for two reasons. First, data are seen as the enemy with the increased accountability measures and secondly, many teachers find data entry just one more distraction from teaching. Mason (2001), in her report of a data analysis study of Milwaukee schools stated six organizational challenges associated with the use of data in school improvement

initiatives. These are "(1) cultivating the desire to transform data into knowledge, (2) focusing on a process for planned data use, (3) making a commitment to acquire data, (4) organizing data management, (5) developing analytical capacity, and (6) strategically applying information and results" (p.4). Challenges such as these create obstacles to data use and prevent educators from maximizing the efficacy of D^3m.

Informative to Parents and Community

The generation and appropriate use of data from the standardized tests has the potential to assist students, parents, and schools in their efforts to improve student achievement. However, the data must be presented in a timely, useable and easily understood manner. Written into NCLB are requirements that attempt to ensure that proper data use and data reporting are fulfilled. Section 1111, requires states and LEAs to

> "…produce individual student interpretive, descriptive, and diagnostic reports, consistent with clause (iii) that allow parents, teachers, and principals to understand and address the specific academic needs of students, and include information regarding achievement on academic assessments aligned with State academic achievement, and that are provided to parents, teachers, and principals, as soon as is practicably possible after the assessment is given, in an understandable and uniform format, and to the extent practicable, in a language that parents can understand." (NCLB, 2002, part A, subpart 1, Sec. 1111, b 3 (C).

NCLB (2001) also mandates that results be disaggregated by gender, race, economically disadvantaged, limited English proficiency, and students with disabilities and that these results are to be available to the public. States must also provide itemized score analyses to enable all stakeholders to interpret and address the specific academic needs of students.

With the massive amounts of data available and the technical nature of statistics, it is essential to provide useful, easily understood data. Walberg (2002) contends that the data should be user-friendly and states "…What isn't as useful is a mass of undigested numbers often reported by states and districts in large, unwieldy books of computer printouts" (p.158). In their ratings of state accountability systems, researchers from Princeton Review (2002) evaluated states based on their practices of data communication. One specific evaluation was based on whether performance data were provided to the public with an explanation and contextual detail. This explanation is essential to increasing parental and community involvement.

One of the intents of the public reporting and the parental involvement sections of NCLB is to increase student achievement by engaging all stakeholders, particularly parents, in the process. The emphasis on the importance of parental involvement is noted by Speth, Saifer and Forehand (2008) who indicate that NCLB mentions parents more than 300 times. Literature on the subject varies in support of the claim that parental involvement positively impacts student achievement. Due to conflicting reports and studies, Fan and Chen (2001) performed a meta-analysis of empirical studies which quantitatively examined the effect of parental involvement on student achievement. They found that there is a medium effect size which confirmed that student achievement and parental involvement are positively related. Possibly, more intriguing is the potential impact parental involvement can have on urban students. Jeynes (2007) performed a meta-analysis of 52 studies to determine the effect of parental involvement on student achievement in urban and minority students. He found the positive effects of parental

involvement are evident for both white and minority students. He also suggests that such involvement can help to reduce the achievement gap.

Despite literature and research findings, it appears that pervasive parental involvement is not yet a reality. Stanik (2007) authored the results of a three year study investigating student, parent, and community leaders' perceptions of NCLB. The study performed by the Public Education Network (PEN) used input received 25 forums, hearings, and focus groups along with on-line surveys to investigate public perception. In the introduction to the report, Wendy Puriefoy, the president and CEO of PEN, writes that "NCLB pays considerable lip service to parental involvement; in reality, parents and communities are almost shut out of the reform process" (Stanik, p. 2). The findings also indicated that family and community partnerships are rarely part of school culture and although NCLB has created more parent empowerment, parents are still struggling to be involved in the decision-making process. In a study performed by the Regional Educational Laboratory Northwest, Speth, Saifer and Forehand (2008) reported similar findings. The researchers analyzed 308 school improvement plans of schools in the Northwest Region states and looked for parental involvement activities as required by Sections 1116 and 1118 of NCLB. It was noted that the improvement plans mentioned limited parental involvement activities, despite the wide range of practices discussed in the legislation. It appears that the parental involvement portion of NCLB should receive more focus. The necessity of communication, beyond that required by NCLB, to spur parental involvement and student achievement is a key characteristic of accountability systems.

Comparison of Educator Perceptions by Characteristic

The theory and research behind the aforementioned seven characteristics of effective accountability systems suggest implementation can yield positive and meaningful results in the area of school improvement. Based on the aforementioned research, an examination of the pervasiveness and consistency of implementation of the policies and practices surrounding the use of data to effect instructional practices is prudent. Englert, Fries, Goodwin, Martin-Glenn and Michael (2003, 2004, 2005), through the Mid-continental Research for Education and Learning, executed a series of studies to examine the perceptual implementation and opinions of various educators. The studies examined the perceptions of the superintendents, principals, and teachers from 80 school districts within the states of Colorado, Kansas, Missouri, and South Dakota. The final report of the series of studies examined the similarities and differences in perceptions of the educators in various ways. Of most interest to the current study was the comparison of superintendent, principal and teacher perceptions. Englert and her fellow researchers found that there were significant differences in perceptions among these three groups across several of the previously identified characteristics. The mean responses were compared through the examination of effect size. This statistical analysis allows the difference of mean values to be expressed in standardized units and provides statistical evidence when examining group differences (Gall, Gall & Borg, 2003).

The comparison of superintendents to school-level principals examined six of the seven characteristics. Englert (2003) did not include the characteristics of setting high expectations for students on the superintendent survey as this is typically more defined at the school-level issue. The examination of the other six characteristics revealed

significant differences in opinions between the two groups of educators when considering (1) the alignment of resources, (2) the application of sanctions and rewards, and (3) the practice of informing parents and the community. The differences in mean values for these three characteristics were significant at the 0.01 level. The principals rated the sanctions and rewards and the informing parents and community characteristics lower than the superintendents while the superintendents rated the remaining characteristics lower than the principals.

Perhaps more pertinent to the current study was the comparison of perceptions of principals to classroom teachers. The research by Englert, et al. (2005) revealed lower ratings by the teachers on every characteristic. The principals and teachers held significantly different views on four of the characteristics: a) quality of state assessments, b) the use of sanctions and rewards, c) the diagnostic use of data, and d) communication of the results to the stakeholders. Interestingly, the largest mean difference was noted in the district and school personnel data use characteristic. This seems to indicate that the actual use of data to improve instruction has not permeated down to the classroom level. Statistically significant differences were also seen when examining the quality of the state assessment, the application of sanctions and reward, and the practice of informing parents and the community. Again all of these significant differences occurred at the 0.01 significance level. The differences noted in these studies seem to indicate a top-down use of data. In order to achieve true data-driven decision making and thus improve student learning a more pervasive practice involving all stakeholders is required.

Summary

The passage of NCLB and its progressively stringent requirements have created an environment of increased accountability. Teachers and administrators are affected by the institution of accountability systems and are feeling pressure to use data to improve student performance. Through a review of literature, characteristics common to effective accountability systems have been identified. The characteristics, which are pertinent to school-level educators include (a) high expectations, (b) high quality state assessments, (c) resource alignment, (d) sanctions and rewards, (e) multiple measures, (f) data usage, and (g) informative to parents and community. Although literature is replete with articles and research studies examining data use and accountability systems, comparison of teacher and administrative perceptions is sparse. Even less information is available regarding the differences of perceptions among educators at the three traditional school levels, elementary, middle and high. Therefore these topics will be the subject of this study.

CHAPTER 3

METHODOLOGY

Introduction

This chapter describes the methodology and research design of the study. The chapter will be divided into six sections describing the following: (a) review of the purpose and questions of the study, (b) the participants of the study, (c) the design and procedures for conducting the study, (d) the instrumentation to be used, (e) the analysis of the data, and (f) the ethical considerations of the study.

In order to determine the consistency of perceived effectiveness of data use among various groups of educators, a school system in Southeast United States shall be examined. For the purposes of anonymity, the school system shall be referred to as "Jude County" throughout this process. This study attempted to provide information regarding the perceived use of data and the effectiveness of such use within established accountability systems. Through examination of the data, comparisons of different groups of educators were made. Specifically, the data were examined across the seven characteristics of data use within effective accountability systems as identified by Englert, et al. (2004): (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. The data were analyzed to determine the similarities and differences between principals and teachers in reference to the aforementioned seven characteristics. The data were also analyzed to

determine if there were differences in data use among the three traditional levels of public schools: elementary, middle and high.

Research Questions

The overarching question for this research is: What are the beliefs and/or perceived implementation of practices and policies based on seven research-based characteristics as identified by Englert et al. (2004) of assessment accountability systems of school-level educators in Jude County? The following sub-questions were asked to answer the over-arching research question:

1. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ between school-level administrators and teachers on the following characteristics as identified by Englert, et al.:
   (a) high expectations for all students,
   (b) high-quality assessments aligned with standards,
   (c) alignment of resources, support, and assistance for improvement,
   (d) sanctions and rewards linked to results,
   (e) multiple assessment measures,
   (f) diagnostic uses for data,
   (g) readily understandable to the public.
2. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ among school level educators, to include administrators and classroom teachers, at the three traditional levels of schools (elementary, middle and high)?

Research Design and Procedures

In order to adequately answer the research questions, a descriptive research design was employed. This type of research can provide valuable information about perceptions, attitudes, and practices (Gall, Gall, & Borg, 2003). The researcher relied on feedback from the survey participants in order to accurately describe their perceptions of the current use of data by school-level educators. This was measured through a self-assessment of their practices. The survey results provided information relating the extent to which data within the seven characteristics of effective assessment systems are being used by groups of both administrators and teachers.

The study was primarily quantitative in nature with a limited number of open ended questions to further enlighten the phenomena noticed in the numerical analysis of the data. According to Gall, Gall, and Borg (2003), this type of research, also known as positivism is "grounded in the assumption that the features of social environment constitute an objective reality that is relatively constant across time and settings" (p.634). Since the design of the instrument represents mostly items with Likert scale responses a quantitative design was in order and helped to answer the questions of this study.

The instrumentation used was adapted and shortened from a survey used in a study by Englert, Fries, Martin-Glenn and Michael (2004), researchers with the Mid-continental Research for Education and Learning organization. The Assessment and Accountability Survey was one of three developed in a series of studies by the researchers. Englert and her fellow researchers developed separate surveys for superintendents, principals and teachers. To allow for better comparison and consistency, the survey originally developed for the study titled Understanding How Principals Use

Data in a New Environment of Accountability was reworded to allow for use with both school level administrators as well as classroom teachers in this study. The researcher obtained permission from Dr. Englert to adapt and use the surveys for this study at Georgia Southern University.

Once the data were collected, the data were entered into Microsoft Excel and the Statistical Package for Social Science (SPSS). Measures of central tendency, specifically, mean, median and mode were calculated. Standard deviation, variance, and range were also examined to provide measures of variability within the groups. These basic data allowed the researcher to examine the actual beliefs and perceptions of school-level educators in regard to data use and helped to provide an answer to the main research question of this study.

The descriptive data were examined across groups in order to answer the two sub-questions comparing administrators with teachers and educators from the three levels of schools. A comparison of these data through the use of t-tests provided a quantitative comparison of the perceived use of data between administrators and teachers. One-way ANOVA with Scheffe post-hoc analyses were used to compare responses among educators from elementary schools, middle schools, and high schools.

Population

The population of the study was composed of school-level educators from Jude County. The school system is a growing school system in Southeastern United States. The participants of this study can be divided into two main categories: school-level administrators and classroom teachers. The selection process of the groups differed.

Participants

For purposes of this study, school-level administrators were comprised of Principals and Assistant Principals serving in only that capacity at a single school within the district. Because the school system has a limited number of schools (N=29), and thus a limited number of school-level administrators (N=71), all members of this population were given the opportunity to participate.

Due to the accessibility of the e-mail addresses and ease of distribution of an on-line survey, a stratified random sample of full-time, core area classroom teachers in Jude County were sent the survey to complete through the use of Survey Monkey (2009), a company which specializes in electronic surveys. The sample of teachers was selected so as to obtain representative numbers of teachers from each school within the system. The random selection was completed through the use of an on-line random number generator, Stat-Trek (2009). In an effort to obtain useful data, teachers employed only half-time were not included in the selection process. At the time of this study, there were 1421 full-time teachers employed in Jude County. The teachers were predominately white, female, and more than half of the full-time teachers have obtained a Masters Degree or higher (See Table 1). In order to ensure the respondents are representative of the population, the researcher will compare the degree level and years of experience of the respondents with that of the entire population as given below.

Table 1

Highest Degree Earned Information for Full-Time Classroom Teachers.

Highest Degree	Number	Percentage
Bachelor's Degree	486	34%
Master's Degree	632	44%
Educational Specialist	288	20%
Doctorate	15	1%
Total	1421	100%

The 1421 full-time classroom teachers are divided among the school levels in the following manner: 49% (N=700) elementary teachers, 25% (N=353) middle school teachers and 26% (N=368) high school teachers. According to Raosoft (2008), an online sample size calculator, in order to achieve a 95% confidence rate, a population size of 1421 requires a sample size of 303 participants. To keep consistency with the general population, results from 49% or 149 elementary teachers, 25% or 75 middle school teachers, and 26% or 78 high school teachers will be required to meet the 95% confidence level. Accounting for a forty percent return rate, two and one half times as many teachers as required for a 95% confidence level will be selected to participate. Table 2 indicates the required number of participants at each level as well as the number of participants to be selected.

Table 2

Teachers Required for 95% Confidence Level and Number of Potential Full-Time Teacher Participants

	Elementary School	Middle School	High School
Total Number	700	353	368
Participants Required	149	75	78
Surveys to be Sent	373	188	195

Instrumentation

The instrument for this study was adapted from the Assessment and Accountability Survey developed and used by Englert, Goodman, Fries, Martin-Glenn and Michael (2004). Based upon a literature review, minor changes were made to the original survey in order to answer the research questions of this study. Through the use of this survey, the researcher was able to make inferences about perceptions of data use and accountability practices, particularly within the seven identified characteristics of established accountability systems.

The adapted survey used in the current research study, contained measures based on seven characteristics of accountability systems and data use as identified by a review of the literature. A section containing measures relating to school and educator background information was also included. The original survey was pilot tested on a small group consisting of either current or former educators. The pilot test resulted in the clarification of wording and the inclusion of additional items (Englert et al., 2004). Since minimal changes were made to the original survey, the validity and reliability remains

intact. Table 3 contains the reliability information of the original survey constructs. Through the reliability analysis, Englert and her colleagues were able to ensure the items within each construct correlated well. There was however a low correlation of the items within the "Sanctions and rewards" construct. This low reliability was attributed to principals rating one item lower than the others. The question asked the principals whether sanctions and rewards influenced their practices. Though the question caused a low reliability for the construct, further analysis by Englert et al. suggested that the item was an important part of the construct and should not be deleted. The original survey also included the "multiple measures" construct with "Sanctions and rewards". As an adaptation, the researcher separated these two constructs for the current study.

The section of the Englert (2004) survey regarding school proficiency was omitted. The removal of this section should not affect this study due to the relative consistency of scoring on standardized tests within the school system. With the exception of a few schools in the county, most schools perform in a relatively similar fashion on standardized tests. The removal of this section also shortened the survey making it less time consuming for the participants.

Table 3

Reliability of Original Survey Measures

Measure	Number of Items in Measure	Reliability
High expectations	5	.88
State Assessment Quality	6	.91
Alignment of Resources	5	.81
Sanctions and rewards (including multiple measures)	6	.41

Table 3 (*continued*)

Data usage	13	.88
Informative to parents and community	7	.75

The adapted survey used in the current study consisted of eight sections which are based on school and educator characteristics and the seven characteristics of accountability systems as identified by a review of the literature. The first section included four demographic questions relating to school and educator background characteristics. The data gained from this section enabled the researcher to disaggregate the responses and thus determine if there were differences in perceptions between administrators and teachers or among educators at the three school levels. Items in this section also enabled the researcher to determine if the respondents were representative of educators in this county.

The second section, State Assessment Quality and Utility, consisted of six items with four-point, Likert-type scale used to determine the educators' perceptions of the quality and utility of the state assessments. The scale ranged from "Very Poor" to "Excellent". A higher score on the items in this dimension suggested a greater degree of the perceived quality and utility of the state assessment. There were no changes made to the original survey within this construct. According to Englert et al. (2005), if educators deem the state assessment instrument to be of high quality and be aligned to standards, they would be more likely to incorporate the results in their decision-making practices. Thus items in this section addressed such issues as the alignment of the assessment with standards, teacher access to results, and the comprehensiveness of the assessment.

The third section of the survey, Expectations, used five items to assess the extent of educators' belief about the presence of high expectations for all students within their school (Englert et al., 2005). The scale used on these items ranged from "Strongly disagree" to "Strongly agree". A higher score on the items in this dimension suggested a higher degree of agreement with the statement. There were no changes made to the original survey within this construct.

The fourth section of the survey, Resources and Support, addressed the alignment of resources and support for improvement. This section contained seven four-point Likert scale items with responses that ranged from "To no extent" to "To a great extent". A higher score on the items in this dimension suggested a greater extent of implementation. The items within this construct "were developed to assess whether each respondent felt they had adequate resources to support changes required by NCLB" (Englert et al. 2005). In an effort to provide more detailed information regarding resources, minor changes were made to the original survey. The original survey contained one question to determine whether educators felt they had sufficient resources. This question included personnel, computers, software, professional development and funding. Based on the findings of Rudy and Conrad (2004), which identified technological resources and staff development as two of four key elements in data-driven decision-making, the current survey divided the single question of the original survey into three separate questions. The new items on the revised survey addressed technological resources and staff development opportunities in individual items separate from dedicated personnel and funding. An item regarding the flexibility to align resources was deleted from the original survey. That item from the original survey would apply only to administrators and was

removed to allow the current survey to be used with both school administrators as well as classroom teachers. The final question within this section was an open-ended response which allowed the educator to give the current resources for data-driven decision-making available within their school.

The fifth section of the survey was designed to investigate the construct of data communication. The items were developed by Engert et al. (2004) to determine the degree to which data are used to inform stakeholders about the progress of their students. For purposes of this study, one item was added and one item removed from the original survey. Because Jude County has a limited number of non-English speaking students, the item related to non-English speaking parents was removed. According to the Quality Counts 2002 report published by Education Week (2002), an important aspect of communicating and using accountability results is to compare the results of schools with similar demographic characteristics. Due to the findings of the Education Week report, a question relating to the comparison of results was added to the survey. The six items in this section contain four-point responses that ranged from "To no extent" to "To a great extent". A higher score on the items in this dimension suggested a greater extent of implementation.

With the passage of NCLB, lawmakers have deemed that sanctions and rewards be used to promote student achievement. This next section of the survey, Sanctions and Rewards, contained two items to address sanctions and rewards linked to performance. Both questions are four-point Likert items with responses which ranged from "To no extent" to "To a great extent". A higher score on the items in this dimension suggested a greater extent of implementation. The original survey combined both sanctions and

rewards together. The current survey was adapted to question educators about these two facets separately.

The seventh section of the survey, Data Usage, included 13 items and addresses the extent to which data are used within the school to make decisions. The original survey items within this construct were maintained for this study. All 13 items were four-point Likert-type items. Responses ranging from "To no extent" to "To a great extent" were used on 12 of the items. A higher score on these 12 items in this dimension suggested a greater extent of implementation. Responses ranging from "Most students are below proficient" to "Most students are above proficient" were used for the remaining item. A higher score on these suggested a greater degree of perceived student proficiency.

The final section of the instrument, Multiple Measures, included two multiple response questions to address the use of multiple forms and measures of data and one open-ended item to allow for a deeper understanding of various challenges of data use within accountability systems.

The survey used in this study was peer reviewed and pilot tested. This led to the above stated changes to the original survey used as well as some rewording of the questions. The dimensions, item numbers, and score range are displayed in Table 4.

Table 4

Dimensions measured on the revised Assessment and Accountability Survey.

Dimensions	Measures	Item Numbers	Score Range
Demographics	NA	1-8	NA
State Assessment Quality and Utility	Very Poor to Excellent	9a – f	1 - 4
Expectations	To no extent to To a great extent	10a-e,	1 - 4
Resources	To no extent to To a great extent	11 a-e, 12 a-b	1 - 4
	Open-ended	13	NA
Data Communication	To no extent to To a great extent	14a-f	1 - 4
Sanctions & Rewards	To no extent to To a great extent	15	1 - 4
Data Usage	To no extent to To a great extent	16 a-h, 17 a-b	1 - 4
Multiple Measure	Multiple Choices	18	NA
	Open-ended	19	NA
Issues Surrounding Using Data	Open-ended	20	NA

Data Collection Procedures

Once the researcher successfully completed the Prospectus defense, approval from Georgia Southern Institutional Review Board was obtained. Permission was also gained from the appropriate authority of Jude County School System. Once this approval was awarded, the researcher used an on-line survey company, Survey Monkey (2009), to send the survey to all school level administrators as well as the randomly selected school level classroom teachers within Jude County. The survey was created by the researcher using the Survey Monkey tools. The survey was distributed using e-mail addresses obtained from the county data base. Survey Monkey was used to track the respondents

and send follow-up reminders to only those who have not responded. After discovering that some of the surveys did not arrive to the selected teachers, assistance was obtained from the technology department of Jude County. After several attempts, all of the randomly selected teachers received the survey through e-mail. Three days after the initial electronic mailing, an electronic reminder was sent to the non-responders. When the appropriate response rate was obtained, data analysis began.

Data Analysis

After the responses to the survey were gathered, the data were downloaded from Survey Monkey (2009) into an Excel spreadsheet which was then exported to the Statistical Package for the Social Sciences Version 10.0. The mean score from each of the constructs served as the overall score for that construct. The data were analyzed to provide descriptive statistics, such as mean and standard deviation for each of the groups along each of the constructs. These statistical analyses permitted the researcher to answer the over-arching research question regarding the educators' beliefs and perceptions of data use based on the seven characteristics of accountability systems. For comparison of responses between administrators and teachers, t-tests calculations enabled the researcher to answer the first sub-question. According to Gall, Gall and Borg (2003), t-test is "a procedure for determining whether an observed difference between mean scores of two groups on variable *X* is statistically significant" (p. 638). This calculation enabled the researcher to make inferences and comparisons between the perceptions of administrators and teachers of Jude County. In order to answer the second sub-question, One-way ANOVA with Scheffe post-hoc analyses were performed. Gall, Gall and Borg state that this procedure is used to determine "whether the difference between mean scores of two

or more groups is statistically significant" (p.618). These analyses enabled the researcher to statistically compare differences in responses from the educators at the three traditional school levels.

Reporting the Data

Information from the surveys was summarized, analyzed and compared to determine the beliefs and perceptions of data use within accountability systems of school-level educators in Jude County. The information provided by the educators provided evidence in regard to educator beliefs and perceived implementation of data use, an important topic with the current legal demands to achieve student success. The findings are reported in both table and text format in Chapter IV. The research questions were answered by the responses to the items on the survey instrument and the analysis of those responses. The final questions of the instrument provided a qualitative measure and were used to provide an overview of the challenges facing educators in regard to data use. Recommendations and Conclusions are presented in Chapter V.

Summary

A restatement of the research questions, the research design, instrumentation, procedures, participants, and methods of data analyses were included in this chapter. The mixed methodology of this design included mainly quantitative measures and a few qualitative measures. The participants of the study included school-level educators from Jude County, a mid-sized Southeastern school system. The instrument, Assessment and Accountability Survey developed and used by Englert, Goodman, Fries, Martin-Glenn and Michael (2005) was adapted to survey the above-stated participants. The research questions were answered using descriptive statistics, t-tests and ANOVA calculations.

Chapters IV and V contain the presentation of the data, data analysis, and specific finds of this study.

Table 5

Analysis of Questionnaire Items

Item	Research	Research Question
Demographic		All
9. Quality of State Assessment	Goodwin et al., 2003; DeVaus, 2004; Linn, 2005, 2006; Popham, 2007	All
10. High Expectations	Englert, 2004; Marzano, 2007; Rosenthal, 2002; Barley and Beesley, 2007	All
11-13. Resources	Robelen, 2008; Rudy & Conrad, 2004; Watson & Mason, 2003; Pascopella, 2005	All
14. Data Communication	NCLB, 2002; Walberg, 2002; Princeton Review, 2002; Stanik, 2007; Speth, Saifer and Forehand, 2008	All
15. Sanctions and Rewards	NCLB, 2002; McDonnell, 2005; Guskey, 2007; Stecher & Hamilton, 2002; Goodwin, et al., 2003; Georgia Department of Education, 2009; Sirotnik and Kimball, 1999;	All
16-17. Data Usage	Rudy and Conrad, 2004; Bernhardt, 2004a, 2004b; Mitchell & Conrad, 2003; Conrad & Eller, 2003; Mason, 2001	All
18-19. Multiple Measures	Baker, 2003; Goodwin, Englert, and Cicchinelli, 2003; Bernhardt 2004a; Fox, 2001	All
20. Challenges	Archer, 2004; Doyle, 2003; Mason, 2001	Main

CHAPTER 4

REPORT OF DATA AND THE DATA ANALYSIS

The primary purpose of this study was to determine the perceptions of Jude County school-level educators with regard to the implementation of practices and policies based on characteristics of assessment accountability systems. For this study, an electronic survey was sent to 756 classroom teachers and 71 school-level administrators of Jude County during the month of May 2009. In this chapter, the researcher reports and analyzes the data collected from the respondents of the survey instrument. This chapter will contain sections addressing the research questions, findings, and responses to the research questions.

Introduction

The researcher used the validated Assessment and Accountability Survey developed and used by Englert, Goodman, Fries, Martin-Glenn and Michael (2004). The researcher adapted the questions to investigate the perceived practices and policies of school-level educators in Jude County based on seven research-based characteristics of assessment accountability systems as identified by Englert, et al: (a) high-quality assessments aligned with standards, (b) high expectations for all students, (c) alignment of resources, support, and assistance for improvement, (d) readily understandable to the public, (e) sanctions and rewards linked to results, (f) diagnostic uses for data, and (g) multiple measures. The survey consisted of a demographic section including questions regarding years of experience in the field of education, highest level of education achieved, role served (administrator or teacher), years of experience in current role, and school level at which the educator works (elementary, middle, or high). The next section

asked both Likert-type closed-ended questions and a limited number of open-ended questions designed to investigate each of the seven-researched based characteristics of assessment accountability systems.

Research Questions

The overarching question for this research is: What are the beliefs and/or perceived implementation of practices and policies based on seven research-based characteristics as identified by Englert et al. (2004) of assessment accountability systems of school-level educators in Jude County? The following sub-questions were asked to answer the over-arching research question:

1. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ between school-level administrators and teachers on the following characteristics as identified by Englert, et al.:
   (a) high expectations for all students,
   (b) high-quality assessments aligned with standards,
   (c) alignment of resources, support, and assistance for improvement,
   (d) sanctions and rewards linked to results,
   (e) multiple assessment measures,
   (f) diagnostic uses for data,
   (g) readily understandable to the public.
2. How do the beliefs and/or perceived implementation of practices and policies regarding accountability systems differ among school level educators, to include administrators and classroom teachers, at the three traditional levels of schools (elementary, middle and high)?

Response Rate

Participation totals were calculated in two separate ways. Return rates included any individual respondent who answered any question on the instrument. For data analysis purposes, only responses from participants who answered at least fifty percent of the questions on the survey were considered. The number of those responding to half of the questions is identified through useable response rate in Tables 6 and 7. Individual construct data were obtained by eliminating the responses of any respondent who failed to respond to every one of the questions within that specific construct. This led to lower response rates for individual constructs, particularly those at the end of the survey. Any individual questions to which the respondents failed to respond were not included in the calculation of the mean.

Seventy-one Jude County, school-level administrators were electronically surveyed. Sixty one of these administrators returned the surveys. All of those returning the survey completed at least half of the questions on the survey. Therefore all of their responses were used in the data analysis. The returned surveys from these administrators yielded an overall response rate of 85.9%. The disaggregation of response data for the administrators is presented in Table 6.

Table 6

Survey Participation and Response Rates for Administrators

School Level	Number Surveyed	Number Responding	Return Rate	Number completing >50% of Survey	Useable Response Rate
Elementary	35	26	74.29%	26	74.29%

Table 6 (*continued*)

Middle	16	16	100.00%	16	100.00%
High	19	20	95.00%	19	95.00%
Total	71	61	85.92%	61	85.90%

Of the 756 classroom teachers that were surveyed, 409 responded to the survey, yielding a 54% return rate. Of the respondents, 372 answered the majority of the questions resulting in a useable response rate of 49%. Table 7 contains specific information related to response rates of the classroom teachers.

Table 7

Survey Participation and Response Rates for Classroom Teachers

School Level	Number Surveyed	Number Responding	Return Rate	Number completing >50% of Survey	Useable Response Rate
Elementary	373	177	47.45%	158	42.36%
Middle	188	100	52.66%	97	51.60%
High	195	132	67.69%	117	60.00%
Total	756	409	54.10%	372	49.20%

Respondents

For the purpose of data analysis, the respondents of the survey are those participants who answered at least half of the questions on the survey (n=372). More specifically, 158 elementary teachers, 97 middle school teachers and 117 high school

teachers completed the survey. The 61 administrator respondents were comprised of 26 elementary school, 16 middle school and 19 high school administrators. Each school in Jude County had multiple representatives in both the administrator and teacher subgroups.

The academic degree level achieved by the participants of the survey can be seen in Table 8. For all of the educators, the educational level was fairly evenly distributed among Bachelor's, Master's and Educational Specialist, with very few doctorates included. As expected, due to greater requirements for administrative positions, the administrator respondents, on average, hold higher degrees than the classroom teachers. This is evidenced by the data which indicate the majority of administrators (45%) hold an Educational Specialist Degree, while the majority of the classroom teachers (44%) hold a Master's Degree.

Table 8

Highest Degree Earned of Respondents with Useable Responses

Position	Bachelor's (%)	Masters' (%)	Specialist (%)	Doctorate (%)
Elementary Teacher	43 (27.22%)	64 (40.51%)	51 (32.28%)	0
Middle Teacher	27 (32.48%)	43 (44.33%)	23 (23.71%)	4 (4.12%)
High Teacher	38 (32.48%)	55 (47.01%)	23 (19.66%)	1 (0.85%)
Teacher Totals	108 (29.03%)	162 (43.55%)	97 (26.08%)	5 (1.34%)
Elementary Administrator	0	5 (19.23%)	18 (69.23%)	3 (11.54%)
Middle Administrator	0	1 (6.25%)	14 (87.50%)	1 (6.25%)
High Administrator	0	1 (5.26%)	13 (68.42%)	5 (26.32%)

Table 8 *(continued)*

Administrator Total	0	7 (11.48%)	45 (73.77%)	9 (14.75%)
Total	108 (24.94%)	169 (30.03%)	142 (32.79%)	14 (3.23%)

The respondents provided a great variation in experience levels. The years of experience ranged from 1 to 43 years, with an overall mean of 14.66 years (See Table 9). Administrators averaged (21.74 years) approximately seven more years of educational experience than the classroom teachers (13.66 years) who responded.

Table 9

Years of Experience of Survey Participants

Position	Average Total Experience	Experience Range (Min – Max)	Average Years in Current Role	Years in Role Range (Min – Max)
Elementary Teacher N = 158	12.13	1 - 39	13.58	1 - 36
Middle Teacher N = 97	14.06	1 - 43	12.63	1 - 43
High Teacher N = 117	15.38	1 - 35	13.24	1 - 35
Teacher Totals N = 372	13.66	1 - 43	13.23	1 - 43
Elementary Administrator N = 26	20.81	8 - 37	9.46	2 - 31
Middle Administrator N = 16	19.44	5 - 30	8.50	2 - 20
High Administrator N = 19	21.74	9 - 42	8.84	2 - 21
Administrator Total N = 61	20.74	8 - 42	9.02	2 - 31
Total N = 433	14.66	1 - 43	12.63	1 - 43

Findings

Overarching Research Question: What are the beliefs and/or perceived implementation of practices and policies based on seven research-based characteristics of assessment accountability systems of school-level educators as identified by Englert et al (2004)?

In order to answer the research questions, the survey instrument included six sections with Likert- type questions to assess the perceptions and practices of educators regarding data in the following areas: (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) diagnostic uses for data, (f) readily understandable to the public. The characteristic of multiple assessment measures was assessed through a check-list style question. The Likert-type questions were structured to provide the participants with a stem question or statement followed by a range of four responses, such as strongly agree to strongly disagree. These responses were given numerical values from one to four. The quantitative analyses were performed using these responses. Mean values and standard deviations were calculated using Microsoft Excel. For interpretation purposes, a mean score less than three indicated a relatively weak level of agreement. Using this interpretation, it was assumed that the strength of agreement increased as the mean value approached four. The general scale used for interpretation of results is presented in Table 10.

Table 10

Range of Values for Interpretation of Mean Values

Mean Value Range	Interpretation
2.50 – 2.99	Relatively weak, positive agreement Low level of agreement
2.99 – 3.25	Pedestrian level of agreement, positive perceptions
3.26 – 4.00	High level of agreement, strong perceptions

The results of the data analyses are presented in the following sections. The responses of the administrators and teachers will initially be discussed separately. The mean values and standard deviations from each question will be examined. Following the presentation of the above described data, similarities and differences between subgroups will be presented. Specifically, administrators and teacher responses will be compared as will elementary, middle, and high school responses.

Administrator Data

The following section will be used to present the disaggregated data garnered from the administrator respondents. The data are analyzed separately for each of the seven characteristics.

Administrator Responses - State Assessment Quality and Utility

Six survey questions assessed school administrators' perceptions of the quality and utility of state assessments (see Table 10). The mean values of the responses of school-level administrators in regards to the quality and utility of the state level assessments clustered around 3.00 indicating an overall "above average" rating of the assessments. With the exception of question 6f, the Elementary school administrators' means were

higher than the other two groups. Conversely, with the exception of question 6a, the means of the high school administrators were consistently lower than the others. Overall, the means indicate a generally positive view of the quality and utility of the state assessments.

Table 11

School Level Administrators' Perceptions of State Assessment Quality and Utility

Question How would you rate the quality of your state assessment(s) in terms of …	Elem. School Mean (SD) N=26	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=61
6a. …alignment to state curriculum standards?	3.08 (0.39)	3.00 (0.37)	3.05 (0.40)	3.05 (0.38)
6b. …teachers having access to results?	3.19 (0.69)	3.00 (0.52)	2.95 (0.71)	3.07 (0.65)
6c. … informing parents of their students' achievement levels?	3.19 (0.63)	3.00 (0.63)	2.63 (0.68)	2.97 (0.68)
6d. … comprehensiveness	3.04 (0.34)	3.00 (0.53)	2.95 (0.23)	3.00 (0.37)
6e. … providing diagnostic data to inform instructional practices?	2.85 (0.73)	2.81 (0.66)	2.79 (0.79)	2.82 (0.72)
6f. … overall?	2.92 (0.41)	2.93 (0.59)	2.89 (0.46)	2.91 (0.47)

Administrator Responses – Level of Expectations

Perceptions of the administrators regarding the level of expectations within their school were assessed using the five questions in Table 12. The mean values of the responses, which tended to group around 3.50, indicate the administrators' perceptions of their schools expectations of students are relatively high. Although still relatively high, the mean values representing high school administrators' responses were consistently

lower than the other administrators on all questions. In general, the mean values seem to indicate the administrators have a relatively strong level of confidence in the expectations being placed on the students within their schools.

Table 12

School Level Administrators' Perceptions of the Level of Expectations

Question Please indicate your level of agreement with the following statements:	Elem. School Mean (SD) N=26	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=61
7a. Our primary mission of my school is that all students become proficient in core subjects.	3.73 (0.53)	3.75 (0.45)	3.42 (0.61)	3.64 (0.55)
7b. Teachers in our school emphasize that performance can always be improved.	3.62 (0.50)	3.63 (0.50)	3.47 (0.61)	3.57 (0.53)
7c. Teachers in our school believe students can reach standards and objectives.	3.62 (0.50)	3.38 (0.50)	3.16 (0.50)	3.41 (0.53)
7d. Our faculty values school improvement.	3.50 (0.58)	3.56 (0.51)	3.32 (0.58)	3.46 (0.56)
7e. Our teachers assume responsibility for ensuring that all students learn.	3.58 (0.50)	3.38 (0.50)	3.11 (0..57)	3.38 (0.55)

Administrator Responses – Resources and Support to Use Data

Availability and adequacy of resources to impact data-driven decision-making, particularly in the area of instruction were assessed via the seven subparts within questions numbered eight and nine. Table 13 displays the mean values representing the administrator responses to these questions evaluating this characteristic. With the exception of question 9a, the mean values clustered around a value of 3.00. Question 9a, referring to the state's support of data use in the school, produced the lowest means

across all levels. The middle school administrators answers produced the highest means on every question except for question 9b, indicating the administrators at this level hold the most positive view of the availability and adequacy of resources. With the exception of the technological resource question, the analyses of the perceptions of high school administrators revealed mean values lower than the whole group averages. As an entire group, the administrators produced mean values less than 3.00, indicating a slightly less positive view of resources available to use data effectively. This was particularly evident in the responses to question 9a (mean of 2.45) which measure the support offered by the state.

Table 13

School Level Administrators' Perceptions of the Resources and Support to Impact Instruction Using Data

Question: When you think about improving achievement under NCLB, your school has…	Elem. School Mean (SD) N=26	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=61
8a. … sufficient resources (e.g. dedicated personnel, funding).	2.96 (0.82)	3.25 (0.45)	2.79 (0.71)	2.98 (0.72)
8b. …sufficient technological resources (computers, software, technology support)	2.96 (0.72)	3.38 (0.62)	3.16 (0.76)	3.13 (0.72)
8c. … adequate ability to support teachers in using data to improve classroom practices.	3.00 (0.57)	3.13 (0.34)	2.68 (0.67)	2.93 (0.57)
8d. … the knowledge and skills needed in order to use data to improve student learning.	2.85 (0.73)	3.19 (0.66)	2.58 (0.77)	2.85 (0.75)
8e. … sufficient professional development to assist in the use of data to make instructional decisions.	2.69 (0.74)	3.06 (0.57)	2.53 (0.77)	2.74 (0.73)

Table 13 (*continued*)

9a. …the state adequately supports your school's teachers in using data to improve their classroom practices.	2.44 (0.82)	2.63 (0.62)	2.32 (0.75)	2.45 (0.75)
9b. …the district adequately supports your school's teachers in using data to improve their classroom practices.	3.04 (0.53)	3.00 (0.52)	2.58 (0.69)	2.89 (0.61)

Administrator Responses – Data Communication

The six subparts to question twelve assessed the perceptions of the administrators regarding data and whether it is made readily available and understandable to the public. As with all of the previous constructs, the high school administrators had consistently lower mean values than both elementary and middle school administrators (See Table 14). This was particularly noticeable on question 12e. The administrators, with their responses to questions 12c and 12e, produced relatively low mean values across all levels. One of these questions measured the perceptions regarding the explanation of AYP and its connection to the school's assessment scores (overall mean of 2.88) while the other measured whether parent forums were held (overall mean of 2.78). All of the other items produced mean values very close to 3.00, indicating that the administrators, as a group, had relatively positive perceptions regarding their practices of making data and results readily available to their stakeholders.

Table 14

School Level Administrators' Perceptions of the Availability and Understandability of the Data to the Public

Question When communicating accountability results to your community, your school:	Elem. School Mean (SD) N=25	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=60
12a. … disseminates up-to-date accountability information in multiple ways (e.g., on your school's website, in newsletters, etc.) that are accessible to your parents/community.	3.00 (0.65)	3.25 (0.58)	2.95 (0.78)	3.05 (0.67)
12b. … states to the public what students should know and be able to do in your school at each grade level.	3.04 (0.61)	3.13 (0.62)	2.68 (0.67)	2.95 (0.65)
12c. … explains how adequate yearly progress (AYP) is tied to your school's assessment scores.	2.88 (0.60)	2.94 (0.57)	2.84 (0.60)	2.88 (0.58)
12d. … specifically describes what your school is doing and what assistance is needed to improve student achievement.	3.13 (0.69)	3.13 (0.50)	2.84 (0.60)	3.03 (0.62)
12e. … holds parent forums at convenient times and places for parents.	2.88 (0.60)	3.06 (0.68)	2.42 (0.61)	2.78 (0.67)
12f. … compares results to schools with similar demographic information.	3.04 (0.61)	3.06 (0.68)	2.89 (0.74)	3.00 (0.66)

Administrator Responses – Use of Sanctions and Rewards

The purpose of Question 13 was to attain the administrators' perceptions as to whether sanctions and/or rewards affect their practices. As evidenced in Table 15, high school administrators, who produced a mean of 3.16, felt their schools and practices were more affected by sanctions than elementary and middle school administrators (means of 2.67 and 2.75 respectively). The question assessing the impact of possible rewards

produced the lowest mean value across all levels. With an overall mean of 2.70 to this question, the administrators indicated a relatively low confidence in the use of rewards to impact instructional practices.

Table 15

School Level Administrators' Perceptions the Influence of Sanctions and Rewards

Question Please indicate your level of agreement with the following statements:	Elem. School Mean (SD) N=25	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=60
13a. Actual or possible sanctions influence your school's practices.	2.67 (0.82)	2.75 (0.86)	3.16 (0.76)	2.85 (0.83)
13b. Actual or possible rewards influence your school's practices.	2.64 (0.81)	2.63 (0.72)	2.84 (0.69)	2.70 (0.74)

Administrator Responses – Data Use

Table 16 displays the mean values of the administrators' responses to the ten sub-questions of questions numbered 14 and 15. These questions assessed the perception of administrators regarding various diagnostic uses of data. Overall, the administrators agreed their schools used data in a positive manner to effect instructional change. This is evidenced through the majority of the mean values being between 3.00 and 3.72. The responses to the questions assessing the use of data to identify school instructional strengths and weaknesses (14c), to produce a school improvement plan (14g) and to monitor the progress of the school (15a) produced mean values above 3.40. This indicates the administrators held particularly positive perceptions regarding the ability of their schools to use data in these areas. In contrast, the responses to the question regarding the use of data to evaluate personnel (14a) produced mean values less than 3.00 which

indicated the administrators believe this practice is less affected by the use of assessment data.

Table 16

School Level Administrators' Perceptions of the Diagnostic Use of Data

Question	Elem. School Mean (SD) N=25	Middle School Mean (SD) N=16	High School Mean (SD) N=19	All Admin. Mean (SD) N=60
14a. … to evaluate personnel.	2.88 (0.78)	2.94 (0.68)	2.79 (0.54)	2.87 (0.68)
14b. … to focus staff development.	3.44 (0.58)	3.44 (0.51)	3.05 (0.62)	3.32 (0.60)
14c. … to identify school instructional strengths and weaknesses.	3.64 (0.49)	3.56 (0.51)	3.21 (0.63)	3.48 (0.57)
14d. … to identify teacher strengths and weaknesses.	3.16 (0.69)	3.00 (0.73)	2.95 (0.52)	3.05 (0.65)
14e. … to establish outcome goals amongst school staff.	3.20 (0.65)	3.31 (0.60)	3.11 (0.74)	3.20 (0.66)
14f. … to facilitate vertical alignment and planning across grades.	3.32 (0.56)	3.19 (0.66)	2.89 (0.57)	3.15 (0.61)
14g. … to help develop school improvement plans.	3.72 (0.46)	3.50 (0.52)	3.26 (0.56)	3.52 (0.54)
14h. … to realign instruction so that essential curriculum is assessed before students are taught.	3.36 (0.57)	3.13 (0.62)	2.84 (0.76)	3.13 (0.68)
15a. My school uses state assessment data to monitor the progress of your school.	3.48 (0.51)	3.38 (0.50)	3.37 (0.60)	3.42 (0.53)
15b. I think analyzing disaggregated data helps our school identify and correct any difference in achievement among subgroups (e.g., race, economically disadvantaged, SPED) students in your school.	3.44 (0.58)	3.06 (0.57)	3.32 (0.48)	3.30 (0.56)

Administrator Responses – Multiple Measures

The seventh characteristic of accountability systems examined in this study was the use of multiple measures of data. The respondents were given a list of 14 types of commonly used data. The respondents were asked, "Which of the following types of data do you use extensively to evaluate instruction and/or instructional programs?" The respondents could check any and all that apply. The list included (a) course grades, (b) homework, (c) student portfolios, (d) teacher observations, (e) attendance rates, (f) drop out rates, (g) expulsion rates, (h) school safety data, (i) years of experience for teachers, (j) school created assessments, (k) central office feedback, (l) parent/community feedback, (m) student feedback and (n) scores on other standardized tests (SAT, ITBS, NAEP, etc…). The data from individuals who selected at least one data type were used in these analyses. The specific types of data and predominance of use by administrators are displayed in Table 17. In holistic terms, the administrators are most apt to use scores from standardized tests as well as teacher observations to assess the instructional progress of their schools. A few differences can be noted when examining each school level individually. At the elementary level, administrators are most likely to use scores from other standardized tests (100%), teacher observations (91.7%), and parent/community feedback (70.8%) to evaluate the instructional programs at their schools. Middle school administrators also frequently use scores from other standardized tests (92.9%) and teacher observations (92.9%). Administrators at this level are also likely to use school-created assessments (78.6%). High School administrators rely heavily on course grades (100%), other standardized test scores (89.5%), and teacher observations (84.2%) to evaluate instruction.

Table 17

Types of Data Used by School Level Administrators

Data Type	Elementary N= 24	Middle N = 14	High N = 19	Total N = 57
Course Grades	45.8% (11)	71.4% (10)	100.0% (19)	70.2% (40)
Homework	4.2% (1)	7.1% (1)	5.3% (1)	5.3% (3)
Student Portfolio	66.7% (16)	42.9% (6)	21.1% (4)	45.6% (26)
Teacher Observations	91.7% (22)	92.9% (13)	84.2% (16)	89.5% (51)
Attendance Rates	62.5% (15)	71.4% (10)	68.4% (13)	66.7% (38)
Drop Out Rates	0.0% (0)	7.1% (1)	57.9% (11)	21.1% (12)
Expulsion Rates	0.0% (0)	7.1% (1)	21.1% (4)	8.8% (5)
School Safety Data	4.2% (1)	21.4% (3)	21.1% (4)	14.0% (8)
Years of Experience of Teachers	8.3% (2)	21.4% (3)	15.8% (3)	14.0% (8)
School Created Assessment	62.5% (15)	78.6% (11)	63.2% (12)	66.7% (38)
Central Office Feedback	45.8% (11)	50.0% (7)	26.3% (5)	40.4% (23)
Parent/ Community Feedback	70.8% (17)	71.4% (10)	31.6% (6)	57.9% (33)
Student Feedback	62.5% (15)	42.9% (6)	52.6% (10)	54.4% (31)
Scores from other Standardized Tests	100.0% (24)	92.9% (13)	89.5% (17)	94.7% (54)

The descriptive statistics regarding the use of multiple measures can be seen in Table 18. As evidenced by the range of values seen in Table 18, the number of data types used by school level administrators varies greatly within each subgroup however the mode values are relatively similar.

Table 18

Descriptive Statistics for the Number of Data Types Used by Administrators

School Level	Mode	Range
Elementary	5	2-11
Middle	7	3-12
High	4	3-12
Total Participants	5	2-12

Summary of Administrator Responses

The previous section examined the mean values of the responses provided by school level administrators of Jude County. With mean values consistently near 3.50, the administrators at all levels produced the strongest perceptions and opinions when considering the level of learning expectations set at their schools. Although not to the same extent, the administrators also demonstrated relatively high levels of agreement when considering the use of data to improve instruction. Less agreement was seen when considering the resources available and the use of sanctions and/or rewards to influence instructional practices. The administrator responses to questions within these two characteristics frequently yielded mean values below three. This indicates a lower level of agreement and thus a less positive opinion in these areas. Considering the data in a

holistic manner, it seems that the administrators have positive opinions regarding the practices associated with the characteristics of accountability assessment systems however these opinions are not particularly strong.

In comparing the responses of the administrators at the various school levels, the high school administrators consistently reported less agreement and therefore less positive attitudes regarding the characteristics of accountability systems analyzed. The sole exception to this was the higher mean value when considering the possibility of sanctions. Since sanctions could generally be considered negative, this seems to reinforce the less positive views by the high school administrators when compared to their counterparts at the elementary and middle school levels. The elementary and middle school administrators held similar views with slight individual differences appearing in each characteristic evaluated.

Teacher Data

The teachers of Jude County were surveyed in the same manner as the administrators in an effort to gain information regarding data use at the classroom level. Since the same survey and method were used, the data garnered provided a valuable opportunity to make comparisons between the perceptions of administrators and teachers in the current culture of assessment accountability systems. Immediately following are the responses provided by the classroom teachers of Jude County.

Teacher Responses - State Assessment Quality and Utility

In order to assess the perceptions regarding the quality and utility of state assessments, teachers were asked six questions. Table 19 displays the means and standard deviations of the teachers' responses. Of the six questions, the teachers answered most

positively regarding the alignment of the state assessment to curricular standards. This question was the only question in which the teacher responses produced a mean value over three (3.03). The teachers were least confident in the diagnostic data provided through the results (mean of 2.81). High school teachers, with the exception of the alignment to curricular standards, rated each area lower than both the elementary and middle schools. However, generally all the teachers indicated a weak level agreement with the statements as indicated by mean values clustered slightly below 3.00.

Table 19

Teachers' Perceptions of State Assessment Quality and Utility

Question How would you rate the quality of your state assessment(s) in terms of …	Elem. School Mean (SD) N=157	Middle School Mean (SD) N=97	High School Mean (SD) N=117	All Teachers Mean (SD) N=371
6a. …alignment to state curriculum standards?	3.07 (0.57)	2.99 (0.59)	3.01 (0.55)	3.03 (0.57)
6b. …teachers having access to results?	3.08 (0..59)	2.98 (0.63)	2.87 (0.73)	2.99 (0.65)
6c. … informing parents of their students' achievement levels?	3.00 (0.61)	3.02 (0.61)	2.74 (0.67)	2.92 (0.64)
6d. … comprehensiveness	2.92 (0..57)	2.86 (0.58)	2.82 (0.58)	2.88 (0.58)
6e. … providing diagnostic data to inform instructional practices?	2.93 (0.59)	2.83 (0.61)	2.62 (0.74)	2.81 (0.66)
6f. … overall?	2.96 (0.54)	2.86 (0.56)	2.78 (0.60)	2.88 (0.57)

Teacher Responses – Level of Expectations

In terms of expectations of student learning, the classroom teachers rated their schools quite favorably with means clustered around 3.50 (See Table 20). This indicates

that the majority of the teachers responded with either "agree" or "strongly agree" to the five questions in this area. Once again, educators at the high school level consistently scored the questions lower than their counterparts at the elementary and middle schools. The statement "Our faculty values school improvement", garnered the most positive response with a mean value of 3.55. This value indicated that the majority of the respondents strongly agreed with that statement. Overall, the responses of the teachers indicate a high confidence in the level of expectations being set in their schools.

Table 20

Teachers' Perceptions of the Level of Expectations

Question Please indicate your level of agreement with the following statements:	Elem. School Mean (SD) N=158	Middle School Mean (SD) N=97	High School Mean (SD) N=117	All Teachers Mean (SD) N=372
7a. Our primary mission of my school is that all students become proficient in core subjects.	3.51 (0.53)	3.33 (0.62)	3.28 (0.57)	3.39 (0.58)
7b. Teachers in our school emphasize that performance can always be improved.	3.55 (0.52)	3.51 (0.54)	3.43 (0.55)	3.50 (0.54)
7c. Teachers in our school believe students can reach standards and objectives.	3.51 (0.56)	3.39 (0.57)	3.32 (0.58)	3.42 (0.58)
7d. Our faculty values school improvement.	3.64 (0.51)	3.57 (0.52)	3.42 (0.58)	3.55 (0.54)
7e. Our teachers assume responsibility for ensuring that all students learn.	3.54 (0.58)	3.38 (0.59)	3.20 (0.66)	3.39 (0.63)

Teacher Responses – Resources and Support to Use Data

Similar to the administrators, the teachers were less positive in response to the seven questions addressing resources available to make data-driven decision-making (See Table

21). With a mean value of 3.10, the highest level of agreement was observed in the question pertaining to the knowledge and skills necessary to use data. Interestingly, a seemingly correlated issue, professional development to assist in the use of data, produced a mean value below 3.00. The least confidence was seen regarding the adequacy of support offered by the state and the district which yielded mean values of 2.69 and 2.86 respectively. The responses of the other questions produced means clustered around 3.00 which indicated a relatively pedestrian level of agreement.

Table 21

Teachers' Perceptions of the Resources and Support to Impact Instruction Using Data

Question: When you think about improving achievement under NCLB, your school has…	Elem. School Mean (SD) N=158	Middle School Mean (SD) N=97	High School Mean (SD) N=117	All Teachers Mean (SD) N=372
8a. … sufficient resources (e.g. dedicated personnel, funding).	3.09 (0.64)	2.93 (0.67)	2.92 (0.77)	3.00 (0.69)
8b. …sufficient technological resources (computers, software, technology support)	3.01 (0.71)	3.10 (0.71)	3.03 (0.81)	3.04 (0.74)
8c. … adequate ability to support teachers in using data to improve classroom practices.	3.08 (0.61)	3.03 (0.57)	2.87 (0.76)	3.00 (0.66)
8d. … the knowledge and skills needed in order to use data to improve student learning.	3.21 (0.54)	3.08 (0.61)	2.97 (0.72)	3.10 (0.63)
8e. … sufficient professional development to assist in the use of data to make instructional decisions.	3.10 (0.61)	2.95 (0.69)	2.77 (0.77)	2.96 (0.70)
9a. …the state adequately supports your school's teachers in using data to improve their classroom practices.	2.84 (0.62)	2.71 (0.64)	2.48 (0.68)	2.69 (0.66)

Table 21 (*continued*)

9b. …the district adequately supports your school's teachers in using data to improve their classroom practices.	3.04 (0.53)	2.79 (0.64)	2.66 (0.66)	2.86 (0.63)

Teacher Responses – Data Communication

Table 22 displays the mean values of the teachers' responses to six questions regarding the availability and presentation of the data to the parents and community. All of the school levels felt the strongest about their schools' ability to disseminate up-to-date accountability information to the public (mean of 3.19) and least confident in the area of parent forums (mean of 2.81). The responses of the high school teachers yielded mean values below the elementary and middle school teachers on every question while the elementary teachers consistently produced mean values above 3.00, indicating that the elementary teachers feel more positively about the ability of their school to communicate assessment results to their stakeholders. The parent forum question was the lowest at each school level but particularly low at the high school level with a mean value of 2.56. Overall, the mean values were either slightly above or slightly below 3.00. This indicates the majority of the teachers "agree" with the statements but the agreement does not appear to be strong.

Table 22

Teachers' Perceptions of the Availability and Understandability of the Data to the Public

Question When communicating accountability results to your community, your school:	Elem. School Mean (SD) N=148	Middle School Mean (SD) N=91	High School Mean (SD) N=112	All Teachers Mean (SD) N=351
12a. … disseminates up-to-date accountability information in multiple ways (e.g., on your school's website, in newsletters, etc.) that are accessible to your parents/community.	3.20 (0.59)	3.23 (0.62)	3.13 (0.58)	3.19 (0.59)
12b. … states to the public what students should know and be able to do in your school at each grade level.	3.18 (0.60)	3.05 (0.67)	2.79 (0.69)	3.02 (0.67)
12c. … explains how adequate yearly progress (AYP) is tied to your school's assessment scores.	3.14 (0.59)	3.07 (0.55)	2.77 (0.69)	3.00 (0.63)
12d. … specifically describes what your school is doing and what assistance is needed to improve student achievement.	3.13 (0.62)	3.06 (0.64)	2.80 (0.68)	3.01 (0.66)
12e. … holds parent forums at convenient times and places for parents.	3.00 (0.63)	2.81 (0.74)	2.56 (0.69)	2.81 (0.70)
12f. … compares results to schools with similar demographic information.	3.18 (0.53)	3.08 (0.69)	2.96 (0.63)	3.08 (0.61)

Teacher Responses – Use of Sanctions and Rewards

Similar to the responses of the administrators, the teachers did not feel strongly about the impact possible sanctions or rewards have on the instructional practices at their schools. Table 23 contains a display of the mean values from the responses of the teachers. Both the middle school and high school teachers agreed that the possibility of sanction influences their practices (means of 3.07 and 3.02 respectively). In terms of rewards, no group yielded a mean higher than 3.00 indicating a low level of agreement in

this area. Overall, it does not appear that teachers perceive sanctions and rewards to be key motivators which influence instructional improvement.

Table 23

Teachers' Perceptions of the Influence of Sanctions and Rewards

Question Please indicate your level of agreement with the following statements:	Elem. School Mean (SD) N=147	Middle School Mean (SD) N=91	High School Mean (SD) N=110	All Teachers Mean (SD) N=348
13a. Actual or possible sanctions influence your school's practices.	2.67 (0.73)	3.07 (0.61)	3.02 (0.73)	2.97 (0.70)
13b. Actual or possible rewards influence your school's practices.	2.81 (0.73)	2.97 (0.67)	2.81 (0.73)	2.85 (0.71)

Teacher Responses – Data Use

Table 24 displays the mean values of the teachers' responses to the ten questions regarding the diagnostic use of data. The perception of data use varied depending on the question with entire group mean values ranging from 2.96 to 3.39. Teachers at all levels responded most positively when considering the use of data "to help develop school improvement plans", yielding an overall mean of 3.39. Similarly, with an overall mean of 3.34, the teachers indicated relatively strong agreement with the concept that their school uses data "to identify school instructional strengths and weaknesses". The lowest mean values (2.96) were associated with personnel evaluation. Specifically, the responses of the teachers yielded relatively low mean values regarding the use of data "to evaluate personnel" as well as "to identify teacher strengths and weakness". As with most of the other questions, a significant majority of the high school responses were lower than those of the middle and elementary teachers. Overall, as evidenced by many mean values near

or above 3.25, the teachers indicated relatively strong agreement with the statements regarding the use of data.

Table 24

Teachers' Perceptions of the Diagnostic Use of Data

Question	Elem. School Mean (SD) N=144	Middle School Mean (SD) N=89	High School Mean (SD) N=111	All Teachers Mean (SD) N=344
14a. … to evaluate personnel.	2.97 (0.61)	3.03 (0.66)	2.87 (0.65)	2.96 (0.64)
14b. … to focus staff development.	3.34 (0.53)	3.17 (0.55)	3.02 (0.66)	3.19 (0.60)
14c. … to identify school instructional strengths and weaknesses.	3.42 (0.52)	3.34 (0.61)	3.22 (0.60)	3.34 (0.57)
14d. … to identify teacher strengths and weaknesses.	3.03 (0.61)	3.04 (0.70)	2.79 (0.69)	2.96 (0.67)
14e. … to establish outcome goals amongst school staff.	3.18 (0.57)	3.11 (0.64)	2.99 (0.69)	3.10 (0.63)
14f. … to facilitate vertical alignment and planning across grades.	3.09 (0.65)	3.16 (0.64)	2.93 (0.75)	3.10 (0.69)
14g. … to help develop school improvement plans.	3.43 (0.54)	3.38 (0.53)	3.34 (0.53)	3.39 (0.53)
14h. … to realign instruction so that essential curriculum is assessed before students are taught.	3.23 (0.61)	3.16 (0.61)	3.03 (0.72)	3.15 (0.65)
15a. My school uses state assessment data to monitor the progress of your school.	3.33 (0.555)	3.25 (0.51)	3.32 (0.47)	3.30 (0.51)
15b. I think analyzing disaggregated data helps our school identify and correct any difference in achievement among subgroups (e.g., race, economically disadvantaged, SPED) students in your school.	3.12 (0.58)	2.93 (0.67)	3.13 (0.64)	3.07 (0.63)

Teacher Responses – Multiple Measures

The predominance and types of data used by classroom level teachers are displayed in Table 25. In terms of the types of data used, the teachers of Jude County predominantly use course grades and teacher observations. Teachers at the high school and middle school levels are more apt to use course grades to evaluate student learning as is evidenced by 93.5% and 85.4% rates respectively. Elementary teachers are more apt to use teacher observations (85.0%). However, three quarters of the responding elementary teachers indicated they also use course grades. Not surprisingly, teachers at both elementary and middle school levels rarely use either drop-out rates or expulsion rates while high school level teachers are least apt to use school safety data. Standardized test scores were the third most prevalent data type identified by teachers at all levels which seems to indicate that classroom teachers prefer to use data gathered in their classrooms rather than independent test scores. As with the administrator data, the analyses of the multiple measures characteristic produced a wide range of values (See Table 26). Aside from the varying ranges, the mode values were fairly similar across all school levels.

Table 25

Types of Data Used by Classroom Level Teachers

Data Type	Elementary N= 140	Middle N = 89	High N = 108	Total N = 337
Course Grades	75.7% (106)	85.4% (76)	93.5% (101)	84.0% (283)
Homework	31.4% (44)	37.1% (33)	56.5% (61)	40.9% (138)
Student Portfolio	67.9% (95)	48.3% (43)	31.5% (34)	51.0% (172)
Teacher Observations	85.0% (119)	83.1% (74)	69.4% (75)	79.5% (268)

Table 25 (*continued*)

Attendance Rates	47.1% (66)	49.4% (44)	54.6% (59)	50.1% (169)
Drop Out Rates	0.7% (1)	7.9% (7)	26.9% (29)	11.0% (37)
Expulsion Rates	0.0% (0)	6.7% (6)	11.1% (12)	5.3% (18)
School Safety Data	6.4% (9)	10.1% (9)	10.2% (11)	8.6% (29)
Years of Experience of Teachers	16.4% (23)	24.7% (22)	17.6% (19)	19.0% (64)
School Created Assessment	53.6% (75)	61.8% (55)	43.5% (47)	52.5% (177)
Central Office Feedback	15.0% (21)	19.1% (17)	20.4% (22)	17.8% (60)
Parent/ Community Feedback	51.4% (72)	47.2% (42)	50.0% (54)	49.9% (168)
Student Feedback	47.9% (67)	60.7% (54)	63.9% (69)	56.4% (190)
Scores from other Standardized Tests	77.9% (109)	70.8% (63)	62.0% (67)	70.9% (239)

Table 26

Descriptive Statistics for the Number of Data Types Used by Teachers

School Level	Mode	Range
Elementary	6	2-11
Middle	4	2-13
High	7	1-14
Total Participants	6	1-14

Summary of Teacher Responses

The mean values of the responses provided by full-time classroom teachers were examined in the previous section. Similar to the administrators, the most positive perceptions were obtained when the questions considered the level of expectations for learning set at their schools. The mean values of these questions were clustered around 3.50, indicating a relatively high level of confidence in this area. Another area in which the teachers felt confident was the use of data to assess and improve instruction. Less confidence was demonstrated by the teachers in the areas of the quality of the state assessment and the use of sanctions and rewards. The responses gathered from the teachers predominantly produced mean values less than three, indicating a relatively weak level of agreement to the statements examining theses characteristics. Considering the six characteristics together, the results seem to indicate that the classroom teachers of Jude County hold positive views regarding the accountability systems characteristics in place at their schools.

A comparison of the responses of the teachers at the various school levels revealed some noticeable differences. The high school teachers consistently held less positive views when compared to their elementary and middle school counterparts. The elementary and middle school teachers held similar views when the characteristics are considered in a holistic manner. To examine these similarities and differences in greater depth and detail, further analyses were performed and are presented in the following sections.

Administrator and Teacher Comparison

The following section presents the similarities and differences between the responses of teachers and administrators of Jude County. In order to perform these analyses across each characteristic, the average of the mean scores of the individual questions of a characteristic will serve as the overall score for that characteristic. With only 26 elementary, 16 middle, and 19 high school administrators responding, statistical comparisons (t-tests) were evaluated holistically. A comparison of the weighted mean values and standard deviations of the responses of teachers and administrators at each individual school level are discussed in general terms.

State Assessment Quality and Utility

An analysis of the perceptions of educators regarding the quality and utility of the state assessment revealed minimal differences between administrators and teachers as a whole as well as at each school level. When comparing the means statistically, there was no significant difference at the 0.05 level. Although not statistically significant, administrators indicated a slightly higher level of agreement with the quality and utility of the state assessments. Elementary educators, being the only subgroup with mean values above three, indicated a slightly stronger agreement than their middle and high school counterparts (Table 27).

Table 27

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of the Quality and Utility of State Assessments

Construct	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	3.00	0.46	157	3.05	0.43	26		
Middle	2.91	0.48	97	2.96	0.44	16		
High	2.80	0.52	117	2.88	0.39	19		
Total Participants	2.91	0.49	371	2.97	0.42	61	-0.89	430

* $p<0.05$

Expectations

Table 28 displays the results of the t-test as well as descriptive results of teacher and administrator perceptions regarding the level of expectations of student achievement within their schools. The responses of the administrators and teachers were fairly comparable at all levels as is evidenced by similar mean values and standard deviations. With mean values near 3.3 or higher, both groups felt relatively strongly about the expectations their schools set for student learning. The similarity is reinforced by the t-test which yielded no significant difference between teacher and administrator perceptions at the 0.05 level.

Table 28

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of Expectations within Their Schools

Construct	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	3.55	0.45	158	3.61	0.40	26		
Middle	3.44	0.47	97	3.54	0.36	16		
High	3.33	0.48	117	3.29	0.43	19		
Total Participants	3.45	0.47	372	3.49	0.42	61	-0.62	431

* $p<0.05$

Resources and Support to Use Data

In comparing teacher and administrator perceptions regarding resource allocation for the purpose of using data to increase student achievement, there were noticeable differences between administrators and teachers all levels but particularly at the elementary level (See Table 29). Teachers at this level perceive a greater alignment of resources to increase student achievement than their corresponding administrators. Administrators at the middle school level were the only administrators that had a more positive view regarding resources than the classroom teachers at their respective level. The inconsistency at the levels produced mean values that were not significantly different when examining the two groups of educators holistically.

Table 29

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of Resource Alignment in Order to Use Data Effectively to Improve Instruction

Construct	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	3.05	0.46	158	2.85	0.54	26		
Middle	2.94	0.49	97	3.09	0.35	16		
High	2.82	0.60	117	2.66	0.60	19		
Total Participants	2.95	0.52	372	2.85	0.53	61	1.32	431

* $p<0.05$

Teacher Responses – Data Communication

The communication of school data to the appropriate stakeholders as well as the usability of the data were the subject of the next comparison. As seen in Table 30, once again the perceptions of high school educators were lower than their counterparts at elementary and middle school levels. The difference was noticeable but not statistically significant. The teachers at the elementary and high school levels yielded higher mean values than the administrators. The responses of middle school administrators and teachers produced very similar mean values. Such similarities once again led to a lack of a statistically significant difference between the administrators and teachers.

Table 30

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of the Results Being Readily Understandable to the Public

School Level	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	3.14	0.49	148	2.99	0.44	25		
Middle	3.05	0.50	91	3.09	0.49	16		
High	2.84	0.48	112	2.77	0.46	19		
Total Participants	3.02	0.50	351	2.95	0.47	60	-1.40	404

* $p<0.05$

Use of Sanctions and Rewards

The evaluation of the perceptions regarding the effectiveness of sanctions and rewards to impact school practices once again produced no significant differences between teachers and administrators at any level (See Tables 31 & 32). Interestingly, the high school level was the only level in which the administrators' mean values for both sanctions and rewards were greater than the teachers' mean values. The teachers at the middle and elementary school level indicated stronger opinions when considering both sanctions and rewards than their administrator counterparts. The differences at the middle school level were particularly noticeable. The responses from all of the groups regarding the use of rewards yielded the lowest mean values throughout the study, indicating that educators in Jude County have relatively weak opinions regarding the effectiveness of rewards to improve student learning.

Table 31

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of the Influence of Sanctions on School Practices

Construct	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	2.87	0.73	144	2.67	0.82	24		
Middle	3.07	0.61	91	2.75	0.86	16		
High	3.01	0.73	110	3.16	0.76	19		
Total Participants	2.97	0.70	345	2.85	0.71	59	1.18	402

* $p<0.05$

Table 32

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of the Influence of Rewards on School Practices

Construct	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	2.81	0.73	145	2.64	0.81	25		
Middle	2.97	0.67	91	2.63	0.72	16		
High	2.81	0.73	108	2.84	0.69	19		
Total Participants	2.85	0.71	344	2.70	0.74	60	1.53	402

* $p<0.05$

Data Use

The next comparison related to the use of data to improve student achievement within accountability systems. Table 33 displays the results of this evaluation. Although the differences were not statistically significant, the results indicate that at all levels, administrators have slightly more positive perceptions regarding the use of data than the teachers. Similar to many other analyses, the high school level educators indicated a weaker level of agreement than the educators at the other levels.

Table 33

Results of t-test and Descriptive Statistics of Teacher and Administrator Perceptions of Data Usage

School Level	Role						*t*	*df*
	Teacher			Administrator				
	M	SD	n	M	SD	n		
Elementary	3.22	0.43	146	3.36	0.43	25		
Middle	3.16	0.46	89	3.25	0.44	16		
High	3.06	0.48	111	3.08	0.42	19		
Total Participants	3.15	0.46	346	3.24	0.44	60	-1.40	404

* $p<0.05$

Summary of Administrator-Teacher Comparison

The previous section examined and compared the responses of the administrators and teachers and the presented the statistical significance of these differences. Although there were some differences in perceptions, none of the differences yielded a statistical significance. In examination of the analyses, it appears that administrators and teachers are relatively like-minded when considering various characteristics of accountability

assessment systems. However, there seemed to be a consistency in the difference in the perceptions of educators at the various school levels, with high school educators responding in a less positive manner on most of the characteristics. The statistical significance of the differences among the educators at the three school levels are examined in the following section.

Comparison of School Levels

In order to answer the second sub-question, the responses of the survey were analyzed to determine if significant differences in perceptions are present at the three traditional school levels, elementary, middle and high. Using SPSS Version 10.0, One-Way ANOVA tests were run along with Scheffe post-hoc analyses in an effort to make these comparisons. Descriptive characteristics were also calculated through these analyses. As seen in Table 34, there were significant differences among the groups in the areas of state assessment quality and utility, expectations, resources, communication, sanctions, and data use. The only characteristic in which there was no significant statistical difference was in the perception of educators regarding the use of rewards to improve student achievement. The following sections present the results of these analyses per each characteristic tested.

Table 34

ANOVA Table: Comparison of Three Traditional School Levels

		Sum of Squares	df	Mean Square	F	Sig.
ASSESSMENT	Between Groups	2.839	2	1.420	6.292	0.002
	Within Groups	96.785	429	0.226		
	Total	99.624	431			
EXPECTATIONS	Between Groups	4.308	2	2.154	10.431	0.000
	Within Groups	88.798	430	0.207		
	Total	93.106	432			
RESOURCES	Between Groups	4.169	2	2.084	7.848	0.000
	Within Groups	114.199	430	0.266		
	Total	118.368	432			
COMMUNICATION	Between Groups	6.496	2	3.248	13.933	0.000
	Within Groups	95.114	408	0.233		
	Total	101.610	410			
SANCTIONS	Between Groups	3.580	2	1.790	3.461	0.032
	Within Groups	207.430	401	0.517		
	Total	211.010	403			
REWARDS	Between Groups	1.100	2	0.550	1.063	0.346
	Within Groups	207.454	401	0.517		
	Total	208.554	403			
DATA USE	Between Groups	2.463	2	1.232	6.050	0.003
	Within Groups	82.047	403	0.204		
	Total	842510	405			

State Assessment Quality and Utility

The comparison of educator perceptions in terms of the quality and utility of the state assessment identified significant differences between educators at the elementary and high school levels (See Table 35). In particular, the teachers at the elementary school level held a more positive perception of the overall quality and utility of the state tests at their level (CRCT). The perceptions of the middle school educators were sidled in between the other two levels and analyses revealed no significant differences between this group and the others.

Table 35

Mean Differences of School Level Perceptions of the Quality and Utility of State Assessments

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	0.08	0.19*	0.10	0.18	0.08	0.19*
Middle	---	0.12	---	0.08	---	0.11

* $p<0.05$

Expectations

As with the state assessment characteristic, there was a statistically significant difference level in the perceptions of elementary and high school level educators in regard to the expectations they hold within their schools for student achievement. This significance is consistent in all groups. Again, there were no statistical differences observed among any of the groups at the middle school level. The mean differences in perceptions of educators at each school level are presented in Table 36. Noticeably, there

was a relatively large difference between the mean values of the elementary and high school administrators in this area.

Table 36

Mean Differences of School Level Perceptions of Expectations within Their Schools

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	0.12	0.22*	0.07	0.31*	0.11	0.23*
Middle	---	0.11	---	0.24	---	0.13

* $p<0.05$

Resources and Support to Use Data

The next analysis was performed to compare the perceptions of educators at each level regarding the alignment of resources to assist in the use of data to improve student achievement. Once again, there were statistically significant differences between elementary and high school educators in this area (see Table 37). This difference was significant throughout the combined groups of teachers and administrators as well as the classroom teachers at these levels. When combining both administrators and teachers together, a statistical difference was produced between the middle and high school levels also. Once again, the high school educators held less positive perceptions than their counterparts at the other levels while the middle school administrators held more positive views than their counterparts at the other levels.

Table 37

Mean Differences of School Level Perceptions of Resource Alignment in Order to Use Data Effectively to Improve Instruction

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	0.11	0.23*	-0.24	0.19	0.06	0.23*
Middle	---	0.12	---	0.43	---	0.17*

* $p<0.05$

Teacher Responses – Data Communication

The next analysis compared the perceptions of the educators regarding the communication of the results to various stakeholders (see Table 38). Again, high school teachers held statistically significant, less positive views than their elementary and middle school counterparts. This difference was also seen when all educators at their respective levels were analyzed. The largest differences in perceptions, as determined by mean values, were produced between elementary and high school teachers (difference of 0.30) and between middle and high school administrators (difference of 0.32).

Table 38

Mean Differences of School Level Perceptions of Results Being Readily Understandable to the Public

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	0.09	0.30*	-0.10	0.22	0.06	0.29*
Middle	---	0.21*	---	0.32	---	0.23*

* $p<0.05$

Use of Sanctions and Rewards

The comparison of educator perceptions examining the effect of possible sanctions or rewards was the only characteristic in which high school educators consistently revealed stronger opinions. These differences were not statistically significant but still notable. It appears that high school educators feel more pressure from the possibility of sanctions than educators at the two other school levels. These differences were particularly noticeable among the administrators. However, it should be noted that none of these differences among the school levels within any group were statistically significant. Tables 39 and 40 present the mean differences throughout these groups.

Table 39

Mean Differences of School Level Perceptions of the Influence of Sanctions on School Practices

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	-0.20	-0.15	-0.08	-0.49	-0.18	-0.20
Middle	---	0.05	---	-0.41	---	-0.02

* p<0.05

Table 40

Mean Differences of School Level Perceptions of the Influence of Rewards on School Practices

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	-0.15	0.00	0.02	-0.20	-0.13	-0.03
Middle	---	0.15	---	-0.22	---	0.10

* p<0.05

Data Use

The final analysis of the perceptions examined the use of data to improve instruction. The analysis of this characteristic produced statistically significant differences similar to previous characteristics. The perceptions of teachers at elementary and high school levels as well as the combined group of educators at these levels proved to be significantly different, with the elementary educators responding with more agreement to the statements (See Table 41). The largest mean difference occurred

between the elementary and high school administrators. Relatively similar responses were obtained from the analyses performed between the elementary and middle school educators.

Table 41

Mean Differences of School Level Perceptions of Data Usage

	Teachers		Administrators		Total Participants	
	Middle	High	Middle	High	Middle	High
Elementary	0.07	0.17*	0.11	0.29	0.07	0.18*
Middle	---	0.10	---	0.17	---	0.10

* $p<0.05$

Summary of School Level Comparisons

The comparison of the perceptions of educators at the three traditional school levels, elementary, middle, and high, revealed both interesting and statistically significant differences among the groups. Significantly different perceptions between the elementary and high school educators were revealed when considering the quality of the state assessment, the expectations of learning, the resources available to use data to improve instruction, the communication of these results to stakeholders, and the use of data to improve instruction. These differences were all significant and revealed less positive opinions generated by the high school educators. Significant differences between middle and high school educators were also observed when considering the communication characteristics and the resource characteristic. Again the high school educators held less positive views in these areas than their middle school counterparts. The perceptions of the middle and elementary school educators revealed minimal differences, none of which

were statistically significant. The only characteristic which yielded no significant differences among any of the groups was the sanctions/rewards characteristic. The relatively low level of agreement with the effectiveness of the use of sanctions and/or rewards was consistent among all groups of educators examined in this study. Overall, the perceptions varied among the school levels with the elementary and middle school educators responding in a more positive fashion.

Summary

In this chapter, the researcher examined the perceptions of practice and policy implementation regarding seven characteristics of accountability systems as identified by Englert, et al (2004). The researcher also analyzed the data garnered from the respondents to compare various subgroups of educators. Specifically, comparisons were made between administrators and teachers and also among educators at the three traditional school levels. Research questions, responses, and findings were discussed.

The perceptions of school level educators of policies and practices regarding accountability systems produced interesting results. With mean values consistently near 3.50, the administrators and classroom teachers at all levels produced the strongest perceptions and opinions when considering the level of learning expectations set at their schools. Although not to the same extent, educators of Jude County also demonstrated relatively high levels of agreement when considering the use of data to improve instruction. With mean values below three, less agreement was seen when considering the resources available and the use of sanctions and/or rewards to influence instructional practices. Considering the data in a holistic manner, it seems that the educators of Jude County have positive opinions regarding the practices associated with the characteristics

of accountability assessment systems. The strength of these perceptions varied by characteristic.

In comparing the differences in perceptions between the administrators and teachers, there were some slight differences. However, none of the differences yielded a statistical significance. In examination of the analyses, it appears that administrators and teachers are relatively like-minded when considering various characteristics of accountability assessment systems. Interestingly, the results indicated a consistency in the difference in the perceptions of educators at the various school levels, with high school educators responding in a less positive manner on most of the characteristics. Significantly different perceptions between the elementary and high school educators were revealed when considering the quality of the state assessment, the expectations of learning, the resources available to use data to improve instruction, the communication of these results to stakeholders, and the use of data to improve instruction. Significant differences between middle and high school educators were also observed when considering the communication characteristics and the resource characteristic. The high school educators held less positive views in these areas than their elementary and middle school counterparts. The perceptions of the middle and elementary school educators revealed minimal differences, none of which were statistically significant. The only characteristic which yielded no significant differences among any of the groups was the sanctions/rewards characteristic. The relatively low level of agreement with the effectiveness of the use of sanctions and/or rewards was consistent among all groups of educators examined in this study.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

In this study, the researcher examined the perceptions of Jude County educators with regard to data use within accountability systems. The following seven characteristics, identified by Englert (2003, 2004, 2005) and her fellow researchers were examined: (a) high expectations for all students, (b) high-quality assessments aligned with standards, (c) alignment of resources, support, and assistance for improvement, (d) sanctions and rewards linked to results, (e) multiple measures, (f) diagnostic uses for data, and (g) readily understandable to the public. The researcher used related literature review and the research questions to adapt a survey that could identify the perceptions of implementation of policies and practices with regard to data use within the above stated characteristics. The survey and research proposal were officially approved by the Georgia Southern University Institutional Review Board (IRB) on May 6, 2009.

During the month of May 2009, an electronic survey was sent through e-mail invitation to all of the full time, school-level administrators and a stratified random sample of full-time, classroom level teachers. The administrators were composed of 35 elementary school, 16 middle school, and 20 high school principals and assistant principals for a total of 71 potential participants. Sixty-one administrators returned the survey with useable responses yielding an 85.9% response rate. The stratified random sample of teachers was executed in a manner to allow for a proportionally representative sample from each school within the school system. This resulted in 373 elementary school, 188 middle school, and 195 high school teachers being randomly selected to

participate. Of the 756 teachers who were sent the survey, 372 responded to at least one-half of the questions which resulted in a useable response rate of 49.2 %.

The instrumentation used was adapted and shortened from a survey used in a study by Englert, Fries, Martin-Glenn and Michael (2004), researchers with the Mid-continental Research for Education and Learning organization. The Assessment and Accountability Survey was one of three developed in a series of studies by the researchers. The items were developed to identify the extent of perceived implementation of policies and practices which relate to the seven characteristics of effective accountability systems identified previously. The Likert items were changed from five-point items to four-point items in an effort to create a forced choice. The majority of the questions contained a stem statement with the following choices: 1) strongly disagree, 2) disagree, 3) agree, and 4) strongly agree. The survey responses were gathered and prepared for analysis.

Once the data were collected, the data were entered into Microsoft Excel and the Statistical Package for Social Science (SPSS). Measures of central tendency, specifically mean, median and mode were calculated. Standard deviation, variance, and range were also examined to provide measures of variability within the groups. These basic data allowed the researcher to examine the actual beliefs and perceptions of school-level educators in regard to data use and helped to provide an answer to the main research question of this study. For interpretation purposes, a mean score near three indicated a relatively weak level of agreement. The descriptive data were examined across groups in order to answer the two sub-questions comparing administrators with teachers and educators from the three levels of schools. A comparison of data through the use of t-tests

provided a quantitative comparison of the perceived use of data between administrators and teachers. One-way ANOVA with Scheffe post-hoc analyses were used to compare responses among educators from elementary schools, middle schools, and high schools. Findings were reported in both text and table forms in Chapter IV. Conclusions, discussion, and recommendations are presented in the remaining portion of Chapter V.

Analysis of Research Findings

Through an analysis and examination of the data, the researcher was able to answer the overarching research question. Considering the data in a holistic manner, it seems that the school level educators have positive opinions regarding the practices associated with the characteristics of accountability assessment systems. However, with mean scores clustered about 3.00, these opinions are not particularly strong. The strongest perceptions, with mean values consistently near 3.50, were seen in both the administrator and teacher groups when considering the level of learning expectations set at their schools. Although not to the same extent, the educators also demonstrated relatively high levels of agreement when considering the use of data to improve instruction. Less agreement was seen when considering the resources available and the use of sanctions and/or rewards to influence instructional practices. The responses to questions within these characteristics frequently yielded mean values below three. This indicates a lower level of agreement and thus a less positive opinion in these areas.

In response to the first sub-question, a comparison of teacher and administrator perceptions was performed. Although there were slight differences in perceptions, none of the differences yielded a statistical significance. In examination of the analyses, it appears that administrators and teachers are relatively like-minded when considering

various characteristics of accountability assessment systems. The differences in opinions became prominent upon comparison of responses of educators at various school levels.

The comparison of the perceptions of educators at the three traditional school levels, elementary, middle, and high, revealed both interesting and statistically significant differences among the groups. Significantly different perceptions between the elementary and high school educators were revealed when considering the quality of the state assessment, the expectations of learning, the resources available to use data to improve instruction, the communication of these results to stakeholders, and the use of data to improve instruction. These differences were all significant at the 0.01 significance level and all revealed less positive opinions generated by the high school educators. Significant differences between middle and high school educators were also observed when considering the communication characteristic (0.01 level) and the resource characteristic (0.05 level). Again the high school educators held less positive views in these areas than their middle school counterparts. The perceptions of the middle and elementary school educators revealed minimal differences, none of which were statistically significant. The only characteristic which yielded no significant differences among any of the groups was the sanctions/rewards characteristic. The relatively low level of agreement with the effectiveness of the use of sanctions and/or rewards was consistent among all groups of educators examined in this study. Overall, the perceptions varied among the school levels with the elementary and middle school educators responding in a more positive fashion.

Discussion of Research Findings

The researcher gathered data from school-level educators within a single school system in the state of Georgia regarding the perceptions and beliefs on the use of data to

improve instruction. The researcher specifically examined seven areas which research and current literature deem important to effective accountability systems. The study, although adapted, became an extension of the work of Englert (2003, 2004, 2005) and her fellow researchers at McREL. The following discussion of the findings is presented in response to the overarching question and the two sub-questions presented in Chapter III.

Discussion of Results from the Over-Arching Research Question

The overarching research question required the investigation of the perceived practices of educators regarding data use within Englert's seven characteristics of effective accountability systems. The data collected were subdivided and presented in two main categories: administrator perceptions and teacher perceptions. With mean values primarily near three, the educators of this system indicate a positive view of their practices of data use. The strongest opinions of all groups of educators involved the level of expectations placed on student learning. This is an extremely important facet to increasing student achievement as indicated by the tremendous amount of research and discussion in this area. The research in this area, which was begun by Rosenthal and Jacobson (1968) and augmented by researchers such as Walberg (2002) and Marzano (2007), among many others, suggest a culture of high expectations can be accomplished by exerting a concerted effort to improve academic achievement for all students but particularly for the low-achieving students. The mean values produced by the Jude County educators in this area, which were clustered near 3.5, indicate the educators of this school system have embraced the task of helping all students achieve regardless of the ability level.

Another characteristic of accountability systems which educators in Jude County demonstrated strong opinions was the diagnostic use of data. Again the confidence in their ability to use data to improve instruction is a highly positive outcome for the school system as a whole. The plethora of research and literature which supports the use of data suggests that the systemic use of data can lead to increased student achievement (Rudy & Conrad 2004, Victoria Bernhardt 2004b, Mitchell & Conrad, 2003). The relatively consistent high mean values among all groups surveyed indicate a systemically positive outlook on the use of data to increase student achievement. Englert (2003, 2004, 2005) and her fellow researchers obtained similar results in their studies. The educators involved in those studies also provided the most positive responses in the expectations and data use characteristics. Interestingly, the expectation and diagnostic data use characteristics directly relate to the educators and their practices. This seems to indicate the educators feel more positive about tasks and elements which are within their control.

The use of sanctions and rewards to impact student achievement garnered the lowest mean values across all groups. This seems to support the Goodwin, Englert, and Cicchinelli (2003) study that found sanctions and rewards to be a consistent characteristic in their review of accountability systems, regardless of lack of evidence to determine the effectiveness of either. The less positive responses of the Jude County educators indicate that sanctions and rewards do not significantly impact their practices, providing a plausible reason as to why these two strategies are not proven effective.

Another characteristic to which the educators demonstrated relatively weak agreement involved the communication of the results to the parents and the community. These results are consistent with the Stanik (2007) study as well as the Speth, Saifer and

Forehand (2008) study. The findings of these studies and the current study indicate that family and community partnerships are not a strong part of school culture.

The remaining characteristics, quality of the state assessment and sufficiency of resources, both consistently yielded mean values clustered very closely around three, indicating a pedestrian level of agreement. The open-ended question regarding challenges facing educators in terms of the use of data to improve instruction allowed for a possible explanation in this lackluster strength of agreement. In reference to the quality of the assessment, many of the respondents commented that the data garnered from these tests do not always reflect a student's true ability. It is important to note that of the challenges listed, responses of this nature were of the most prevalent. These responses were representative of both administrators and teachers at all three of the school levels. Comments such as "timed assessments only give a narrow view of student achievement", "CRCT measures one day in the life of a child", and "it does not show what the students know" were some of the more representative comments regarding the state assessments. These statements seem to indicate that Jude County educators hold similar opinions to (Baker, 2003) and Sirotnik (2002) who point out the irresponsibility of a single high-stakes assessment being used to determine and attempt to ensure the educational well-being of a student or a school. Although there is evidence that there are multiple forms of data being used by the educators of this system, the current accountability system predominantly limits judgment to standardized tests.

In response to the weak opinions regarding resources, personnel, and staff development necessary to use data, the school-level educators once again revealed minimal agreement. The most prevalent resource needed, according to the open-ended

response, is time. To add extra emphasis to this, when asked to list the three biggest challenges to using data to improve instruction, one administrator answered "time, time, and time". Others stated that time was needed for analysis, for staff development, for planning instructional adjustments, to work with the data, to remediate the students, and for teacher collaboration. This theme was present in administrator and teacher comments at each school level, which indicates that lack of time is a system-wide issue. The educators also felt that more staff development or training in the effective use of data is necessary. Comments on challenges relating to resources included "need professional development on how to adequately use the data to improve classroom instruction", "need more guidance on analyzing data", and "do not know how to use test scores to their and their students' advantage". Although the issue of time was more prevalently cited as a challenge, the lack of proper training appeared frequently throughout the comments. These results align well with the findings of the Rudy and Conrad (2004) study which deemed staff development to be one of four essential components to effective data use.

Discussion of Comparison of Administrators and Teachers

A comparison of administrator and teacher perceptions was performed in an effort to answer the first sub-question. The analysis of differences and similarities of administrator and teacher responses yielded interesting results. The Englert (2005) comparison of educator perceptions found significant differences, at the 0.01 level, in perceptions between principals and teachers in four characteristics: a) quality of state assessments, b) the use of sanctions and rewards, c) the diagnostic use of data, and d) communication of the results to the stakeholders. The teachers in all categories demonstrated less positive perceptions. This top-down trend to data use was not revealed

in the current study. In fact, there were no statistically significant differences in any of the characteristics analyzed. These results indicate a more consistent and pervasive approach to data use within the schools.

In an effort to answer the second sub-question which compared educator perceptions at the three traditional school levels, ANOVA tests with Scheffe post-hoc analyses were performed. Differences in perceptions among educators at the three school levels became evident. The differences were particularly noticeable between the elementary school educators and their counterparts at the high school level. In fact, the only characteristic in which there was not a significant difference in perceptions was the use of sanctions and rewards to impact school improvement. Upon examination of the open-ended responses, it became clear that the elementary educators may have more technological resources, particularly in the area of benchmark testing. When asked about resources available to assist in using data to make instructional decisions, elementary and middle school educators more frequently cited specific software programs, such as AIMSWEB, Accelerated Math and Reading, STAR, and Readwell. Although some high school educators listed specific programs, the frequency of such identification was much less. Another plausible explanation for the stronger perceptions at the elementary and middle school levels is the frequency of testing and the ability to longitudinally analyze the data. With the passage of House Bill 1187, known as the *A+ Education Reform Act of 2000* each student in grades one through eight take the CRCT in the areas of Mathematics, Reading, and English-Language Arts. In contrast, high school testing in Georgia is limited to End-of Course Tests in specific disciplines and graduation tests taking only in the eleventh grade. The specificity and time of administration of these tests

limits the longitudinal value of the data. With the advent and implementation of new bench mark testing at the high school level, the differences among the schools levels should decrease.

Conclusions

The researcher has concluded from this study:

1. Jude County educators at the school level hold moderately positive perceptions regarding data use within the characteristics of effective accountability systems.
2. Administrator and teacher perceptions about the implementation of D^3m within accountability systems are similar. There are no significant differences in the perceptions of school-level administrators and classroom teachers of Jude County regarding the use of data within accountability systems.
3. Educators at the elementary and middle school levels have more positive perceptions about data use than their counterparts at the high school level.
4. Jude County educators hold the most positive views on the characteristics they feel they control (high expectations and data usage).
5. Jude County educators revealed the lowest perceptions when considering the effect of sanctions and rewards on their practices.

Implications

School Level Principals

This research has presented an overview of educator perceptions regarding data use and accountability systems. The study should be of interest to School-level principals who strive to meet the ever-growing demands of accountability. The data provide insight into the practices of educators disaggregated into school level. Principals can use this

study to guide the educators in their buildings to adopt a pervasive and effective use of data. The research also provides insight into areas of strength and weaknesses in data use.

K-12 Educators

Educators at the K-12 level will find this study beneficial as they strive to increase student achievement levels within the current culture of high stakes testing and accountability. This study is particularly relevant to educators with the recent initiative of the Federal Government known as "Race to the Top" (2010). The requirements of this grant include the implementation of data systems to encourage longitudinal analysis and the implementation of a pay for performance pay scale. Educators in states which are rewarded the grant will necessarily need to become proficient in data use within accountability systems. No longer will the sanctions be school related but individual educators may be impacted through salary changes. This individual accountability should necessitate staff development and professional development.

School Boards and Local Education Agencies

Local school boards and superintendents will find this study beneficial as they plan for future improvement. Although the study indicates that the school level educators are indeed using data, room for growth is evident. Through resource allocation and training, system level administrators can effect movement from the observed moderate level of agreement to a stronger level. The study identifies gaps between educators at the three school levels which can help to guide decisions regarding programs, personnel, and school improvement initiatives.

Educational Literature

This study also provided valuable additions to the current literature on data-driven-decision making. Specifically, the study allows for comparison of various groups of educators. The study became an extension of the Englert led, McRel study comparing administrators to teachers. Although different populations were used, the results of this study indicate that the use of data is becoming more pervasive within schools and the gap between administrator and teacher perceptions is lessening. The study also fills a gap in current research by comparing data use among the three traditional school levels.

Researcher

This study is also significant to the researcher because it provided a valuable comparison regarding data use. As a current high school administrator, the knowledge gained by the researcher will allow for a better understanding of the successes and issues facing school improvement through the use of data. The data collected allowed the researcher to obtain strategies and information from fellow educators faced with similar challenges in an effort to realize increased student achievement. This will provide the researcher with better tools to face the demands generated by the current culture of educational accountability.

Recommendations

The researcher offers the following recommendations:

1. Educational Agencies at all levels should improve the data reporting and analysis systems to allow for a more efficient, user-friendly interpretation of student data.
2. Educational Agencies at all levels should develop a plan to implement professional development for school level educators to improve and encourage the

use of data to improve the use and communication of data. The plan should specifically assist high school educators. This plan should take into consideration other necessary resources, most importantly time for analysis.

3. Educational leaders should strive to create a culture of continuous improvement which predominantly focuses on the use of various forms of D^3m.

The researcher also offers the following considerations for future research:

1. The study should be replicated in various geographical regions. It would be interesting to know if educators from states with different accountability system requirements would have similar perceptions.
2. The study should be replicated using schools with greater variability in achievement levels. A comparison of educator perceptions from low-achieving and high achieving schools might identify trends which could be helpful in establishing standards which could lead to greater student achievement for all schools.
3. The study should be replicated using more choices on the survey. The limit of four choices on the Likert-type items limited the range of variability in scores. By providing six choices, the educators would be able to express a more accurate strength of perception while still maintaining the forced choice preference.
4. The study should be replicated two or three years in the future. A difference in results could indicate growth in sophistication and actual use of data to improve instruction.

Concluding Thoughts

The journey to this point by this researcher has been both informative and challenging. Since this project began, the researcher has transitioned from a high school chemistry teacher to a middle school assistant principal to the current position as a high school assistant principal and registrar. This educator's passion for data and evidence has grown along with the desire to improve opportunities for all students. The execution of this project has provided great insight into the importance of data use and communication, which can be translated into greater achievement. As a high school educator, the study has definitely communicated the need to implement changes which will enable educators at this level to engage in more data-related initiatives. Since the beginning of the study, the researcher has personally witnessed tremendous growth in the area of data use within her school and is truly excited about future initiatives. The possibilities for improvement are immense and encouraging. Such opportunities for improvement of student achievement add to the great benefit and honor of being an educator.

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APPENDIX A

PERMISSION TO USE SURVEY

-----Original Message-----
From: Kerry Englert
Sent: Monday, June 02, 2008 1:53 PM
To: Stoming, Peggy
Subject: RE: How Educators are Using Data

Hello Peggy,
Here are the three surveys that we used for the assessment and accountability reports. I hope you find them useful. I am going to work with a colleague to write an attribution that we will send along later. Please note too, the reliability and validity information in the reports. I think that will help you use and report on the limitations of the instruments. Good luck,

Kerry
PS. I have a separate question for you due to another project I am working on...Do you by any chance use Principal Walkthroughs at your school to evaluate the progress of instructional goals? And if so, have you found them helpful? Thanks!

Kerry Englert
Project Employee
Mid-continent Research for Education and Learning (McREL)

APPENDIX B

PERMISSION TO SURVEY FROM SCHOOL SYSTEM

From: [redacted]
Sent: Monday, April 27, 2009 2:55 PM
To: Stoming, Peggy
Subject: RE: Survey

Approved. I will provide a copy of this e-mail to Principals on Thursday. Good luck on your study! Please provide me with your results when finished as this work might inform some of our assessment decisions next year.

[redacted]
Associate Superintendent
[redacted]

From: Stoming, Peggy
Sent: Monday, April 27, 2009 2:38 PM
To: [redacted]
Subject: Survey

[redacted],

I am writing this letter to request your permission and endorsement for the data-driven decision-making study we previously discussed. The study is the final step in my effort to obtain a doctorate degree from Georgia Southern University. If permission is granted, an on-line version of the attached survey will be sent to a representative, randomly selected sample of teachers (n~730) from each school within the county. The survey will also be sent to all school level administrators. The study should provide insight into the implementation of accountability systems and data-driven decision-making within our county. The study will also provide a comparison of perceptions of administrators and teachers as well as a comparison of data use at the three traditional levels of schools, elementary, middle, and high. Thank you for your consideration and time.

Sincerely,

Peggy Stoming

Assistant Principal/Registrar
[redacted]

APPENDIX C

LETTER TO PARTICIPANTS

May 8, 2009

Dear Fellow Educator:

My name is Peggy Stoming and I am currently an Assistant Principal at [redacted]. I am in the process of completing the requirements for a Doctorate in Educational Administration from Georgia Southern University. My research study, titled Data-Driven Decision-Making and Accountability Systems: A Comparison of Administrator and Teacher Perceptions Across Elementary, Middle and High Schools, is being completed under the direction of Dr. Lucindia Chance. The results of the study should provide valuable data regarding actual practices of data use within our school system. As one of the school-level educators of [redacted] School System, you are invited and strongly encouraged to participate in this study.

I would greatly appreciate your help in completing the e-mailed questionnaire that should **take only ten minutes or less to complete**. Your participation in this study is completely voluntary. Completion of the on-line questionnaire will indicate permission to use the information you provide. Please be assured that your responses will be kept completely confidential. The results of this research may be published, but the names of the participating individuals, schools and school system will not be used. To account for the return of each survey, Survey Monkey will track your response and will be accessible only to me, through the use of password protection. Individual responses will not be made public to anyone. Once each of the surveys is completed, I will permanently remove the identifying information from the survey so that specific individuals or schools can not be identified. All of the questionnaires will be e- mailed on May 11, 2009. I will send a few reminders in hopes of getting a response from all of the randomly selected participants. Obviously, the greater the response rate, the more valuable the findings will be for this research study. If you would like a copy of the results at the conclusion of the study, you may contact me by phone or email.

If you have any questions about this research project, please call me at [redacted] (work) or [redacted] (cell). My email address is [redacted]. Any questions or concerns that you may have about your rights as a research participant in this study should be directed to the IRB Coordinator at the Office of Research Services and Sponsored Programs at (912) 478-0843.

I thank you, in advance, for your time and consideration in completing the questionnaire and also for the service you provide to the students. I hope you all have a wonderful summer.

Respectfully yours,

Peggy Stoming

APPENDIX D

INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

Georgia Southern University
Office of Research Services & Sponsored Programs

Institutional Review Board (IRB)

Phone: 912-478-0843
Fax: 912-478-0719
IRB@GeorgiaSouthern.edu
Venzey Hall 2021
P.O. Box 8005
Statesboro, GA 30460

To: Peggy Stoming
[redacted]

CC: Charles E. Patterson
Associate Vice President for Research

From: Office of Research Services and Sponsored Programs
Administrative Support Office for Research Oversight Committees
(IACUC/IBC/IRB)

Date: May 6, 2009

Subject: Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered:**H09252** and titled "**A Comparison of Educator Perceptions of Data Use Within Seven Characteristics of Accountability Systems**", it appears that (1) the research subjects are at minimal risk, (2) appropriate safeguards are planned, and (3) the research activities involve only procedures which are allowable.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that the Institutional Review Board has approved your proposed research.

This IRB approval is in effect for one year from the date of this letter. If at the end of that time, there have been no changes to the research protocol; you may request an extension of the approval period for an additional year. In the interim, please provide the IRB with any information concerning any significant adverse event, **whether or not it is believed to be related to the study**, within five working days of the event. In addition, if a change or modification of the approved methodology becomes necessary, you must notify the IRB Coordinator **prior** to initiating any such changes or modifications. At that time, an amended application for IRB approval may be submitted. Upon completion of your data collection, you are required to complete a *Research Study Termination* form to notify the IRB Coordinator, so your file may be closed.

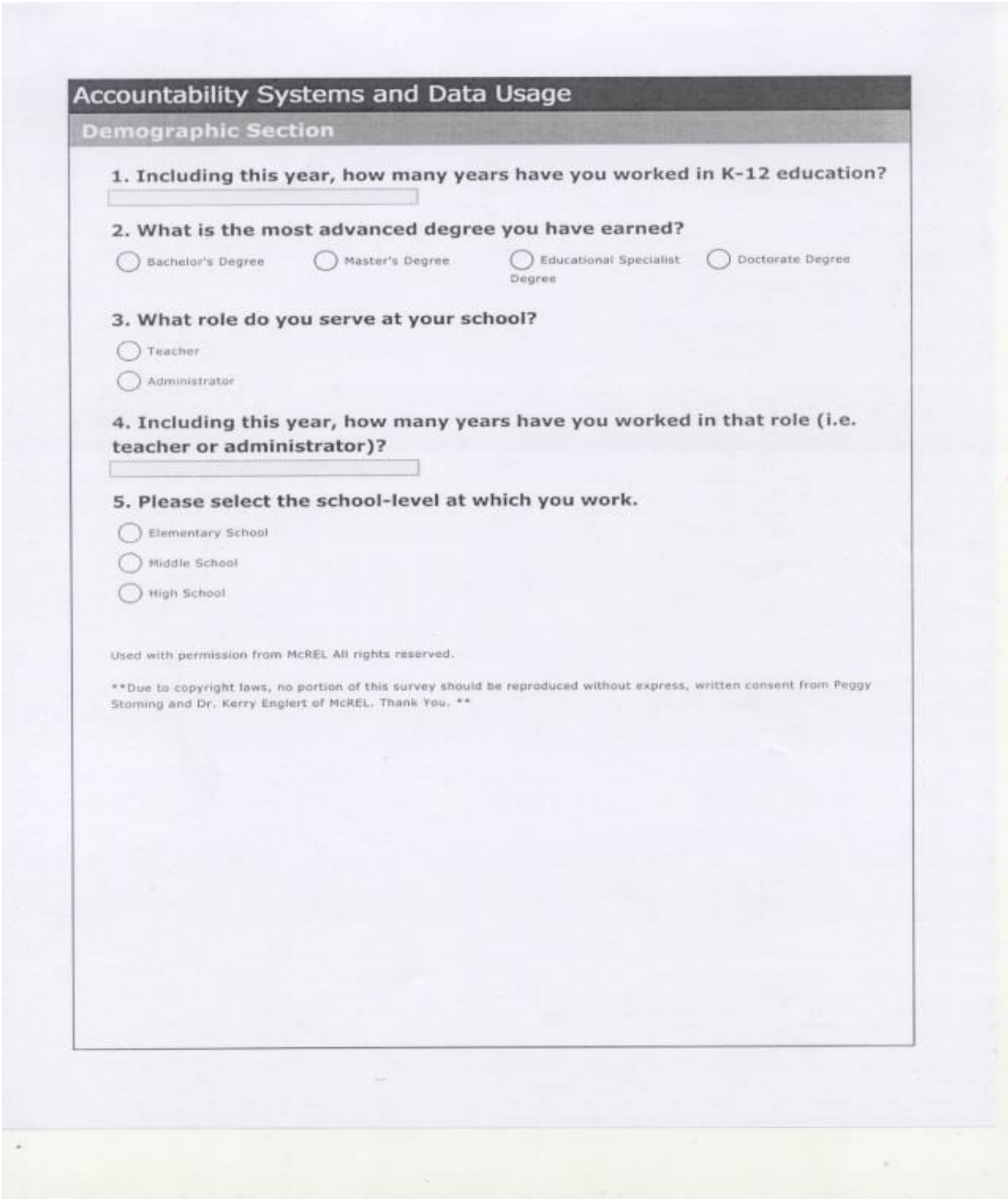
Sincerely,

Eleanor Haynes

Eleanor Haynes
Compliance Officer

APPENDIX E

ACCOUNTABILITY SYSTEMS AND DATA USAGE SURVEY



Accountability Systems and Data Usage

Demographic Section

1. Including this year, how many years have you worked in K-12 education?

2. What is the most advanced degree you have earned?

- ◯ Bachelor's Degree
- ◯ Master's Degree
- ◯ Educational Specialist Degree
- ◯ Doctorate Degree

3. What role do you serve at your school?

- ◯ Teacher
- ◯ Administrator

4. Including this year, how many years have you worked in that role (i.e. teacher or administrator)?

5. Please select the school-level at which you work.

- ◯ Elementary School
- ◯ Middle School
- ◯ High School

Accountability Systems and Data Usage

State Assessment Quality and Utility

Please answer the following questions based on your perceptions of the quality and utility of the State Assessments. Elementary and middle school employees should base their answers on CRCTs. The high school employees should base their answers on EOCTs and GHSGTs.

6. How would your rate the quality of your state assessment(s) in terms of...

	Very Poor	Below Average	Above Average	Excellent
a. ... alignment to state curriculum standards?	◯	◯	◯	◯
b ...teachers having access to results?	◯	◯	◯	◯
c. ... informing parents of their students' achievement levels?	◯	◯	◯	◯
d. ... comprehensiveness?	◯	◯	◯	◯
e. ... providing diagnostic data to inform instructional practices?	◯	◯	◯	◯
f. ... overall?	◯	◯	◯	◯

Accountability Systems and Data Usage

Expectations

7. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Our primary mission of my school is that all students become proficient in core subjects.	◯	◯	◯	◯
b. Teachers in our school emphasize that performance can always be improved.	◯	◯	◯	◯
c. Teachers in our school believe students can reach standards and objectives.	◯	◯	◯	◯
d. Our faculty values school improvement.	◯	◯	◯	◯
e. Our teachers assume responsibility for ensuring that all students learn.	◯	◯	◯	◯

Accountability Systems and Data Usage

Resources

Please indicate your level of agreement with the following statements.

8. When you think about improving achievement under No Child Left Behind, your school has...

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. ...sufficient resources (e.g. dedicated personnel, funding)	◯	◯	◯	◯
b. ...sufficient technological resources (computers, software, technology support)	◯	◯	◯	◯
c. ...adequate ability to support teachers in using data to improve classroom practices.	◯	◯	◯	◯
d. ...the knowledge and skills needed in order to use data to improve student learning.	◯	◯	◯	◯
e. ...sufficient professional development to assist in the use of data to make instructional decisions.	◯	◯	◯	◯

9. When you think of improving achievement under NCLB, you feel...

	Strongly Disagree	Disagree	Agree	Strongly Agree
a ...the state adequately supports your school's teachers in using data to improve their classroom practices?	◯	◯	◯	◯
b ... the district adequately supports your school's teachers in using data to improve their classroom practices?	◯	◯	◯	◯

10. What tools or resources are available to you to assist in using data to make instructional decisions(e.g. specific computer software, dedicated personnel, etc...)?

11. How do you use the tools or resources, listed in your answer to Question #10, to make instructional decisions?

Accountability Systems and Data Usage

Data Communication

Please indicate your level of agreement with the following statements.

12. When communicating accountability results to your community, your school:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. ...disseminates up-to-date accountability information in multiple ways (e.g., on your school's website, in newsletters, etc.) that are accessible to your parents/community.	◯	◯	◯	◯
b. ... states to the public what students should know and be able to do in your school at each grade level.	◯	◯	◯	◯
c. ... explains how adequate yearly progress (AYP) is tied to your school's assessment scores.	◯	◯	◯	◯
d. ... specifically describes what your school is doing and what assistance is needed to improve student achievement.	◯	◯	◯	◯
e. ... holds parent forums at convenient times and places for parents.	◯	◯	◯	◯
f. ... compares results to schools with similar demographic information.	◯	◯	◯	◯

Accountability Systems and Data Usage

Sanctions and Rewards

With new accountability measures, sanctions and rewards are often used to encourage educators to improve student learning. Some examples of sanctions include not making AYP, classification as a Needs Improvement School, and negative individual evaluations based on student performance. Some examples of rewards are public recognition and awards.

13. Please indicate your level of agreement with the following statements regarding sanctions and rewards.

	Strongly Disagree	Disagree	Agree	Strongly Agree
Actual or possible sanctions influence your school's practices.	◯	◯	◯	◯
Actual or possible rewards influence your school's practices.	◯	◯	◯	◯

Accountability Systems and Data Usage

Data Usage

Please indicate your level of agreement with the following statements.

14. My school uses data:

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. ... to evaluate personnel.	◯	◯	◯	◯
b. ... to focus staff development.	◯	◯	◯	◯
c. ... to identify school instructional strengths and weaknesses.	◯	◯	◯	◯
d. ... to identify teacher strengths and weaknesses.	◯	◯	◯	◯
e. ... to establish outcome goals amongst school staff.	◯	◯	◯	◯
f. ... to facilitate vertical alignment and planning across grades.	◯	◯	◯	◯
g. ... to help develop school improvement plans.	◯	◯	◯	◯
h. ... to realign instruction so that essential curriculum is taught before students are assessed.	◯	◯	◯	◯

15. Please answer the following question about data usage.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My school uses state assessment data to monitor the progress of our school?	◯	◯	◯	◯
b. I think analyzing disaggregated data helps our school identify and correct difference in achievement among subgroups (e.g., race, economically disadvantaged, SPED) of students in your school?	◯	◯	◯	◯

Accountability Systems and Data Usage

Multiple Measures

Many schools supplement state assessment data with additional pieces of information and sources of data to form a complete "picture" of their school.

16. Which of the following types of evidence do you use extensively to evaluate instruction and/or instructional programs (check all that apply)?

- ☐ Course grades
- ☐ Homework
- ☐ Student portfolios
- ☐ Teacher observations
- ☐ Attendance rates
- ☐ Drop out rates
- ☐ Expulsion rates
- ☐ School safety data
- ☐ Years of experience for teachers
- ☐ School created assessments
- ☐ Central office feedback
- ☐ Parent/community feedback
- ☐ Student feedback
- ☐ Scores on other standardized tests (SAT, ITBS, NAEP, etc...)

17. Of the types selected above, which three do you use the most? If there is another type of data you use frequently which is not listed above, please list it here. Please prioritize the responses. For example, list the one type used most in the first box, etc...

1. _____
2. _____
3. _____

Accountability Systems and Data Usage

Challenges

18. What do you perceive to be the top three issues your school has around using student achievement data? Please prioritize your responses.

1.
2.
3.