Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten through 12th Grade in United States Schools: East Tennessee Principals' Perspectives.

Terri Dodge

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Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten Through 12th Grade in United States Schools: East Tennessee Principals’ Perspectives

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East Tennessee State University

In partial fulfillment

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Doctor of Education

by

Terri Dodge

August 2007

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Keywords: No Child Left Behind, Title I, NonTitle I, Economically Disadvantaged, Standardized Testing, Achievement Gap
ABSTRACT

Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten Through 12th Grade in United States Schools: East Tennessee Principals’ Perspectives

by

Terri Dodge

The pressure to perform on standardized tests in the United States has become intense. Increased accountability has caused principals to think about their perceptions of standardized testing with regard to accountability measures, test validity, use of test data, impact of testing on the curriculum, and stress related to testing. The purpose of this study was to investigate kindergarten- through 12th-grade principals’ perceptions of standardized testing. The study included 91 principals of Title I and nonTitle I schools located in 8 rural East Tennessee school districts. Data were gathered using a survey instrument to determine principals’ opinions of standardized testing.

There were 4 predictor (independent) variables in this study: Title I status of the school measured by status (Title I school and nonTitle I school), gender predictor variable, predictor variable of highest degree earned by principals (master’s, specialist, and doctorate), and predictor variable of experience in current position (1-6 years, 7-14 years, and 15-39 years). The data analysis focused on 5 dimensions of standardized testing. The 5 (dependent) variables were: (a) general impact-accountability, (b) validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) impact on curriculum, and (e) stress related to standardized testing.
The findings reflected that in general, principals had a positive view of standardized testing; however, the study showed that there was agreement among principals that standardized testing has limitations, particularly in the area of fairness to ethnic groups. The research indicated that principals use test data in many ways to improve their schools. Regardless of Title I status, gender, highest degree earned, and years of experience in current position, there were no significant differences in principals’ opinions of standardized testing regarding the 5 dimensions of standardized testing.
DEDICATION

This study is dedicated to the courageous principals on the front lines who dedicate their lives to make a profound difference in the lives of others despite challenging demands and pressures.

"I know of no more encouraging fact than the unquestionable ability of man to elevate his life by conscious endeavor."

*Henry David Thoreau (1817-1862)*
ACKNOWLEDGMENTS

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CHAPTER 1
INTRODUCTION TO THE STUDY

Our children are tested to an extent that is unprecedented in our history and unparalleled anywhere else in the world. . . The result is that most of today’s discourse about education has been reduced to a crude series of monosyllables: “Test scores are too low. Make them go up.” (Kohn, 2000, p. 2)

Standardized testing seems to have become the driving force in shaping public opinions about the quality and accountability of education in 21st century United States schools. Many historical events such as Brown vs. Board of Education in 1954, Title I in 1965, Public Law 94-142 in 1975 and revised in 1997 and 2004 and now called the Individuals with Disabilities Education Improvement Act, Goals 2000, and the No Child Left Behind Act in 2001 have impacted the testing movement as it continues to play an increasing role in how students are educated (Hirsh, 2006). The pressure to perform on standardized tests in the United States has become intense for students, teachers, principals, and school systems. According to Hirsh, standardized testing currently determines what states, schools, teachers, and students do.

Standardized tests are administered to millions of students each year for a variety of reasons. The tests measure learned skills in core academic subjects and the results are used to evaluate instructional effectiveness and make placement and promotion decisions (Hershberg, 2004a). Some testing experts would argue that interpreting standardized tests in isolation is not a credible summary of what individual students know or are able to do (Harvey, 2003). A combination of authentic assessments in the form of hands-on projects, oral presentations, creative writing, reflective journals, and student portfolios is viewed, by many educators, as providing a more accurate picture and a better understanding of a student’s achievement.

As is germane to this study, each spring, thousands of Tennessee students in grades three through eight take the Tennessee Comprehensive Assessment Program (TCAP) achievement test, which is the state’s high stakes testing regimen. The TCAP achievement test is a timed
multiple-choice test that measures skills in reading, language arts, mathematics, science, and social studies that are directly linked to state curriculum standards (Tennessee Department of Education, 2006).

Every state has implemented some type of mandated testing program since 1990 (Madaus & Tan, 1993). Although most public school students were taking standardized tests prior to the legislation implemented and signed into law by President George W. Bush, the 2002 No Child Left Behind Act has placed more pressure and emphasis on increasing standardized test scores and has proposed more difficult accountability challenges for school systems, schools, administrators, teachers, and individual students across the nation (Meier, Kohn, Hammond, Sizer, & Wood, 2004).

The No Child Left Behind Act was designed to hold schools accountable for high academic achievement of all students including minorities, economically disadvantaged students, English language learners, and students with disabilities by requiring specific end of the year high-stakes standardized testing of all students in grades three through eight. Schools are judged by Adequate Yearly Progress based on assessment achievement levels of all subgroups. Schools that fail to meet the required achievement levels are identified as “in need of improvement.” This designation gives parents the option and flexibility of transferring their children to different schools (U.S. Department of Education, 2003).

The No Child Left Behind Act's standardized testing requirements propose high expectations for educational leaders to improve academic achievement and close the achievement gap while facing the overwhelming challenges of family dysfunction, social issues, violence, drugs, and poverty (Harvey, 2003). Consequently, school leadership has been changed because of the mandate of high-stakes standardized testing by state and federal educational reforms.

Recent school reform legislation holds teachers and principals accountable for standardized test results. State standards have become the focus of teaching and learning and are
aligned with state-mandated goals and expectations (Chapman & King, 2005). The emphasis on standardized test scores makes it complicated for teachers to accommodate all learners.

Teachers and administrators of low-performing students are expected to close the achievement gap among minorities, economically disadvantaged students, English language learners, and students with disabilities. According to Popham (2001), too much emphasis on mandated standardized testing requirements and results has done more harm educationally by impacting the effectiveness of instructional programs. Bracey (2000) maintained that advocates of high-stakes testing failed to explain how testing improves the chances of success of minority and poor students. According to Popham, “Standardized achievement tests should not be used to judge the quality of students’ schooling because factors other than instruction also influence students’ performance on these tests” (p. 74).

In an effort to close the achievement gap, Title I of the Elementary and Secondary Act was passed in 1965. It was an important component of Lyndon B. Johnson’s War on Poverty affecting kindergarten-through 12th-grade education. According to the U. S. Department of Education (2003), Title I funds must be used for activities and teaching methods based on scientific research that will be most effective in helping all students meet required state standards. Title I schools are subject to strict sanctions if Adequate Yearly Progress is not met for 2 consecutive years. Closing the achievement gap between rich and poor and Whites and minorities is a tall order, but pledging to raise 100% of students over the bar in reading and math by 2014 sets a standard that no school district or state has ever achieved (Harvey, 2003). The responsibility of accountability falls primarily on the school principal. Principals are faced with meeting the demands of current standardized testing educational reform and creating a thriving learning environment that is beneficial for students and faculty members.

Poverty is a factor that can greatly impact students’ academic success. Rural school districts have particularly high poverty rates; therefore, this study targeted rural school districts where the most disadvantaged student populations exist. There are approximately 5,000 rural school districts in the United States (Tennessee Department of Education 2005). The researcher
surveyed individual school principals of eight rural East Tennessee school systems to gain information that might illuminate principals’ perceptions of the impact that the recent emphasis on standardized testing has had on teaching and learning in those schools.

Statement of the Problem

Heightened accountability brought about by recent standardized testing school reform has placed a greater emphasis on standardized test scores and created stressful challenges for school administrators across the country. The achievement requirements and demands are especially challenging for principals of high-poverty schools who are under pressure to meet Adequate Yearly Progress and maintain federal funding. The purpose of this study was to investigate kindergarten- through 12th-grade principals’ perceptions of standardized testing. Data were collected by surveying individual kindergarten- through 12th-grade principals in eight rural East Tennessee school systems. The data collected from these principals were obtained using a survey instrument (Impact of Standardized Testing on Teaching and Learning) included in Appendix A. This instrument contained both demographic questions and 25 questions concerning the principals’ perceptions about the impact of standardized testing on teaching and learning from a number of different perspectives.

Research Questions

The following research questions were used in this study to determine East Tennessee's kindergarten- through 12th-grade principals’ perceptions regarding the impact of standardized testing on teaching and learning.

Research Question # 1: For items # 16 through #40 of the Standardized Testing Opinion Survey, were there differences in the percentage of principals who indicated they strongly disagreed, disagreed, or were neutral to each statement and the percentage of principals who stated they agreed or strongly agreed?
Research Question # 2: To what extent are there differences between the perceptions of principals of Title I schools and non-Title I schools regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

Research Question # 3: To what extent are there differences between female and male principals and their perceptions regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

Research Question # 4: To what extent are there differences among the perceptions of principals with master’s, specialist, and doctorate degrees regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on curriculum, and (e) stress related to standardized testing?

Research Question # 5: To what extent are there differences among the perceptions of principals in the three groups (1-6 years of experience, 7-14 years of experience, and 15-39 years of experience) regarding the five dimensions of standardized testing: (a) general-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

Significance of the Study

The No Child Left Behind Act was a landmark in education reform designed to improve students’ achievement and change the culture of America’s schools (U.S. Department of Education, 2003). The law was signed by President George W. Bush on January 8, 2002, in an effort to close the achievement gap of minorities, economically disadvantaged students, English
language learners, and students with disabilities. It proposed stronger accountability for results on yearly high-stakes testing for all schools across the nation. Its aim was to improve academic performance of America’s public schools by increasing accountability standards. Historically, the subgroups most negatively affected by high-stakes standardized testing are minorities and the poor (Sacks, 2000). Increased accountability from recent political school reforms as previously described continues to place more and more pressures and demands on each school’s principal and his or her faculty to raise standardized test scores especially in the areas of mathematics and reading for all students including minorities, economically disadvantaged students, English language learners, and students with disabilities. Principals seem to be increasingly frustrated by policy makers who continue to demand better results and stronger accountability. According to Bracey (2000), critics of education became more vocal as the United States became engaged in the space and arms race with the Soviet Union in the 1950s. The impact of standardized testing educational reform is being felt by principals who must attend to accountability issues and at the same time provide a quality instructional program conducive to learning. According to research conducted by Sacks, the emphasis on standardized testing showed a decrease in students' motivation to learn and indicated that classroom teaching instruction has been narrowed to teaching to the test rather than indepth curriculum coverage that would challenge students to think.

In *The Effects of High-Stakes Testing on Student Motivation and Learning*, Amrein and Berliner (2003) concluded:

The evidence shows that such tests actually decrease student motivation and increase the proportion of students who leave school early. Researchers have found that when rewards and sanctions are attached to performance on tests, students become less intrinsically motivated to learn and less likely to engage in critical thinking. (p. 32)

French (2003) cited a 2001 Public Agenda Poll indicating that 83% of teachers feared, “Teachers will end up teaching to the tests instead of making sure real learning takes place” (p. 14). In addition, 82% of the teachers said, “Schools today place far too much emphasis on standardized tests” (French, p. 16). Amrein and Berliner concluded in their 2002 study of 18
states using high-stakes standardized testing, “If the intended goal of high-stakes testing policy is to increase student learning, then that policy is not working. Increased test scores indicated nothing but the result of test preparation” (p. 2).

Further research needs to be conducted to determine if standardized testing accountability requirements are closing the achievement gap and what impact (if any) recent standardized testing school reform has had on the decline of meaningful teaching and learning in 21st century schools across the nation. As pointed out by Eisner (2006):

The more we stress only what we can measure in school, the more we need to remember that not everything that is measurable matters and not everything that matters is measurable. Teaching the whole child needs to be addressed in teaching practices. (p. 46)

Definitions of Terms

The following definitions were used for the purpose of this study:


2. *Adequate Yearly Progress* (AYP): Benchmarks have been developed by states to measure learning progress. Schools are held accountable for the progress of all subgroups (U.S. Department of Education, 2003, p. 3).

3. *Title I*: A federally funded program designed to assist with improving academic achievement for economically disadvantaged students (Tennessee Department of Education, 2005, p. 6).

5. **High-poverty schools**: Schools that have at least 40% of the school's population receiving free meals qualify to receive Title I funding from the federal government (Tennessee Department of Education, 2005, p. 6).


7. **Targeted assistance schools**: Schools that identify at-risk students and provide individualized programs to assist with improving academic achievement (Tennessee Department of Education, 2005, p. 6).

8. **Achievement gap**: A demonstration of the difference between how well economically disadvantaged and minority students perform on standardized tests compared to their peers (Tennessee Department of Education, 2005, p. 15).


10. **Standardized test**: A test administered according to standardized procedures that assesses a student’s aptitude by comparison with a standard (MSN Encarta, 2006).

---

**Delimitations and Limitations**

This study was delimited to 91 kindergarten- through 12th-grade school principals of Title I and nonTitle I public schools located in eight rural East Tennessee school systems. The findings might not be representative of nor generalized to a wider population of principals affected by the recent emphasis on standardized testing. One survey instrument containing 40 items was used as the major source of information for the research.

This study was limited by targeting specific East Tennessee school systems. Using one survey instrument as a research strategy might yield a low return rate. Perhaps the most obvious limitation of the study was my bias concerning the emphasis being placed on standardized testing. It is my belief that the emphasis on standardized testing is negatively impacting teaching.
and learning in 21st century classrooms. However, I have addressed this bias through the use of outside experts as well as the careful examination of the data by my committee members.

Overview of the Study

This study was organized into five chapters. Chapter 1 includes an introduction to the study, statement of the problem, research questions, significance of the study, definitions of key terms, and delimitations and limitations. Chapter 2 presents a review of the related literature that addresses teaching and learning, standardized testing, educational reform, and the role of the principal. Chapter 3 addresses research design and methodology including data analysis. Chapter 4 presents the findings of the study. Chapter 5 includes a detailed data analysis summary, conclusions, and recommendations for practice and further research.
CHAPTER 2
LITERATURE REVIEW

Introduction

The purpose of Chapter 2 is to review the literature and research related to the extraordinary historical changes in American educational reform concerning standardized testing and to explore the philosophical beliefs that provide different perspectives regarding the impact that standardized testing is having on teaching and learning.

The Impact of Testing on Teaching and Learning

Throughout history, there have been many influential individuals in education who have shaped the course of teaching and learning. One of the most innovative thinkers was John Dewey. Dewey emphasized that classrooms should promote more progressive practices such as group inquiry and active construction of knowledge and socialization and that teachers should be facilitators of knowledge rather than presenters of knowledge (Owens, 2004). Hands-on learning, scientific investigation, authentic assessments, and multiple intelligence theory are contemporary progressive instructional methods of education derived from Dewey’s educational ideas. Pragmatic teachers recognize intelligence as abstract thinking and comprehension of complex ideas and not as book learning and test taking. Many teachers are cognizant of the notion that one size does not fit all and they teach according to how students learn. According to Owens, Gardner’s (1993) Multiple Intelligences Theory correlated with Dewey’s philosophy of learning: Students were active learners engaged in authentic experiences that taught them how to attain knowledge through the process of scientific inquiry and exploration. Brooks and Brooks (1993) explored the constructivist framework that challenged teachers to create environments in which they and their students were encouraged to think, explore, and pose questions that
captured deeper understanding. Components of a constructivist framework as compared to a traditional classroom's framework are shown in Table 1.

Table 1

*Table 1: A Look at School Environments*

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<thead>
<tr>
<th>Traditional Classrooms</th>
<th>Constructivist Classrooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum is presented part to whole, with emphasis on basic skills.</td>
<td>Curriculum is presented whole to part with emphasis on big concepts.</td>
</tr>
<tr>
<td>Strict adherence to fixed curriculum is highly valued.</td>
<td>Pursuit of student questions is highly valued.</td>
</tr>
<tr>
<td>Curricular activities rely heavily on textbooks and workbooks.</td>
<td>Curricular activities rely heavily on primary sources of data and manipulative materials.</td>
</tr>
<tr>
<td>Students are viewed as “blank slates” onto which information is etched by the teacher.</td>
<td>Students are viewed as thinkers with emerging theories about the world.</td>
</tr>
<tr>
<td>Teachers generally behave in a didactic manner, disseminating information to students.</td>
<td>Teachers generally behave in an interactive manner, mediating the environment for students.</td>
</tr>
<tr>
<td>Teachers seek the correct answer to validate student learning.</td>
<td>Teachers seek the students’ points of view in order to understand students’ present conceptions for use in subsequent lessons.</td>
</tr>
<tr>
<td>Assessment of student learning is viewed as separate from teaching and occurs almost entirely through testing.</td>
<td>Assessment of student learning is interwoven with teaching and occurs through teacher observations of work and through student exhibitions and portfolios.</td>
</tr>
<tr>
<td>Students primarily work alone.</td>
<td>Students primarily work in groups.</td>
</tr>
</tbody>
</table>

Note. From Brooks and Brooks, 1993, p. 17
Piaget (1972), a proponent of constructivism, has had a profound impact on understanding the cognitive development of children. He demonstrated through his research how children think in different ways than adults think and he developed a stage theory to describe how children’s thinking became more complex over time (Armstrong, 2006). Discovery learning and the development of children’s interests using manipulatives, field trips, and group work supported Piaget’s theory.

The constructivist insights of Vygotsky (1978) emphasized that cognitive change occurred within what he called the zone of proximal development. Instruction that is designed just above the student’s current development level promotes optimal learning to occur. Peer interaction and collaborative opportunities supported Vygotsky’s theory (Riddle & Dabbagh, 1999).

Tomlinson (2000b) noted that effective instruction moved learners to become thinkers, problem solvers, and producers. According to Tomlinson (2000b), the philosophy of differentiated instruction was a way of thinking about teaching and learning based on students’ readiness levels, learning styles, interests, experiences, and life circumstances. Tomlinson (2000b) pointed out that students seemed to learn best when challenged slightly beyond where they could work without assistance. Students also appeared to learn best when there was a connection between the curriculum and their life experiences (Tomlinson, 2000b).

All students learn differently. Educational researchers have gathered data that support how students' needs must be addressed from several different aspects for students to become life-long learners. Both Bloom (1956) and Maslow (1970) focused on what it took logically and from a humanitarian point of view for a student to acquire knowledge. They both were concerned with meeting the learning and other needs of the individual. The priority in student learning starts with the individual’s needs. Maslow contended that human needs were arranged in a hierarchical order as shown in Figure 1.
Figure 1. Maslow's (1970) Hierarchy of Needs
When students’ basic needs are met, they become much better students capable of focusing on goals teachers have set for them (Maslow 1970). According to Clark (1999), Bloom advocated a mastery approach to learning by endorsing instructional techniques that varied both instruction and time according to learners' requirements. Bloom’s Taxonomy for the cognitive domain has been a valuable tool to use as a means by which to match subject matter and instructional methods. Bloom's Taxonomy Cognitive Domain is shown as Table 2.

Table 2

*Bloom's Taxonomy Cognitive Domain*

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge: recall data information</td>
<td>defines, describes, identifies, knows, labels, lists, recognizes, recalls, names, states</td>
</tr>
<tr>
<td>Comprehension: understand the meaning of instructions and problems; state a problem in one's own words.</td>
<td>comprehends, distinguishes, explains, estimates, defends</td>
</tr>
<tr>
<td>Application: use a concept in a new situation</td>
<td>applies, constructs, predicts, demonstrates, relates</td>
</tr>
<tr>
<td>Analysis: distinguishes between facts and inferences</td>
<td>analyzes, compares, contrasts, constructs, illustrates, outlines</td>
</tr>
<tr>
<td>Synthesis: put together to form a whole, with emphasis on creating a new meaning</td>
<td>categorizes, combines, compiles, creates, designs, generates, summarizes, organizes</td>
</tr>
<tr>
<td>Evaluation: make judgments about the value of ideas</td>
<td>concludes, critiques, evaluates, explains, interprets, supports</td>
</tr>
</tbody>
</table>

Note: from *Bloom’s taxonomy* (Clark, 1999)

Gardner (1993) affirmed that our greatest cultural heritage was not a storehouse of facts and information but, rather, ways of engaging in disciplined thinking and seeking and analyzing information (Owens, 2004). In the mid-1980s, Gardner developed his Multiple Intelligences...

1. **Linguistic intelligence**: the ability to understand words and how they are combined to produce useful language. This is important for writers, poets, and journalists.

2. **Logical-mathematical intelligence**: the ability to see patterns, order, and relationships in seemingly unrelated events in the world around us and to engage in logical chains of reasoning. One thinks of scientists, mathematicians, engineers, and architects.

3. **Musical intelligence**: the ability to discern pitch, melody, tone, rhythm, and other qualities of musical symbolism and integrate them into intellectual activity such as reasoning. Musicians, composers, singers, and rap artists come to mind.

4. **Spatial intelligence**: the ability to accurately perceive and think in terms of the visual qualities of the world and its dimensions, and to manipulate and transform them in creative ways. This is important for architects, artists, sculptors, photographers, cinematographers, and navigators.

5. **Bodily-kinesthetic intelligence**: the ability to control one’s bodily motions, the capacity to handle objects skillfully, and the skill to combine these into a language with which to express oneself “with wit, style, and an esthetic flair.” One thinks of dancers, figure skaters, and athletes.

6. **Intrapersonal intelligence**: the ability to access and understand the inner self: feelings, reactions, aspirations. This refers to the self-aware individual who understands and is comfortable with his or her personal emotions, and is able to differentiate between various feelings and use them in thinking about the world. Novelists and playwrights are examples.

7. **Interpersonal intelligence**: the ability to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations, and intentions. Individuals who possess high levels of interpersonal intelligence might find it useful in exercising educational leadership. (p. 239)

1. **Neural intelligence**: The contribution of neural efficiency to intelligent behavior, much as the theorists and psychometricians in the traditional paradigm have claimed.
2. **Experiential intelligence**: The contribution of a storehouse of personal experience in diverse situations to intelligent behavior.
3. **Reflective intelligence**: The contribution of knowledge, understanding, and attitudes about how to use our minds in intelligent ways. (p. 16)

Both Perkins and Gardner shared the belief that intelligence was not limited to one characteristic. Gardner's contribution in explaining human thought and behavior has been to give us a way to think about intelligence "not as a single characteristic, or even as a group of characteristics that can be summed up with the single measure of IQ" (Owens, 2004, p. 57).

In contrast to the above philosophies and theories, the current organization and structure of most public schools in America assumed that the tasks of teaching and learning could be standardized (Payzant, 1994).

According to Wood (1999), when standardized tests become an end unto themselves, the value of investigation, creativity, and positive social interaction is diminished and ultimately will be lost. Some educators have been backing away from recognizing students' differences because of the pressure to meet local, state, and national standards (Tomlinson, 2000a). Bracey (2000) reported that teachers were abandoning their usual curricula and modes of teaching to lecture about test-oriented material; in many cases, teachers were omitting aspects of the curriculum not on the test.

According to Graham (2005), most tests are not suitable replacements for a lively and intellectually vigorous curriculum that engages students' imaginations and interests. Many educators have learned from experience that each time a new wave of reform threatened, they could just wait for it to pass over so they could continue doing what they were hired to do (Schlechty, as cited in Kline, Kuklis, & Zmuda, 2004). The nation is once again engaged in a
period of intense political educational testing reform that is creating quite a controversial educational debate. According to Tucker and Stronge (2005), the loss of instructional time, restricted curriculum, testing anxiety, the failure that students and schools experience, and the unjustified conclusions that are drawn from test scores all argued against the use of standardized tests unless they could be put to a compelling purpose.

Dewey, an influential 20th century educator and philosopher, proposed:

The aim of education should be to teach us rather how to think, than what to think--rather to improve our minds, so as to enable us to think for ourselves, than to load the memory with thoughts of other men. (as cited in Howe, 2003, p. 106)

Contrary to Dewey's expectations, 21st century classrooms in the United States have been faced with accountability pressures in the form of increasing standardized test scores to meet state accountability standards. Bloom (1956) and his colleagues (as cited in Wiggins & McTighe, 1998) reminded educators to be specific as to how understanding differs from accurate knowledge as they recounted the following famous Dewey story:

Almost everyone has had the experience of being unable to answer a question involving recall when the question is stated in one form and then having little difficulty … when the question is stated in another form. This is illustrated in John Dewey’s story in which he asked a class, “What would you find if you dug a hole in the earth?” Getting no response, he repeated the question; again, he obtained nothing but silence. The teacher chided Dr. Dewey, saying, “You’re asking the wrong question.” Turning to the class, she asked, “What is the state of the center of the earth?” The class replied in unison, “igneous fusion.” (p. 39)

The story has illustrated that doing well on factual tests does not necessarily reflect deep understanding.

According to Goleman (1995), intelligence is about more than remembering facts. One of the criticisms of standardized tests was the emphasis on recognition and factual recall. Goleman stated that in order to succeed in the 21st century, students needed to be able to control their emotions, empathize with others, and solve problems. According to Wallace (2000), students in the future will need to have superior communication skills and will need to be able to analyze information, work in teams, and solve complex social problems.
Even the business community has voiced a desire for students to be better prepared for the workplace. Business leaders have stressed the expectation for schools to prepare students to make informed decisions, solve challenging problems, and work collaboratively with co-workers. Influential business leaders might balance the impact of policymakers who advocate a traditional view of school learning (Brandt, 2000). According to Noddings (2005), society wants graduates who make commitments, think critically and globally, and who exhibit ethical character.

According to Wood (1999), the more time teachers spent testing and preparing to test, the less time there was for real learning to occur. If schools allow success to be defined by state-mandated standardized assessments and direct instructional programs solely toward improving scores on those assessments, this could limit the range of students' experiences in schools (Danielson, 2002).

**History of Standardized Testing**

Amrein and Berliner (2003) reported that various tests have determined which immigrants could enter the United States at the turn of the 20th century and who could serve in the armed forces. According to Asp (2000), advances in technology and science assessment led to the testing of millions of Americans during World War I. Popham (2001) reported that during World War I, officer recruits were given intelligence tests developed by French psychologist Alfred Binet the creator of the first standardized IQ test in an effort to identify likely candidates for the rigorous army training programs. Binet’s test was previously designed in 1905 to predict which children would have the most difficulty with standard classroom teaching (Berliner & Biddle, 1995). Binet’s one-person-at-a-time approach proved to be too time consuming for the army. The army contracted Yerkes, president of the American Psychological Association, to develop a group-administrable test that would identify possible officer candidates in a timely manner. Yerkes and his committee collaboratively designed 10 different timed subtests known as the “Army Alpha” (Popham, p. 41). The Alpha’s subtests contained items requiring recruits
to follow oral directions, identify appropriate analogies, reason mathematically, and choose appropriate synonyms or antonyms for selected vocabulary terms. The Alpha represented the first large-scale use of multiple-choice test items to determine aptitude. The army has used the data to determine who would attend officers' training and who would fight in the trenches.

The educational tests that began to appear after World War I were achievement tests similar to the Alpha. In 1923, Terman developed the Stanford Achievement Test that unleashed the mass use of standardized tests that would be given to millions of school children over the next 80 years (Armstrong, 2006). The first Scholastic Aptitude Test (SAT) administered in 1926 was based on the Army Alpha Test. The overriding mission of today’s standardized achievement tests has not been fundamentally different from the mission of Alpha: "Develop a set of items that will allow for fine-grained and accurate comparisons among test-takers" (Popham, p. 42). According to Popham, standardized achievement tests were not suitable for determining teachers’ instructional effectiveness. The theory was that the tests would identify what children did not know and educators could address these areas more efficiently and effectively by essentially teaching to the test (Wood, 1999).

There have been several compelling events in U.S. history that have contributed to educational reform and the growth of standardized testing. According to Madaus and Tan (1993), four broad social forces in the past 60 years were responsible for the transformation of testing today. They were:

1. a recurring public dissatisfaction with the quality of education in the United States and efforts to reform education;
2. a broad shift in attention from focusing on the inputs or resources devoted to education toward emphasizing the outputs or results of our educational institutions;
3. an array of legislation, at both federal and state levels, promoting or mandating standardized testing programs; and
4. bureaucratization of education and schooling. (p. 66)
According to Madaus and Tan (1993), in 1992, the National Trends in Student and Teacher Assessment (NCEST) endorsed the use of assessments to monitor individual and system progress toward the national education standards to:

1. exemplify for students, parents, and teachers the kinds and levels of achievement that should be expected;
2. improve classroom instruction and improve the learning outcomes for all students;
3. inform students, parents, and teachers about student progress toward the standards;
4. measure and hold students, schools, districts, states, and the nation accountable for educational performance; and
5. assist in education program decisions to be made by policy makers. (p. 65)

*Historical Events Impacting the Testing Movement*

Throughout history, school reform has placed more emphasis on standardized testing. In 1957, during the Cold War, America pushed for greater math and science requirements after being surprised, embarrassed, and caught off guard by the Soviet Union’s successful launch of Sputnik, the first unmanned artificial satellite. Sputnik was a huge blow to American pride. According to Roberts (1989), the launch of Sputnik created an urgent need for school reform in American public schools. Public dissatisfaction led to more government spending on education. The *National Defense Education* Act (NDEA) was pushed through congress by the Eisenhower administration in 1958 providing substantial federal funding for strengthening instruction in mathematics, sciences, and foreign languages (Owens, 2004). NDEA authorized $887 million over a 4-year period to fund scholarships, student loans, research, and equipment (Bruccoli & Layman, 1994). According to Graham (2005), the bill opened with the observation, "The Congress finds that an educational emergency exists and requires action by the federal government. Assistance will come from Washington to help develop as rapidly as possible those skills essential to the national defense” (p. 107). The NDEA has inspired college students to pursue degrees in science and technology fields that would enhance economic and national
security. The U.S response to Sputnik has elevated math and science instruction to join reading as the most valued and highly funded subject in U.S. schools (Armstrong, 2006).

The right to an equal public education free of segregation has made a profound impact on education in 1954 with the landmark case known as *Brown v. Board of Education of Topeka*. The Supreme Court ruled that Brown’s 14th Amendment rights had been violated. This law replaced *Plessy vs. Ferguson* of 1896 where the court ruled “separate but equal” facilities were constitutional. *Brown vs. Board of Education* ruled that separate but equal was unconstitutional. School systems were required to take action to desegregate. Racial tension and busing issues created difficult challenges for school personnel and law enforcement. This case served as a powerful catalyst for future changes in public education that has led to equal opportunities for all under the law (Vescovi & Thomas, 2005).

According to Graham (2005), in 1954, Chief Justice Earl Warren addressed the court in *Brown v Board of Education*, saying:

>We conclude that in the field of public education the doctrine of “separate but equal” has no place. Separate educational facilities are inherently unequal. Therefore, we hold that the plaintiffs…are by reason of the segregation complained of, deprived of the equal protection of the laws guaranteed by the Fourteenth Amendment. (p. 127)

The Civil Rights Acts of 1964 and Title IX of 1972 were also designed to entitle equal opportunities for all regardless of race, national origin, color, religion, or gender. As reported by Goldstein, Gee, and Daniel (2000), Title IX of the Education Amendment of 1972 to the Civil Rights Act of 1964 stated: "No person in the United States shall, on basis of sex, be excluded from participation in or denied the benefits of or be subjected to discrimination under any educational program or activity receiving federal financial assistance" (p. 159).

Holding schools accountable for students' achievement progress had picked up momentum by the late 1960s (Saylor, 1981). The civil rights movement of the 1960s contributed to school reform that led to desegregation and Title I, the nation’s largest federal assistance program. Title I has supported programs in high-poverty schools intended to improve academic achievement in reading and mathematics of economically disadvantaged students. In 1965,
President Lyndon Johnson introduced the *Elementary Secondary Education Act* (ESEA) legislation making it a priority to address the needs of students from poverty (U.S. Department of Education, 2003). Title I of the *Elementary and Secondary Education Act* passed in 1965 was an important educational component of President Lyndon B. Johnson’s War on Poverty. Approximately one billion dollars was allocated to high poverty schools in the first year. More than $200 billion in federal dollars has been spent since the passage of the *Elementary and Secondary Education Act* now reauthorized as *No Child Left Behind* (U.S. Department of Education, 2003). Although the federal government has attempted to bridge the income gap for the past 40 years, the gap between rich and poor has persisted (Nelson, 2006). Title I has continued to allocate funds to 12,000 U. S. school districts in an attempt to improve academic achievement in mathematics and reading for disadvantaged students in collaboration with the *No Child Left Behind* Act's requirements. One premise of federal funding has been that high poverty schools lacked the ability to raise money through fundraising efforts. Schools that have at least 40% of their population receiving the free and reduced-cost meals program would qualify for Title I funding from the federal government. School-wide Title I programs might impact the entire student population not just the economically disadvantaged. Targeted assistance Title I schools have identified at-risk students and have used funds to provide individualized programs to assist those students with improving academic achievement in order to meet the state's standards. In addition, each district that received Title I funds must have spent at least 5% of its Title I allocation on professional development activities to help teachers become highly qualified (U.S. Department of Education, 2003).

The *No Child Left Behind* Initiative was by far the biggest federal education program dedicated from the start to closing the achievement gaps, mostly through the Title I program for low-income children (Jehlen, 2007). *No Child Left Behind* requires all states and school districts that receive Title I funds to participate in biennial mathematics and reading assessments in fourth and eighth grades conducted by The Nation’s Report Card (U. S. Department of Education, 2006). The Nation’s Report Card, also known as the national standard for educational
assessment, provides valuable information pertaining to students' performance for all 50 states; these data are then used to inform educators and policymakers. The National Assessment of Educational Progress (NAEP) has assessed what American students know and can demonstrate in reading, mathematics, science, social studies, and writing and it has served as a catalyst for educational measurement research since 1969 (Brandt 2000). The NAEP allowed a variety of testing accommodations for English language learners and students with disabilities (U. S. Department of Education 2006). As reported by Barton (2005), by comparing students in one grade with students in the same grade in prior years, NAEP has shown persistent minority achievement gaps for more than 3 decades. According to Barton, there were 14 factors that impacted the academic achievement of minority students. Six of the 14 factors affected achievement in school. These were:

1. the rigor of the curriculum,
2. the extent of teacher preparation in the subject matter being taught,
3. the amount of teachers’ experience,
4. class size,
5. the availability of technology–assisted instruction, and
6. safety in school. (p. 14)

Barton listed the other eight factors that affected achievement before and beyond school. These were:

1. parent participation,
2. how often students change schools,
3. weight at birth,
4. lead poisoning,
5. hunger and nutrition,
6. reading to young children,
7. excessive television watching, and
8. having two parents in the home. (p. 14)
As reported by Berliner and Biddle (1995), the 1966 Coleman Report commissioned by the National Center for Education Statistics (NCES) concluded that characteristics of students’ home backgrounds affected their achievement more than did school funding. These investigators wrote:

Schools bring little influence to bear on a child’s achievement that is independent of his background and general social context; and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. (p. 71)

The Coleman Report, as noted by Berliner and Biddle, revealed a strong relationship between poverty, background, and achievement.

In 1975, President Gerald Ford signed Public Law 94-142 (*Education of All Handicapped Children Act*), now called *Individuals with Disabilities Education Act* (IDEA). The intent of this historical legislation was to improve educational opportunities for disabled children by providing a free appropriate education in the “least restrictive environment” possible and an Individualized Education Program (IEP) for each student who qualified (McBrien & Brandt, 1997). Quality educational opportunities have improved for students with disabilities as a result of the passage of the Act and its subsequent amendments.

The *Individuals with Disabilities Education Improvement Act* (IDEA) was revised and passed in 1997 and revised again in November 2004. The purpose of IDEA was to protect students with disabilities by ensuring a free appropriate education that emphasized special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living (Baird, 2004). IDEA reinforced *No Child Left Behind’s* mandates for students with disabilities and made schools accountable for their educational success. According to Baird, the IDEA legislation assessment of students with disabilities included:

1. Performance Goals and Indicators- States must establish goals for the performance of children with disabilities that (a) are the same as the state’s definition of adequate
yearly progress; (b) address graduation rates and dropout rates; and (c) are consistent with any other goals and standards for children without disabilities.

2. Participation in Assessments- All children with disabilities must be included in all state and district-wide assessment programs, including assessments under NCLB, with “appropriate accommodations” and alternate assessments where necessary and as indicated in their respective IEPs.

3. Requirements for Alternate Assessments- Alternate assessments must (a) be aligned with the state’s challenging academic content standards and challenging student academic achievement standards and (b) measure the achievement of children with disabilities against any alternate academic achievement standards promulgated pursuant to NCLB.

4. Universal Design- Assessments must conform to universal design principles. (n. p.)

According to Hardman, Rosenberg, and Sindelar (2004), three waves of school reform began in the 1980s that led to the No Child Left Behind legislation. The first wave was A Nation at Risk. As reported by the National Commission on Excellence in Education in 1983, A Nation at Risk prompted educational reform that called for restructuring of American public schools. The Reagan administration endorsed the report that alluded to numerous failures and shortcomings of U.S. public schools especially in the area of academic achievement. This report alleged that students in the United States were falling behind students of other countries thus endangering national prosperity and even national security (Owens, 2004.) According to Archived: A Nation at Risk (2006):

The evidence supporting these findings was not found in the document that read Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that undergirds American prosperity, security, and civility. We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people. (n. p.)
Six years later, Governors across the nation attended a national summit to develop a reform framework derived from recommendations provided by the *Nation at Risk* report. The Goals 2000 Act was enacted by congress during the Clinton Administration and it mandated accountability in the form of state developed curriculum standards and assessments (Hardman et al., 2004). Legislation in the 1990s has led to the *No Child Left Behind Act* of 2001.

The *No Child Left Behind Act*

The Bush administration has continued its focus on standards-based instruction and standardized testing school reform with the passage of the *No Child Left Behind Act* of 2001 (Owens, 2004). President George W. Bush noted, “Too many children are segregated in schools without standards, shuffled from grade to grade. This is discrimination, pure and simple-the soft bigotry of low expectations” (Tennessee Department of Education, 2005, p. 3).

The *No Child Left Behind Act* of 2001 was passed and signed by President George W. Bush on January 8, 2002. The federal legislation known as the “cornerstone of George W. Bush’s administration” has become a driving force in establishing state standards and accountability for results. The law dramatically changed schools’ operating procedures and spending priorities by proposing provisions that affect staff development training, new programs, personnel, parental involvement, and research-based intervention strategies. According to the U.S. Department of Education (2003), the purpose of *No Child Left Behind* was to ensure that all children had a fair, equal, and significant opportunity to obtain a high-quality education by increasing accountability and improving teacher quality. As cited in Wright and Horn (1997), Sanders and his colleagues, after extensive research of analyzed test data of more than 100,000 students, concluded:

. . . . [T]he most important factor affecting student learning is the teacher. In addition, the results show wide variation in effectiveness among teachers. The immediate and clear implication of this finding is that seemingly more can be done to improve education by improving the effectiveness of teachers than by any other single factor. Effective teachers appear to be effective with students of all achievement levels, regardless of the
level of heterogeneity in their classrooms. If the teacher is ineffective, students under the teacher’s tutelage will show inadequate progress academically regardless of how similar or different they are regarding their academic achievement. (p. 63)

According to former U. S. Secretary of Education, Rod Paige, “Under No Child Left Behind, our nation made a commitment to ensuring that every student has a great teacher. These new policies will help us keep that promise so that every child can reach his or her potential” (U. S. Department of Education, 2003, p. 98). The U. S. Department of Education (2003) reported:

No Child Left Behind legislation maintains that teacher quality is a high priority by requiring all teachers to reach highly qualified status by the 2005-06 school year. The criteria for reaching highly-qualified status includes earning a bachelor’s degree, holding a state certificate and demonstrating competency on a state test. Experienced teachers were given a choice to take the state test or demonstrate competency through the “high, objective, uniform state standard of evaluation” (p. 21).

According to Hammond and Berry (2006), studies have shown that well-prepared and well-supported teachers are important for all students especially those students with greater needs.

No Child Left Behind requires that students in grades three through eight are tested each year and schools are expected to show adequate yearly progress in each subgroup and grade. All students in all subgroups including special education, economically disadvantaged, ethnicity, and English-language learners are expected to be proficient in reading, mathematics, and science by 2014 (U.S. Department of Education, 2003).

According to the U.S. Department of Education (2003), the No Child Left Behind Act contains four components: accountability for results, an emphasis on doing what works based on scientific research, expanded parental options, and expanded local control and flexibility. Schools are held accountable for reaching adequate yearly progress based on state-developed standards. Schools not meeting adequate yearly progress for 2 consecutive years are identified as schools “in need of improvement.” These schools must develop an improvement plan to address the areas in need of improvement. The plan must incorporate the implementation of research-based teaching strategies and 10% of the school’s Title I funds must be used to improve teachers’ instructional skills. The No Child Left Behind Act proposed that annual high-stakes testing provide schools with the appropriate data to determine students’ strengths and
weaknesses. School districts are required to provide parents with detailed test reporting information. Under *No Child Left Behind*, parents are given the option to transfer their child to a different school if the current school is identified “in need of improvement.” Schools meeting accountability requirements are provided the flexibility of spending 50% of federal formula grant funds on resources and programs to meet specific school needs (U.S. Department of Education, 2003). As recorded by the U. S. Department of Education (2003), the goals of *No Child Left Behind* were:

1. all students will be proficient in reading and mathematics by 2014;
2. starting with 2014, all students will be proficient in reading by the end of third grade;
3. all ELL students will be proficient in English;
4. all teachers will achieve highly qualified status by 2006;
5. 100% of students will graduate from high school; and
6. all students will be educated in safe and drug free learning environments. (n. p.)

Headlam (2006) authored an article published in the Vermont *Rutland Herald* concluding that *No Child Left Behind* requirements might have been compromising children’s education. Headlam reported that, Rapp, an associate professor of educational studies at the Massachusetts College of Liberal Arts, conducted a study in which 216 Vermont teachers responded to an electronic questionnaire about *No Child Left Behind*. The findings revealed that those teachers’ perceptions found the *No Child Left Behind* requirements to be ineffective. Of the teachers surveyed, 83% reported that *No Child Left Behind* requirements had a negative effect on education and 80% indicated that the requirements did not address students' needs. A high percentage of the teachers surveyed reported that *No Child Left Behind* had created a stressful learning environment for students and teachers. Of the teachers surveyed, 90% said that Vermont’s commissioner of education was “inaccurate” in reporting that the *No Child Left Behind* legislation had no detrimental effect on teaching and learning in Vermont’s schools.

As reported by Noddings (2005), *No Child Left Behind* legislation was distorting learning into test preparation and working against the development of intellectual habits, critical thinking,
and the joy of learning. Some experts have also argued that No Child Left Behind's mandates have forced teachers to focus primarily on high-stakes testing rather than on enhancing learning and providing rich educational experiences that prepare students to become active citizens in society (Noddings). According to Casbarro (2004), higher and more rigorous standards increase accountability; with greater accountability comes more tests; and, with more testing comes increased anxiety. “By raising the bar, we have created one of the most stress-filled learning environments in history” (Casbarro, p. 37).

According to the U.S. Department of Education (2003), the importance of state assessments is to measure student learning. School systems must continue to measure growth in students' achievement and use the results to modify instructional methods to meet the needs of every child.

According to Haycock (2006), proponents of high stakes testing believed that No Child Left Behind had focused more attention on improving academic achievement for economically disadvantaged students, minorities, English language learners, and students with disabilities more than at any other time in the last 2 decades.

**Standardized Testing in Tennessee**

The state of Tennessee has used the Tennessee Comprehensive Assessment program (TCAP) to measure students' achievement since 1989. The TCAP test currently has evaluated students, teachers, and schools based on No Child Left Behind accountability standards. The TCAP achievement test is a timed multiple-choice criterion-referenced test that measures skills in reading, language arts, math, science, and social studies that are directly linked to state standards (Tennessee Department of Education, 2006). Each spring, thousands of Tennessee students in grades three through eight take the TCAP Achievement test. Recent federal regulations have required that district and state assessment programs include all students in all subgroups (Asp, 2000). English-language learners who have attended school in the United States for 3 consecutive years must take reading assessments written in English. A variety of
accommodations has been allowed to address the needs of English language learners and students with disabilities. The TCAP achievement test has provided criterion-referenced performance information for grades three through eight. The results of the TCAP tests have been reported to parents, teachers, and administrators and these results are used by teachers and administrators to address the instructional needs of Tennessee's students (Tennessee Department of Education, 2006).

The state of Tennessee has developed a Tennessee Accountability Plan to hold kindergarten- through eighth-grade schools accountable for results. Ninety-five percent of students must be tested and reach 83% proficiency in reading, language, and writing and 79% proficiency in mathematics. Schools must maintain a 93% attendance rate or show improvement. A 95% confidence interval has been applied to determine if targets are met (Winstead, 2006).

Value-Added Assessment in Tennessee

The Tennessee Value-Added Assessment System (TVAAS) was implemented in Tennessee in 1992 as an important component of a comprehensive education reform method that measured teaching and learning (Center for Greater Philadelphia, 2004). Sanders, a former University of Tennessee professor, developed the statistical measurement tool for the state of Tennessee under former Governor Lamar Alexander in an effort to hold educators and schools accountable for student learning. The measurement system pioneered by Tennessee has allowed researchers to make predictions using students’ test data to determine the amount of growth students achieve in a school year. Individual students have been tracked over time and value-added measures the impact of instruction on students' learning and growth. The TVAAS has used scale score data collected over time to develop a profile of academic growth for each student (Holloway 2000).

School leaders might find value-added assessment helpful for making important decisions concerning personnel assignments, student placement, resource allocation, and staff development.
training. This diagnostic tool could help states and school districts to design comprehensive accountability systems that could assess the impact those particular kinds of teaching, curriculum, and professional development have had on academic achievement (Hershberg, 2004b.) The value-added model has provided evidence to suggest that the difference in individual classroom teacher’s effectiveness was the largest factor impacting student academic growth (Holloway, 2000). In a Tennessee study conducted by Sanders and Rivers (1996), students having effective teachers for 3 consecutive years scored 50 percentage points higher on a math test than did those students whose teachers were ineffective. According to Sanders and his colleagues (as cited in Wright & Horn, 1997), classroom teachers have had a profound effect on students' academic achievement.

The primary purpose of TVAAS has been to satisfy the accountability requirements of the Tennessee Education Improvement Act by providing information on the extent to which teachers, schools, and school systems have facilitated learning gains for students as predicted by the previous 3-year period (Tucker & Stronge, 2005). Basic information provided by TVAAS by the Tennessee Department of Education (2005) is presented as follows:

Student Level:
1. gains for each subject for the 3 most recent years,
2. 3-year average gains, and
3. comparison of gains to averaged for the school, school district, state, and nation.

Teacher Level:
1. average gains of students in each subject and grade level taught by the teacher in the 3 most recent years,
2. average gains of students in the school district in each subject and grade level during the current year, and
3. comparison of average gains to those for the school district, state, and nation.

According to Hershberg (2004b), value-added assessment offered two important benefits in the era of NCLB. It has given educators an opportunity to improve classroom instruction and
it has provided a way to measure school performance. As reported by Brandt (2000), a value-added approach might be the fairest way to compare the effects of schools and teachers on students' academic achievement.

The Role of the Principal

"Where there is no vision, the people perish" (Proverbs 29:18, King James Version).

According to Marzano, Waters, and McNulty (2005), the concept of leadership dated back to antiquity and was vital to the successful functioning of many aspects of a school. There appeared to be a correlation between the positive characteristics and behaviors of effective principals and student achievement.

Principals need to have high expectations and a compelling vision to lead their faculties in the challenging 21st century. According to Covey (2004), a visionary leader would know how to articulate a clear vision that engages people’s hearts, emotions, and passions and enables them to contribute to the realization of the vision. An effective leader also would have a clear picture of meaningful purpose and a sense of direction. A leader with vision would recruit others and implement plans to move forward together to attain the desirable outcome and results (Covey).

The emphasis on standardized testing has created complicated accountability implications for 21st century educational leaders in the United States. The impact of the current educational reform has presented a challenging balancing act for principals. They must take a proactive rather than a reactive approach to standardized testing by attending to accountability issues and at the same time provide a quality educational program that would address societal needs and the student needs of minorities, the economically disadvantaged, English-language learners, and students with disabilities as well. The accountability burden would fall primarily on the principal. Principals need to hold high expectations for teaching, learning, and school improvement by focusing on state standards and using test data to provide intervention programs and staff development opportunities that support such goals. Dedicated principals are vital for the success of schools. For this reason, principals might need to define their own behaviors,
beliefs, and deep-rooted values and keep current political school reform into perspective in order to do what is best for all students (Whitaker, 2003).

Whitaker (2003) noted in *What Great Principals Do Differently* that effective principals did not let hot-button issues shift their focus from what really matters and they did not let standardized tests take over the entire school. Rather, they focused on the behaviors that lead to success. According to Whitaker, effective educational instructional leaders have used state standards and test results to make informed decisions for improving student learning but they have also believed that social skills, self-worth, responsibility, and behavior were important components of student achievement.

According to Blanchard (1999), an effective leader made it a priority to make sure people knew what their goals were and did everything possible to support, encourage, and coach them to accomplish those goals in order to produce the desired results. Fullan (2001) pointed out that principals of the future must be able to handle a rapidly changing environment and see the big picture in order to sustain improvement in student academic achievement.

During an ETSU leadership lecture, Dr. Paul Houston (personal communication, April 14, 2005) stressed the importance of leading from side to side rather than from top to bottom because, as he explained, power was in working with people and understanding the connection. He discussed three elements of school. The first element was creating support around the students and their families to assist in getting students ready for school. School systems need to do a better job of this. Secondly, Houston stressed the importance of personalizing education to make it more meaningful and engaging. Differentiating instruction is a major piece of this element. The third element of education Houston stressed was citizenship. Houston alluded to the notion that school reform has been headed in the wrong direction with *No Child Left Behind* legislation. He stated that schools were better today than ever before despite the deteriorating family structure. Houston said, “There is a bright future ahead with the millennial generation because they are smarter, more tolerant, global and compassionate” (personal communication, April 14, 2005, n. p.).
Bennis (2003) in *On Becoming a Leader* identified four characteristics necessary for effective leadership. The first characteristic was the ability to develop a shared vision. Second, effective leaders must be able to use a confident voice to communicate a sense of purpose. Third, leaders must maintain and operate from a moral code. Finally, Bennis reported that adaptive capacity was an essential competence for today’s leaders. Bennis described adaptive capacity as the ability to respond quickly and intelligently to relentless change. The current situation has provided ample opportunities for principals to demonstrate their abilities to adapt to change by discovering creative ways to embrace it. "In the middle of difficulty lies opportunity" (Einstein as cited in Fleck, 2005, p. 121). Spellings (2005), the Secretary of Education said, “Smart administrators know that the best way to get results is to have a well-rounded curriculum and to keep their students engaged” (p. 34).

A 1977 senate committee report on Equal Educational Opportunity, U.S. Congress, 1970, (Marzano et al., 2005) identified the principal as being the single most influential person in school. According to Marzano et al., the report concluded:

In many ways, the school principal is the most important and influential individual in any school. He or she is the person responsible for all activities that occur in and around the school building. It is the principal’s leadership that sets the tone of the school, the climate for teaching, the level of professionalism and morale of teachers, and degree of concern for what students may or may not become. The principal is the main link between community and the school, and the way he or she performs in this capacity largely determines the attitudes of parents and students about the school. If the school is a vibrant, innovative, child-centered place, if it has a reputation for excellence in teaching, if students are performing to the best of their ability, one can almost always point to the principal’s leadership as the key to success. (p. 56)

As shown in Table 3, Marzano et al. (2005) identified 21 responsibilities of the school leader that correlated with student achievement:
<table>
<thead>
<tr>
<th>Responsibility</th>
<th>The Extent to Which the Principal…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Affirmation</td>
<td>Recognizes and celebrates accomplishments and acknowledges failures</td>
</tr>
<tr>
<td>2. Change Agent</td>
<td>Is willing to challenge and actively challenges the status quo</td>
</tr>
<tr>
<td>3. Contingent Rewards</td>
<td>Recognizes and rewards individual accomplishments</td>
</tr>
<tr>
<td>4. Communication</td>
<td>Establishes strong lines of communication with and among teachers and students</td>
</tr>
<tr>
<td>5. Culture</td>
<td>Fosters shared beliefs and a sense of community and cooperation</td>
</tr>
<tr>
<td>6. Discipline</td>
<td>Protects teachers from issues and influences that would detract from their teaching time or focus</td>
</tr>
<tr>
<td>7. Flexibility</td>
<td>Adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent</td>
</tr>
<tr>
<td>8. Focus</td>
<td>Establishes clear goals and keeps those goals in the forefront of the school’s attention</td>
</tr>
<tr>
<td>9. Ideals/Beliefs</td>
<td>Communicates and operates from strong ideals and beliefs about schooling</td>
</tr>
<tr>
<td>10. Input</td>
<td>Involves teachers in the design and implementation of important decisions and policies</td>
</tr>
<tr>
<td>11. Intellectual Stimulation</td>
<td>Ensures faculty and staff are aware of the most current theories and practices and makes the discussion of these a regular aspect of the school’s culture</td>
</tr>
<tr>
<td>12. Involvement in Curriculum, Instruction, and Assessment</td>
<td>Is directly involved in the design and implementation of curriculum, instruction, and assessment practices</td>
</tr>
<tr>
<td>13. Knowledge of Curriculum, Instruction, and Assessment</td>
<td>Is knowledgeable about current curriculum, instruction, and assessment practices</td>
</tr>
</tbody>
</table>
The recent emphasis on standardized testing has placed principals in the forefront of the accountability for results movement. The challenging demands for improved academic achievement falls on principals to lead their schools toward meeting the current mandates and reaching successful academic improvement. Cotton’s (2003) research on what successful principals did to improve academic achievement was summarized into five categories in the preface of her publication, *Principals and Student Achievement: What the research Says*.

Cotton's first category of behavior was establishing a clear focus on student learning, including having a vision, clear learning goals, and high expectations for learning for all students. The second category was interactions and relationships. This category included behaviors such as communication and interaction, emotional-interpersonal support, visibility and accessibility, and parent-community outreach and involvement. The third category was school culture that
included behaviors such as shared leadership-decision making, collaboration, support of risk taking, and continuous improvement. The fourth category was instruction that included such behaviors as discussing instructional issues, observing classrooms, providing feedback, supporting teacher autonomy, and protecting instructional time. The final category related to accountability that included monitoring progress and using student data for program improvement (Cotton).

The Interstate School Leaders Licensure Consortium (as cited in Owens, 2004) published six standards for school leaders in 1996. According to Owens, the following standards represent what school leaders should know and be able to do:

1. A school administrator is an educational leader who promotes success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.

2. A school administrator is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and an instructional program conducive to student learning and staff professional growth.

3. A school administrator is an educational leader who promotes success of all students by ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.

4. A school administrator is an educational leader who promotes success of all students by collaborating with families and community members, responding to diverse community interests and needs, and mobilizing resources.

5. A school administrator is an educational leader who promotes success of all students by acting with integrity, with fairness, and in an ethical manner.

6. A school administrator is an educational leader who promotes success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context. (p. 30)
Protheroe (2005) listed seven crucial leadership elements that, according to the Educational Research Service, principals should focus their attention on in order to effect change in their schools. These seven crucial leadership elements were:

1. Values: Principals should commit the school only to changes that fit with its values and sense of purpose.
2. Vision: Principals should prioritize the school’s goals and plan a few improvements at a time.
3. Collaboration: Principals should foster a cooperative spirit among staff members.
4. Communication: Principals should foster effective communication among participants.
5. Encouragement: Principals should take time to address anxieties about change.
6. Time: Principals should understand that change takes time. Commitment is important for improvement to occur.
7. Evaluation: Principals should provide continuous feedback. (pp. 55-56)

The recent challenges in today’s schools have forced the principal to move from fulfilling many roles to working within a set of interrelated responsibilities (Craig, Butler, & True, 2006). According to Craig et al., the frameworks of interrelated responsibilities were:

1. regularly recognize, affirm, and celebrate accomplishments;
2. act as an agent for change in order to improve practice;
3. establish lines of communication with all stakeholders within the learning community;
4. encourage a sense of community, celebrate diversity, and foster shared beliefs;
5. establish clear goals and keep them at the forefront;
6. communicate and dialog about beliefs regarding teaching and learning;
7. encourage intellectual stimulation by ensuring that all faculty members are kept aware of current theories and practices;
8. involve all stakeholders in the design and implementation of school practices and policies;
9. become directly involved with curriculum design, instruction, and assessment practices;
10. maintain a high degree of awareness regarding current curriculum and assessment practices and share this awareness with all stakeholders;
11. inspire and lead new and challenging innovations; and
12. become an advocate of the members of the community of learners. (p. 14)

The responsibility of meeting accountability requirements and improving students' academic achievement in a rapidly changing society has created serious implications for school leaders especially those of Title I schools. Closing the achievement gap without compromising quality teaching and rich learning experiences while addressing family and environmental factors that affect achievement has been the challenge for principals during the current school reform era. Principals will need to do more than perform as organizational managers or professionals who produce performance results. Principals will need to perform as community members and citizens who lead to serve and promote the good of all (Hargreaves & Fink, 2006). It appears that 21st century principals might be validating what Aristotle (384-322 B.C.) proposed long ago:

At present there are differences of opinion…for all peoples do not agree as to the things that the young ought to learn, either with a view to virtue or with a view to the best life, nor is it clear whether their studies should be regulated more with regard to intellect or with regard to character. (as cited in Howe, 2003, p. 96.)
CHAPTER 3
RESEARCH METHODOLOGY

Introduction

The purpose of this study was to investigate kindergarten- through 12th-grade principals’ perceptions of standardized testing. A survey instrument was used to gather data from principals of Title I and nonTitle I schools in eight rural East Tennessee school systems.

Chapter 3 details the methodology and procedures that were used in this research study. This chapter is organized into the following sections: population of the study, research design, data collection, data analysis, and the summary.

Population

The participants chosen for this study consisted of 91 kindergarten- through 12th-grade principals of Title I and nonTitle I schools located in eight rural East Tennessee school systems. The researcher used a purposeful sample. The eight East Tennessee school systems included in this study were: Blount County, Cocke County, Grainger County, Greene County, Hamblen County, Jefferson County, Monroe County, and Sevier County.

Research Design

This was a quantitative study designed to determine principals’ perceptions of standardized testing. Descriptive and inferential statistics were used to evaluate the research questions.

This study was conducted using a survey instrument to collect data from a chosen population. The data analysis allowed the researcher to determine whether a difference in perceptions could be identified among school principals in each of the following subcategories: Title I or nonTitle I, gender, highest degree earned, and years of experience.
Data Collection

Data for this study came from the use of a survey instrument (see Appendix A). Creswell (2003) noted, “A survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying that population” (p. 153). The survey was used to gather data to determine kindergarten- through 12th-grade principals’ perceptions regarding standardized testing.

A pilot study of the survey instrument was administered to 25 East Tennessee University principal-in-training students. Face validity was tested by asking this group of respondents to mark items that seemed irrelevant for a survey of principals’ opinions of standardized testing. A review of the comments confirmed that the survey instrument and each item were appropriate for this survey. Respondents were also asked to mark items that were unclear or ambiguous as a means of increasing the reliability of the instrument.

After receiving IRB approval, the researcher sent a cover letter (see Appendix B) and a copy of the survey instrument to each director of schools of the eight selected school systems requesting permission to conduct the research study. Upon approval, the researcher presented a letter of explanation (see Appendix C) and a copy of the survey to principals during a monthly school system meeting. The researcher collected the completed surveys in a timely manner. Some surveys were mailed to principals at the director’s request. According to Creswell (2003), the advantage of using a survey is the economy of the design and the rapid turnaround in data collection.

Data Analysis

Descriptive and inferential statistics were used to analyze the data. The data were analyzed by using the Statistical Package for the Social Sciences (SPSS).

There were four predictor (independent) variables in this study. Title I status of the school was measured: (a) Title I school and (b) nonTitle I school. The three remaining predictor
variables were gender, highest degree earned by principals (master’s, specialist, and doctorate), and years of experience in current position (1–6 years, 7–14 years, and 15–39 years).

Factor analysis using principle component analysis with varimax rotation was used to determine the criterion (dependent) variables in this study. Specifically, a factor analysis of survey items (16 - 40) was conducted. The factor loadings showed there were five dimensions in the data: (a) general impact–accountability (items # 17, 23, 24, 27, 28, 36 and 40); (b) validity of test (items # 31, 32, 37 and 38); (c) use in individualizing instruction (items # 16, 18, and 22); (d) impact on curriculum (items # 30, 33 and 35) and (e) stress related to testing (items # 25, 26 and 34). For each dimension, a new criterion (dependent) variable was created by calculating the mean of items that loaded on a given factor.

Cronbach alpha for each of the five dimensions is shown in Table 4. The alpha coefficients for use in individualized instruction and impact on curriculum were slightly lower than .70, which, as a general rule of thumb, is considered acceptable. Each of these dimensions consisted of three items. Cronbach alpha is, in part, affected by the number of items: When other things are equal, alpha increases as the number of items increases. According to Carmines and Zeller (1985), “In sum, the addition of more items to a scale that do not result in a reduction in the average interitem correlation will increase the reliability of one’s measuring instrument” (p. 46). Because these two dimensions consisted of only three items and the alpha coefficients were only slightly below what is considered acceptable, I felt the use of these dimensions was justified.
Table 4

*Cronbach Alpha Reliability Coefficients for the Five Dimensions*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Impact - Accountability</td>
<td>.83</td>
</tr>
<tr>
<td>Validity of Test</td>
<td>.75</td>
</tr>
<tr>
<td>Use in Individualized Instruction</td>
<td>.68</td>
</tr>
<tr>
<td>Impact on Curriculum</td>
<td>.67</td>
</tr>
<tr>
<td>Stress Related to Testing</td>
<td>.72</td>
</tr>
</tbody>
</table>

*Research Questions and Hypotheses*

Research Question # 1: For items # 16 through #40 of the Standardized Testing Opinion Survey, were there differences in the percentage of principals who indicated they strongly disagreed, disagreed, or were neutral to each statement and the percentage of principals who stated they agreed or strongly agreed?

To answer this research question, a one-sample chi-square test was used to test the following null hypotheses stated in summary form:

\[ H_{01} - H_{0125} : \text{There is no difference in the percentage of principals who strongly disagreed, disagreed, or were neutral to the items and the percentage who agreed with the items.} \]

Research Question # 2: To what extent are there differences between the perceptions of principals of Title I schools and nonTitle I schools regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?
To answer this research question, a $t$ test for independent samples was used to test the following null hypotheses:

**Ho$_{21}$**: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

**Ho$_{22}$**: There are no differences between principals of Title I and nonTitle I schools and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

**Ho$_{23}$**: There are no differences between principals of Title I and nonTitle I schools and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

**Ho$_{24}$**: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

**Ho$_{25}$**: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

**Research Question # 3**: To what extent are there differences between female and male principals and their perceptions regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

To answer this research question, a $t$ test for independent samples was used to test the following null hypotheses:

**Ho$_{31}$**: There are no differences between female and male principals and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.
Ho32: There are no differences between female and male principals and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho33: There are no differences between female and male principals and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

Ho34: There are no differences between female and male principals and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho35: There are no differences between female and male principals and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

Research Question # 4: To what extent are there differences among the perceptions of principals with master’s, specialist, and doctorate degrees regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on curriculum, and (e) stress related to standardized testing?

To answer this research question, a one-way ANOVA was used to test the following null hypotheses:

Ho41: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

Ho42: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.
Ho43: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

Ho44: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho45: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

Research Question # 5: To what extent are there differences among the perceptions of principals in the three groups (1-6 years of experience, 7-14 years of experience, and 15-39 years of experience) regarding the five dimensions of standardized testing: (a) general-accountability; (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

To answer this research question, a one-way ANOVA was used to test the following null hypotheses:

Ho51: There are no differences among principals in the 3 years of experience groups and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

Ho52: There are no differences among principals in the 3 years of experience groups and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho53: There are no differences among principals in the 3 years of experience groups and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.
Ho$5_4$: There are no differences among principals in the 3 years of experience groups and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho$5_5$: There are no differences among principals in the 3 years of experience groups and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

**Summary**

Chapter 3 outlined the population, research design, method of data collection, and the data analysis methods used for this study. This research study was based on a quantitative method designed to determine if there is a difference in kindergarten-through 12th-grade principals’ perceptions regarding their perceptions of standardized testing.
CHAPTER 4
DATA ANALYSIS

Introduction

Standardized testing continues to be a debated topic among policy makers and educators to decipher its value and specific purpose. School principals are faced with meeting challenging demands to raise test scores. The purpose of this study was to investigate kindergarten- through 12th-grade principals’ perceptions of standardized testing.

The population in this study was comprised of 91 kindergarten-through 12th-grade principals in eight rural East Tennessee school districts. Initially, 111 surveys were distributed to principals. Of those surveys, 91 were returned with a response rate of 82%. Chapter 4 focuses on the data collected from 91 principals of eight East Tennessee school systems.

This study was guided by five research questions. SPSS was used to perform data analysis to test 45 null hypotheses. There were four predictor (independent) variables in this study. Title I status of the school was measured: (a) Title I school and (b) nonTitle I school. The three remaining predictor variables were gender, highest degree earned by principals (master’s, specialist, and doctorate), and years of experience in current position (1 to 6 years, 7 to 14 years, and 15 to 39 years).

There were five criterion (dependent) variables in this study. These dependent variables, or dimensions of standardized testing, were the results of a principal component factor analysis with varimax rotation of 25 items on the survey instrument (items 16 through 40). The five dimensions that emerged from the factor analysis were: (a) general impact-accountability (items 17, 23, 24, 27, 28, 36, and 40); (b) validity of standardized tests (items 31, 32, 37, and 38); (c) use of standardized tests in individualizing instruction (items 16, 18, and 22); (d) impact on curriculum (items 30, 33, and 35); and (e) stress related to standardized testing (items 25, 26, and
34). Each of these dimensions was created by calculating the mean of the items that loaded on the dimension.

**Demographic Characteristics of Principals and Their Schools**

There were 39 (42.9%) female principals and 52 (57.1%) male principals who participated in this study. Of the participants, 44 (48.9%) held master’s degrees, whereas 34 (37.8%) had a specialist degree, and 12 (13.3%) held doctorates. Thirty principals (33%) had 1-6 years of experience as an administrator, whereas 32 (35.2%) had 7-14 years of experience, and 29 (31.9%) had between 15 and 39 years of experience.

Of the 91 principals in this study, 13 worked at schools that are not classified as either Title I or nonTitle I schools. Of the remaining 78, 56 (71.8%) were principals at Title I schools, whereas 22 (28.2%) were principals at nonTitle I schools. Of the 89 principals who answered the question about their school’s AYP standing, 84 (94.4%) were principals of schools in good standing whereas 5 (5.6%) were principals of schools not in good standing. Of the 80 principals who answered the question related to the percentage of their student population that participates in the free-and reduced-cost meals program, the mean was 59% with a standard deviation of 17.94.

Eighty-seven principals (95.6%) stated their students take practice tests in preparation for the standardized tests. Regarding the number of questions on most standardized tests, 21 principals (23.6%) said they felt there were too few questions on the test, 34 (38.2%) indicated the tests had the right number of questions, and 34 (38.2%) reported there were too many questions. When asked if there should be other forms of questions besides multiple choice, 52 (58.4%) indicated yes and 37 (41.6%) said no. Of the 52 principals who stated there should be other forms of the tests, Table 5 shows their recommendations for other forms of questions.
Table 5

Principals’ Recommendations for Other Forms of Questions on Standardized Tests

<table>
<thead>
<tr>
<th>Types of Questions</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Answer</td>
<td>38</td>
<td>73.1</td>
</tr>
<tr>
<td>Essay</td>
<td>30</td>
<td>57.7</td>
</tr>
<tr>
<td>Matching</td>
<td>28</td>
<td>53.8</td>
</tr>
<tr>
<td>Task Performance</td>
<td>28</td>
<td>53.8</td>
</tr>
<tr>
<td>Fill-in-Blank</td>
<td>22</td>
<td>42.3</td>
</tr>
<tr>
<td>True-False</td>
<td>15</td>
<td>28.8</td>
</tr>
<tr>
<td>Other Types</td>
<td>1</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Analysis of Research Questions

Research Question #1

For items #16 through #40 of the Standardized Testing Opinion Survey, were there differences in the percentage of principals who indicated they strongly disagreed, disagreed, or were neutral to each statement and the percentage of principals who stated they agreed or strongly agreed?

To answer this research question, the five point Likert-like scale response categories for items 16 through 40 were recoded into two categories: (a) strongly disagree, disagree, and neutral and (b) agree and strongly agree. The neutral response was combined with the disagreement categories because I was primarily interested in the percentage of principals who indicated agreement with each item. For each of the 25 items, a one-sample chi-square test was conducted. Stated in summary form, the null hypotheses were:
Ho11 – Ho125: There is no difference in the percentage of principals who strongly disagreed, disagreed, or were neutral to the items and the percentage who agreed with the items.

Of the 25 items, 14 were significant. Table 6 shows the frequency counts and percentages of those who disagreed or were neutral versus those who agreed for each of the 25 items. In addition, Table 6 includes the results of the one-sample chi-square test for each item.

Table 6

*Descriptive Statistics and Chi-Square Findings for Items in the Principal Standardized Testing Opinion Survey*

<table>
<thead>
<tr>
<th>Item</th>
<th>Disagreement Or Neutral</th>
<th>Disagreement Agreement</th>
<th>$X^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. Standardized test scores should be used for monitoring student achievement.</td>
<td>14 15.4</td>
<td>77 84.6</td>
<td>43.62</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>17. Standardized test scores should be used as an accountability measure when reporting to parents</td>
<td>32 35.2</td>
<td>59 64.8</td>
<td>8.01</td>
<td>1</td>
<td>.005**</td>
</tr>
<tr>
<td>18. Standardized test scores should be used in individualizing instruction.</td>
<td>15 16.5</td>
<td>76 83.5</td>
<td>40.89</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>19. Standardized test scores should be used in assigning course grades.</td>
<td>66 72.5</td>
<td>25 27.5</td>
<td>18.47</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>20. Standardized test scores should be used to evaluate teaching effectiveness.</td>
<td>45 49.5</td>
<td>46 50.5</td>
<td>.01</td>
<td>1</td>
<td>.917</td>
</tr>
<tr>
<td>21. Standardized test scores should be used to assign remedial activities.</td>
<td>27 30.0</td>
<td>63 70.0</td>
<td>14.40</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Disagreement</th>
<th>Or Neutral</th>
<th>Agreement</th>
<th>$X^2$</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Standardized test scores should be used to identify the needs of exceptional children.</td>
<td></td>
<td>30 33.3</td>
<td>60 66.7</td>
<td>10.00</td>
<td>1</td>
<td>.002**</td>
</tr>
<tr>
<td>23. Tests have positive impact on student learning</td>
<td></td>
<td>51 56.0</td>
<td>40 44.0</td>
<td>1.33</td>
<td>1</td>
<td>.249</td>
</tr>
<tr>
<td>24. Tests have positive impact on teaching</td>
<td></td>
<td>50 54.9</td>
<td>41 45.1</td>
<td>.89</td>
<td>1</td>
<td>.345</td>
</tr>
<tr>
<td>25. My students feel overly stressed by standardized tests</td>
<td></td>
<td>43 47.8</td>
<td>47 52.2</td>
<td>.18</td>
<td>1</td>
<td>.673</td>
</tr>
<tr>
<td>26. As a principal, I feel overly stressed by standardized tests.</td>
<td></td>
<td>46 51.1</td>
<td>44 48.9</td>
<td>.04</td>
<td>1</td>
<td>.833</td>
</tr>
<tr>
<td>27. The majority of teachers in my school are supportive of standardized tests.</td>
<td></td>
<td>56 62.2</td>
<td>34 37.8</td>
<td>5.38</td>
<td>1</td>
<td>.020**</td>
</tr>
<tr>
<td>28. Standardized tests are fair for all ethnic and racial groups.</td>
<td></td>
<td>76 84.4</td>
<td>14 15.6</td>
<td>42.71</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>29. Knowing a child’s test scores can bias a teacher toward that child before they are in the class.</td>
<td></td>
<td>29 32.2</td>
<td>61 67.8</td>
<td>11.38</td>
<td>1</td>
<td>.001**</td>
</tr>
<tr>
<td>30. Scores from standardized tests help teachers better know what to teach their students.</td>
<td></td>
<td>21 23.1</td>
<td>70 76.9</td>
<td>26.39</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>31. Standardized tests generally measure what they are intended to measure.</td>
<td></td>
<td>47 52.2</td>
<td>43 47.8</td>
<td>.18</td>
<td>1</td>
<td>.673</td>
</tr>
</tbody>
</table>
Table 6 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Disagreement</th>
<th>Or Neutral</th>
<th>Agreement</th>
<th>$X^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. The content covered on standardized tests is reasonable for each grade level.</td>
<td></td>
<td>40 44.4</td>
<td>50 55.6</td>
<td>1.11</td>
<td>1</td>
<td>.292</td>
</tr>
<tr>
<td>33. Standardized tests have an important place in the school curriculum.</td>
<td></td>
<td>30 33.3</td>
<td>60 66.7</td>
<td>10.00</td>
<td>1</td>
<td>.002**</td>
</tr>
<tr>
<td>34. My school system puts too much emphasis on standardized test scores.</td>
<td></td>
<td>59 65.6</td>
<td>31 34.4</td>
<td>8.71</td>
<td>1</td>
<td>.003**</td>
</tr>
<tr>
<td>35. I have used standardized test scores to improve my school.</td>
<td></td>
<td>11 12.2</td>
<td>79 87.8</td>
<td>51.38</td>
<td>1</td>
<td>&lt;.001**</td>
</tr>
<tr>
<td>36. Standardized tests are an appropriate tool to address accountability issues in education.</td>
<td></td>
<td>39 43.3</td>
<td>51 56.7</td>
<td>1.60</td>
<td>1</td>
<td>.206</td>
</tr>
<tr>
<td>37. Students, in general, do their best on standardized tests.</td>
<td></td>
<td>49 54.4</td>
<td>41 45.6</td>
<td>.71</td>
<td>1</td>
<td>.399</td>
</tr>
<tr>
<td>38. Standardized tests measure what students have learned.</td>
<td></td>
<td>54 60.0</td>
<td>36 40.0</td>
<td>3.60</td>
<td>1</td>
<td>.058</td>
</tr>
<tr>
<td>39. Standardized test accountability has caused my school to reach goals that otherwise would not have been attained</td>
<td></td>
<td>55 61.1</td>
<td>35 38.9</td>
<td>4.44</td>
<td>1</td>
<td>.035*</td>
</tr>
<tr>
<td>40. Standardized testing has improved education in the last 5 years</td>
<td></td>
<td>53 58.2</td>
<td>38 41.8</td>
<td>2.47</td>
<td>1</td>
<td>.116</td>
</tr>
</tbody>
</table>

* Significant at the .05 level  
** Significant at the .01 level or less
There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used for monitoring student achievement,” $\chi^2 (1) = 43.62, p < .001$. Only 14 principals (15.4%) disagreed or were neutral about the statement whereas 77 (84.6%) agreed that standardized tests should be used to monitor student achievement.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used as an accountability measure when reporting to parents,” $\chi^2 (1) = 8.01, p = .005$. Thirty-two principals (35.2%) disagreed or were neutral regarding the statement whereas 59 (64.8%) agreed that standardized tests scores should be used as an accountability measure when reporting to parents.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used in individualizing instruction,” $\chi^2 (1) = 40.89, p < .001$. Only 15 principals (16.5%) disagreed or were neutral regarding the statement whereas 76 (83.5%) agreed that standardized test scores should be used in individualizing instruction.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used in assigning course grades,” $\chi^2 (1) = 18.47, p < .001$. Sixty-six principals (72.5%) disagreed or were neutral regarding the statement whereas 25 (27.5%) agreed that standardized test scores should be used in assigning course grades.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used to assign remedial activities,” $\chi^2 (1) = 14.40, p < .001$. Only 27 principals (30%) disagreed or were neutral regarding the statement whereas 63 (70%) agreed that standardized test scores should be used to assign remedial activities.
There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test scores should be used to identify the needs of exceptional children,” $\chi^2 (1) = 10.00, p = .002$. Thirty principals (33.3%) disagreed or were neutral regarding the statement whereas 60 (66.7%) agreed that standardized test scores should be used to identify the needs of exceptional children.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “The majority of teachers in my school are supportive of standardized tests,” $\chi^2 (1) = 5.38, p = .020$. Fifty-six principals (62.2%) disagreed or were neutral regarding the statement whereas 34 (37.8%) agreed that the majority of teachers in their schools are supportive of standardized tests.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized tests are fair for all ethnic and racial groups,” $\chi^2 (1) = 42.71, p < .001$. Seventy-six principals (84.4%) disagreed or were neutral regarding the statement whereas 14 (15.6%) agreed that standardized tests are fair for all ethnic and racial groups.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Knowing a child’s test scores can bias a teacher toward that child before they are in class,” $\chi^2 (1) = 11.38, p = .001$. Only 29 principals (32.2%) disagreed or were neutral regarding the statement whereas 61 (67.8%) agreed that knowing a child’s test scores could bias a teacher toward that child before they are in class.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Scores from standardized tests help teachers better know what to teach their students,” $\chi^2 (1) = 26.39, p < .001$. Only 21 principals (23.1%) disagreed or were neutral regarding the statement whereas 70 (76.9%) agreed that scores from standardized tests help teachers better know what to teach their students.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized tests have an
important place in the school curriculum,” \( \chi^2 (1) = 10.00, p = .002 \). Only 30 principals (33.3%) disagreed or were neutral regarding the statement whereas 60 (66.7%) agreed that standardized tests have an important place in the school curriculum.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “My school system puts too much emphasis on standardized test scores,” \( \chi^2 (1) = 8.71, p = .003 \). Fifty-nine principals (65.6%) disagreed or were neutral regarding the statement whereas 31 (34.4%) agreed that their school systems put too much emphasis on standardized test scores.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “I have used standardized test scores to improve my school,” \( \chi^2 (1) = 51.38, p < .001 \). Only 11 principals (12.2%) disagreed or were neutral regarding the statement whereas 79 (87.8%) agreed that they have used standardized test scores to improve their schools.

There was a significant difference between the percentage of principals who disagreed or were neutral and the percentage who agreed with the statement, “Standardized test accountability has caused my school to reach goals that otherwise would not have been attained,” \( \chi^2 (1) = 4.44, p = .035 \). Fifty-five principals (61.1%) disagreed or were neutral regarding the statement whereas 35 (38.9%) agreed that standardized test accountability has caused their schools to reach goals that otherwise would not have been attained.

The remaining items showed no significant difference between principals who were neutral or disagreed with the items versus those who agreed. In fact, principals were evenly split in their opinions with regard to: (a) the use of standardized test scores to evaluate teaching effectiveness, (b) their students feeling overly stressed by standardized tests, (c) principals feeling overly stressed by the tests, and (d) that standardized tests measure what they are intended to measure.

Likewise, although the findings were not statistically significant, it is interesting to note that 44% agreed that standardized tests have a positive impact on student learning, and 45.1%
agreed the tests have a positive impact on teaching. In that same vein, 40% agreed that the tests measure what students have learned and 45.6% agreed students do their best on standardized tests. In addition, 41.8% agreed that standardized testing has improved education in the last 5 years.

Principals were somewhat more positive in their assessment that the content on standardized tests is reasonable for each grade level (55.6% agreed) and that standardized tests are an appropriate tool to address accountability issues (56.7% agreed).

Research Question #2
To what extent are there differences between the perceptions of principals of Title I schools and nonTitle I schools regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

To answer this research question, a t test for independent samples was used to test the following null hypotheses:

Ho21: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

Ho22: There are no differences between principals of Title I and nonTitle I schools and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho23: There are no differences between principals of Title I and nonTitle I schools and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.
Ho2₄: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho2₅: There are no differences between principals of Title I schools and nonTitle I schools and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

An independent samples \( t \) test was conducted to determine if there was a difference in the general impact-accountability mean scores of principals of Title I schools and nonTitle I schools. The independent variable, Title I status of the school, had two levels: Title I school and nonTitle I school. The dependent variable was principals’ perceptions of the general impact-accountability dimension of standardized tests. The \( t \) test was not significant, \( t (76) = .38, p = .708 \). The effect size as measured by \( \eta^2 \) was small (<.01). The mean for principals of Title I schools (\( M = 3.12, SD = .57 \)) was almost identical to the mean for principals of nonTitle I schools (\( M = 3.18, SD = .71 \)). The 95% confidence interval for the difference in means was -.37 to .25. Figure 2 shows the distribution of scores for the two groups.
An independent samples t test was conducted to determine if there was a difference in the validity of test mean scores of principals of Title I schools and nonTitle I schools. The independent variable, Title I status of the school, had two levels: Title I school and nonTitle I school. The dependent variable was principals’ perceptions of the validity of test dimension of standardized tests. The t test was not significant, t(76) = .66, p = .512. The effect size as measured by $\eta^2$ was small (<.01). The mean for principals of Title I schools ($M = 3.20$, $SD = .67$) was almost identical to the mean for principals of nonTitle I schools ($M = 3.31$, $SD = .65$). The 95% confidence interval for the difference in means was -.44 to .22. Figure 3 shows the distribution of scores for the two groups.
An independent samples $t$ test was conducted to determine if there was a difference in the use in individualized instruction mean scores of principals of Title I schools and nonTitle I schools. The independent variable, Title I status of the school, had two levels: Title I school and nonTitle I school. The dependent variable was principals’ perceptions of the use in individualized instruction dimension of standardized tests. The $t$ test was not significant, $t(76) = .18, p = .860$. The effect size as measured by $\eta^2$ was small ($< .01$). The mean for principals of Title I schools ($M = 3.76, SD = .57$) was almost identical to the mean for principals of nonTitle I schools ($M = 3.79, SD = .61$). The 95% confidence interval for the difference in means was -.32 to .27. Figure 4 shows the distribution of scores for the two groups.
An independent samples *t* test was conducted to determine if there was a difference in the impact on curriculum mean scores of principals of Title I and nonTitle I schools. The independent variable, Title I status of the school, had two levels: Title I school and nonTitle I school. The dependent variable was principals’ perceptions of the impact on curriculum dimension of standardized tests. The *t* test was not significant, *t* (76) = 1.37, *p* = .175. The effect size as measured by $\eta^2$ was small (< .02). The mean for the principals of Title I schools ($M = 3.80, SD = .46$) was only slightly higher than the mean for principals of nonTitle I schools ($M = 3.63, SD = .54$). The 95% confidence interval for the difference in means was -.08 to .41. Figure 5 shows the distribution of scores for the two groups.
An independent samples $t$ test was conducted to determine if there was a difference in the stress mean scores of principals of Title I schools and nonTitle I schools. The independent variable, Title I status of the school, had two levels: Title I school and nonTitle I school. The dependent variable was principals’ perceptions of the stress dimension of standardized tests. The $t$ test was not significant, $t(76) = 1.20, p = .233$. The effect size as measured by $\eta^2$ was small ($<.02$). The mean for principals of Title I schools ($M = 3.27, SD = .77$) was only slightly higher than the mean for principals of nonTitle I schools ($M = 3.03, SD = .84$). The 95% confidence interval for the difference in means was -.16 to .63. Figure 6 shows the distribution of scores for the two groups.
Figure 6. Boxplot for Stress by Title I Status of School

Research Question #3

To what extent are there differences between female and male principals and their perceptions regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

To answer this research question, a t test for independent samples was used to test the following null hypotheses:
Ho31: There are no differences between female and male principals and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

Ho32: There are no differences between female and male principals and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho33: There are no differences between female and male principals and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

Ho34: There are no differences between female and male principals and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho35: There are no differences between female and male principals and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

An independent samples $t$ test was conducted to determine if there is a difference in the general-accountability mean scores of female and male principals. The independent variable was gender. The dependent variable was principals’ perceptions of the general impact-accountability dimension of standardized tests. The $t$ test was not significant, $t (89) = .19, p = .848$. The effect size as measured by $\eta^2$ was small (<.01). The mean for female principals ($M = 3.13, SD = .68$) was almost identical to the mean for male principals ($M = 3.11, SD = .59$). The 95% confidence interval for the difference in means was -.24 to .29. Figure 7 shows the distribution of scores for the two groups.
An independent samples \( t \) test was conducted to evaluate whether there was a difference between female and male principals’ perceptions of the test validity of standardized tests. The independent variable was gender. The dependent variable was principals’ perceptions of the validity of standardized tests. Levene’s test for equality of variances showed that equal variances could not be assumed, \( F (1, 88) = 7.33, p = .008 \). Therefore, the \( t \) test that does not assume equal variances was used. The test was not significant, \( t (67) = 1.02, p = .312 \). The \( \eta^2 \) index was .01, which indicated a small effect size. The mean for female principals (\( M = 3.11, SD = .77 \)) was only slightly lower than the mean for male principals (\( M = 3.26, SD = .59 \)). The 95% confidence interval for the mean difference was -.45 to .15. Figure 8 shows the distribution of scores for female and male principals.

Figure 7. Boxplot for General Impact-Accountability by Gender
An independent samples *t* test was conducted to evaluate whether there was a difference between female and male principals’ perceptions of use in individualized instruction of standardized tests. The independent variable was gender. The dependent variable was principals’ perceptions of the use in individualized instruction of standardized tests. Levene’s test for equality of variances showed that equal variances could not be assumed, $F(1, 89) = 4.66$, $p = .03$. Therefore, the *t* test that does not assume equal variances was used. The test was not significant, $t(58) = .19$, $p = .851$. The $\eta^2$ index was .01, which indicated a small effect size. The mean for female principals ($M = 3.74$, $SD = .82$) was only slightly lower than the mean for male principals ($M = 3.77$, $SD = .49$). The 95% confidence interval for the mean difference was -.32 to .27. Figure 9 shows the distribution of scores for female and male principals.

*Figure 8. Boxplot for Validity of Test by Gender*
An independent samples $t$ test was conducted to determine if there was a difference in the impact on curriculum mean scores of female and male principals. The independent variable was gender. The dependent variable was principals’ perceptions of the impact on curriculum dimension of standardized tests. The $t$ test was not significant, $t(89) = .27, p = .792$. The effect size as measured by $\eta^2$ was small (< .01). The mean for female principals ($M = 3.76, SD = .57$) was almost identical to the mean for male principals ($M = 3.79, SD = .43$). The 95% confidence interval for the difference in means was -.24 to .18. Figure 10 shows the distribution of scores for the two groups.
An independent samples $t$ test was conducted to determine if there was a difference in the stress mean scores of female and male principals. The independent variable was gender. The dependent variable was principals’ perceptions of the stress dimension of standardized tests. The $t$ test was not significant, $t(88) = .85, p = .400$. The effect size as measured by $\eta^2$ was small ($< .01$). The mean for female principals ($M = 3.31, SD = .88$) was almost identical to the mean for male principals ($M = 3.17, SD = .72$). The 95% confidence interval for the difference in means was -.19 to .48. Figure 11 shows the distribution of scores for the two groups.
Research Question #4

To what extent are there differences among the perceptions of principals with master’s, specialist, and doctorate degrees regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on curriculum, and (e) stress related to standardized testing?

To answer this research question, a one-way ANOVA was used to test the following null hypotheses:

Ho41: There are no differences among principals with master's, specialist, and doctorate degrees and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.
Ho4₂: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho4₃: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

Ho4₄: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho4₅: There are no differences among principals with master’s, specialist, and doctorate degrees and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

A one-way analysis of variance was conducted to evaluate the difference among principals’ highest degree and mean scores on the general impact-accountability dimension. The independent variable, highest degree, had three levels: masters, specialist, and doctorate. The dependent variable was the standardized test general impact-accountability dimension. There was no significant difference in the means, $F(2, 87) = 1.87, p = .160$. The effect size, as measured by $\eta^2$, was small (.04). The findings indicate there is no difference in principals’ perceptions of standardized tests general impact-accountability based on principals’ highest degree. The means and standard deviations for degree types are reported in Table 7. The boxplot for general impact-accountability by highest degree is shown in Figure 12.
Table 7
Means and Standard Deviations for General Impact-Accountability by Highest Degree

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>44</td>
<td>3.01</td>
<td>.60</td>
</tr>
<tr>
<td>Specialist</td>
<td>34</td>
<td>3.28</td>
<td>.60</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>3.10</td>
<td>.78</td>
</tr>
</tbody>
</table>

Figure 12. Boxplot for General Impact-Accountability by Highest Degree

A one-way analysis of variance was conducted to evaluate the difference among principals’ highest degree and mean scores on the validity of test dimension. The independent variable, highest degree, had three levels: masters, specialist, and doctorate. The dependent variable was the standardized test validity dimension. There was no significant difference in the
means, $F (2, 87) = .05, p = .950$. The effect size, as measured by $\eta^2$ was small (.01). The findings indicate there is no difference in principals’ perceptions of standardized tests validity based on principals’ highest degree. The means and standard deviations for degree types are reported in Table 8. The boxplot for validity of test by highest degree is shown in Figure 13.

Table 8

Means and Standard Deviations for Validity of Test by Highest Degree

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>44</td>
<td>3.19</td>
<td>.65</td>
</tr>
<tr>
<td>Specialist</td>
<td>34</td>
<td>3.23</td>
<td>.70</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>3.17</td>
<td>.75</td>
</tr>
</tbody>
</table>

Figure 13. Boxplot for Validity of Test by Highest Degree
A one-way analysis of variance was conducted to evaluate the difference among principals’ highest degree and mean scores on the use in individualized instruction dimension. The independent variable, highest degree, had three levels: masters, specialist, and doctorate. The dependent variable was the standardized test use in individualized instruction dimension. There was no significant difference in means, $F(2, 87) = .71, p = .495$. The effect size, as measured by $\eta^2$, was small (.02). The findings indicate there is no difference in principals’ perceptions of standardized tests use in individualized instruction based on principals’ highest degree. The means and standard deviations for degree types are reported in Table 9. The boxplot for use in individualized instruction by highest degree is shown in Figure 14.

Table 9

*Means and Standard Deviations for Use in Individualized Instruction by Highest Degree*

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>44</td>
<td>3.70</td>
<td>.69</td>
</tr>
<tr>
<td>Specialist</td>
<td>34</td>
<td>3.83</td>
<td>.45</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>3.61</td>
<td>.86</td>
</tr>
</tbody>
</table>
A one-way analysis of variance was conducted to evaluate the difference among principals’ highest degree and mean scores on the impact on curriculum dimension. The independent variable, highest degree, had three levels: masters, specialist, and doctorate. The dependent variable was the standardized test impact on curriculum dimension. There was no significant difference in the means, $F(2, 87) = .06, p = .946$. The effect size, as measured by $\eta^2$, was small (.01). The findings indicate there is no difference in principals’ perceptions of standardized tests impact on curriculum based on principals’ highest degree. The means and standard deviations for degree types are reported in Table 10. The boxplot for impact on curriculum by highest degree is shown in Figure 15.
Table 10

Means and Standard Deviations for Impact on Curriculum by Highest Degree

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>44</td>
<td>3.78</td>
<td>.46</td>
</tr>
<tr>
<td>Specialist</td>
<td>34</td>
<td>3.75</td>
<td>.49</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>3.75</td>
<td>.53</td>
</tr>
</tbody>
</table>

Figure 15. Boxplot for Impact on Curriculum by Highest Degree

A one-way analysis of variance was conducted to evaluate the difference among principals’ highest degree and mean scores on the stress dimension. The independent variable, highest degree, had three levels: masters, specialist, and doctorate. The dependent variable was the standardized test stress dimension. There was no significant difference in the means, $F(2,87) = 2.05, p = .135$. The effect size, as measured by $\eta^2$, was small (.05). The findings
indicate there is no difference in principals’ perceptions of standardized tests stress based on principals’ highest degree. The means and standard deviations for degree types are reported in Table 11. The boxplot for stress by highest degree is shown in Figure 16.

Table 11

<table>
<thead>
<tr>
<th>Highest Degree</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masters</td>
<td>44</td>
<td>3.24</td>
<td>.78</td>
</tr>
<tr>
<td>Specialist</td>
<td>34</td>
<td>3.36</td>
<td>.80</td>
</tr>
<tr>
<td>Doctorate</td>
<td>12</td>
<td>2.83</td>
<td>.72</td>
</tr>
</tbody>
</table>

Figure 16. Boxplot for Stress by Highest Degree
Research Question #5

To what extent are there differences among the perceptions of principals in the three groups (1-6 years of experience, 7-14 years of experience, and 15-39 years of experience) regarding the five dimensions of standardized testing: (a) general-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

To answer this research question, a one-way ANOVA was used to test the following null hypotheses:

Ho5₁: There are no differences among principals in the 3 years of experience groups and their mean scores on the “general impact-accountability” dimension of the Standardized Testing Opinion Scale.

Ho5₂: There are no differences among principals in the 3 years of experience groups and their mean scores on the “validity of standardized tests” dimension of the Standardized Testing Opinion Scale.

Ho5₃: There are no differences among principals in the 3 years of experience groups and their mean scores on the “use of standardized tests in individualizing instruction” dimension of the Standardized Testing Opinion Scale.

Ho5₄: There are no differences among principals in the 3 years of experience groups and their mean scores on the “impact of standardized tests on the curriculum” dimension of the Standardized Testing Opinion Scale.

Ho5₅: There are no differences among principals in the 3 years of experience groups and their mean scores on the “stress related to standardized testing” dimension of the Standardized Testing Opinion Scale.

A one-way analysis of variance was conducted to evaluate the difference among principals’ years of experience as an administrator and mean scores on the general impact-accountability dimension. The independent variable, years as an administrator, had three levels:
1-6 years, 7-14 years, and 15-39 years. The dependent variable was the standardized test general impact-accountability dimension. There was no significant difference in the means, $F(2, 88) = 1.37, p = .259$. The effect size, as measured by $\eta^2$, was small (.03). The findings indicate there is no difference in principals’ perceptions of standardized tests impact-accountability based on principals’ years of experience. The means and standard deviations for years as administrator are reported in Table 12. The boxplot for general impact-accountability by years as administrator is shown in Figure 17.

Table 12

<table>
<thead>
<tr>
<th>Years as Administrator</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 6 years</td>
<td>30</td>
<td>3.24</td>
<td>.57</td>
</tr>
<tr>
<td>7 to 14 years</td>
<td>32</td>
<td>2.98</td>
<td>.65</td>
</tr>
<tr>
<td>15 to 39 years</td>
<td>29</td>
<td>3.16</td>
<td>.65</td>
</tr>
</tbody>
</table>
A one-way analysis of variance was conducted to evaluate the difference among principals’ years of experience as an administrator and mean scores on the validity dimension. The independent variable, years as an administrator had three levels: 1-6 years, 7-14 years, and 15-39 years. The dependent variable was the standardized test validity dimension. There was no significant difference in the means, $F(2, 87) = .42, p = .657$. The effect size, as measured by $\eta^2$, was small (.01). The findings indicate there is no difference in principals’ perceptions of standardized tests validity based on principals’ years of experience. The means and standard deviations for years as administrator are reported in Table 13. The boxplot for validity of test by years as administrator is shown in Figure 18.
Table 13

*Means and Standard Deviations for Validity of Test by Years as Administrator*

<table>
<thead>
<tr>
<th>Years as Administrator</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 6 years</td>
<td>29</td>
<td>3.14</td>
<td>.72</td>
</tr>
<tr>
<td>7 - 14 years</td>
<td>32</td>
<td>3.17</td>
<td>.68</td>
</tr>
<tr>
<td>15 - 39 years</td>
<td>29</td>
<td>3.29</td>
<td>.62</td>
</tr>
</tbody>
</table>

Figure 18. Boxplot for Validity of Test by Years as Administrator

A one-way analysis of variance was conducted to evaluate the difference among principals’ years of experience as an administrator and mean scores on the use in individualized instruction dimension. The independent variable, years of experience as an administrator had three levels: 1-6 years, 7-14 years, and 15-39 years. The dependent variable was the use in individualized instruction dimension. There was no significant difference in the means, $F(2, 88)$
$= 1.63, p = .201$. The effect size, as measured by $\eta^2$, was small (.04). The findings indicate there is no difference in principals’ perceptions of standardized tests use in individualized instruction based on principals’ years of experience. The means and standard deviations for years as administrator are reported in Table 14. The boxplot for use in individualized instruction by years as administrator is shown in Figure 19.

Table 14

*Means and Standard Deviations for Use in Individualized Instruction by Number of Years as Administrator*

<table>
<thead>
<tr>
<th>Years as Administrator</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 6 years</td>
<td>30</td>
<td>3.92</td>
<td>.48</td>
</tr>
<tr>
<td>7 - 14 years</td>
<td>32</td>
<td>3.69</td>
<td>.67</td>
</tr>
<tr>
<td>15 - 39 years</td>
<td>29</td>
<td>3.64</td>
<td>.75</td>
</tr>
</tbody>
</table>

*Figure 19. Boxplot for use in Individualized Instruction by Years as Administrator*
A one-way analysis of variance was conducted to evaluate the difference among principals’ years of experience as an administrator and mean scores on the impact on curriculum dimension. The independent variable, years of experience as an administrator had three levels: 1-6 years, 7-14 years, and 15-39 years. The dependent variable was the impact on curriculum dimension. There was no significant difference in the means, $F(2, 88) = .46, p = .632$. The effect size, as measured by $\eta^2$, was small (.01). The findings indicate there is no difference in principals’ perceptions of standardized tests impact on curriculum based on principals’ years of experience. The means and standard deviations for years as administrator are reported in Table 15. The boxplot for impact on curriculum by years as administrator is shown in Figure 20.

Table 15

<table>
<thead>
<tr>
<th>Years as Administrator</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 6 years</td>
<td>30</td>
<td>3.84</td>
<td>.55</td>
</tr>
<tr>
<td>7 - 14 years</td>
<td>32</td>
<td>3.76</td>
<td>.43</td>
</tr>
<tr>
<td>15 - 39 years</td>
<td>29</td>
<td>3.72</td>
<td>.50</td>
</tr>
</tbody>
</table>
A one-way analysis of variance was conducted to evaluate the difference among principals’ years of experience as an administrator and mean scores on the stress dimension. The independent variable, years of experience as an administrator, had three levels: 1-6 years, 7-14 years, and 15-39 years. The dependent variable was the standardized test stress dimension. There was no significant difference in the means, $F(2, 87) = 1.49, p = .231$. The effect size, as measured by $\eta^2$, was small (.03). The findings indicate there is no difference in principals’ perceptions of standardized tests stress based on principals’ years of experience. The means and standard deviations for years as administrator are reported in Table 16. The boxplot for stress by years as administrator is shown in Figure 21.
Table 16

Means and Standard Deviations for Stress by Number of Years as Administrator

<table>
<thead>
<tr>
<th>Years as Administrator</th>
<th>n</th>
<th>M</th>
<th>SD</th>
</tr>
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<tbody>
<tr>
<td>1 - 6 years</td>
<td>29</td>
<td>3.38</td>
<td>.84</td>
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<tr>
<td>7 - 14 years</td>
<td>32</td>
<td>3.28</td>
<td>.74</td>
</tr>
<tr>
<td>15 - 39 years</td>
<td>29</td>
<td>3.05</td>
<td>.78</td>
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</table>

Figure 21. Boxplot for Stress by Years of Experience as Administrator

Summary

This chapter included descriptive and inferential statistics to evaluate five research questions. Data were analyzed using a factor analysis to determine the dependent variables in this study. Five dimensions emerged from the factor analysis. The five dimensions were: (a) general impact-accountability, (b) validity of standardized tests, (c) use of standardized tests in
individualizing instruction, (d) impact on curriculum, and (e) stress related to standardized testing. There were no significant differences in any of the dimensions based on Title I status, gender, highest degree, or number of years of administrative experience. Adequate Yearly Progress (AYP) was not analyzed because there was an insufficient number of cases (five) in the “not in good standing” category. A one-sample chi-square test was also conducted to determine the percentage of principals who indicated agreement with items # 16 through 40. Of the 25 items, 14 were significant.
CHAPTER 5
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR PRACTICE AND FURTHER RESEARCH

Overview

The intent of this chapter is to summarize and explain the data analysis results of this study in relation to the perceptions of principals concerning standardized testing and to make recommendations for further practice and research. Throughout the history of education, there have been initiatives to improve education in American schools. Increased accountability motivated by the standardized testing movement in the 21st century has placed greater emphasis on test scores. This trend has caused principals to think about their perceptions of standardized testing with regard to accountability measures, validity, use of test data, impact on the curriculum, and stress related to testing. Because the principals' leadership skills are crucial to the academic success of students, as a researcher I considered it important to gain the insight of principals regarding standardized testing.

Findings

A survey instrument using a five-point Likert-like scale was used to determine principals' opinions of standardized testing. Ninety-one surveys were analyzed from principals in eight different East Tennessee school districts. This study was guided by five research questions. SPSS was used to perform data analysis to test 45 null hypotheses.

There were four predictor (independent) variables in this study. Title I status of the school was measured: (a) Title I school and (b) nonTitle I school. The three remaining predictor variables were gender, highest degree earned by principals (master’s, specialist, and doctorate), and years of experience in current position (1-6 years, 7 to 14 years, and 15 to 39 years).
Five dimensions of standardized testing emerged from the results of a principal component factor analysis with varimax rotation of 25 items on the survey instrument (items 16-40). The five dependent variables were: (a) general-impact-accountability, (b) validity of standardized tests, (c) use in individualizing instruction, (d) impact on curriculum, and (e) stress related to testing.

Of the 111 principals selected to take part in this study, 91 returned the survey with a response rate of 82%. A frequency analysis was performed on demographic data and disclosed that 39 (42.9%) of principals were female and 52 (57.1%) were male. Forty-four (48.9%) respondents held master’s degrees whereas 34 (37.8%) had specialist and 12 (13.3%) held doctorates. Thirty (33%) of the principals had 1-6 years of experience as an administrator, whereas 32 (35.2%) had 7-14 years of experience, and 29 (31.9%) had between 15 and 39 years of experience. Fifty-six (71.8%) principals worked at schools classified as Title I schools, whereas 22 (28.2%) were principals at nonTitle I schools, and 13 worked at schools that were not classified as either Title I or nonTitle I schools.

Of the 89 principals who responded to the question about their school’s AYP standing, 84 were principals of schools in good standing and 5 were principals of schools not in good standing. Of the 80 principals who responded to the question related to the percentage of their student population that participates in the free- and reduced-cost meals program, the mean was 59% with a standard deviation of 17.94. Eighty-seven principals stated their students take practice tests in preparation for the standardized tests and 52 principals indicated there should be other forms of questions besides multiple choice on the tests.

Research Questions

Research Question #1

For items #16 through #40 of the Standardized Testing Opinion Survey, were there differences in the percentage of principals who indicated they strongly disagreed, disagreed, or
were neutral to each statement and the percentage of principals who stated they agreed or strongly agreed?

The data results indicated that a majority of the principals (84.6%) agreed that standardized test scores should be used for monitoring student achievement and more than half of the principals (64.8%) agreed that test scores should be used as an accountability measure when reporting to parents. The data also revealed that almost all principals (83.5%) agreed that standardized test scores should be used to individualize instruction; 70% of the principals agreed that standardized test scores should be used to assign remedial activities, and 66.7% of the principals agreed that test scores should be used to identify the needs of exceptional children. Most of the principals (76.9%) agreed that standardized test scores help teachers better know what to teach their students, and 66.7% of the principals agreed that standardized tests have an important place in the school curriculum. A majority of principals (87.8%) reported using test scores to improve their schools. Brandt (2000) and Hershberg (2004) spoke of the benefits of standardized testing results as opportunities to measure school performance and improve classroom instruction. Whitaker (2003) also agreed that effective instructional leaders have used test results to improve student learning. Results of this study would indicate that principals sense that this one tool in their instructional leadership toolbox could help their teachers and students focus more completely on the goals and objectives of their schools.

More than half of the principals (62.2%) disagreed with or were neutral regarding the majority of their teachers being supportive of standardized tests. A majority of the principals (72.5%) disagreed with or was neutral about using test scores to assign course grades. Perhaps this trend in the data might be an indicator that most principals in this study agree that a combination of authentic assessments provides a more accurate picture of a student’s achievement. Harvey (2003) stated that some testing experts would argue that interpreting standardized tests in isolation is not a credible summary of what individual students know or are able to do.
A majority of the principals (84.4%) in this study indicated that standardized tests are not fair for all ethnic and racial groups and 67.8% agreed that knowing a child’s test scores can bias a teacher toward that child before he or she has the child in class. Sacks (2000) noted that, historically, the subgroups most negatively affected by high-stakes standardized tests have been minorities and the poor. Bracey (2000) maintained that advocates of high-stakes testing failed to explain how testing improved the chances of success for minority and poor students.

More than half of the principals (65.6%) reported that their school systems did not place too much emphasis on standardized test scores and 61.1% of the principals reported that standardized test accountability has not caused their schools to reach goals that otherwise would not have been attained. Whitaker (2003) stated that effective principals did not let hot-button issues shift their focus from what really mattered and they did not let standardized tests take over the entire school.

As reported in Chapter 4, results of the remaining items--impact of standardized tests on teaching effectiveness, stress, and intended measurement--indicated no significant difference between principals who were neutral or disagreed with the items versus those who agreed. In fact, principals were evenly divided in their opinions with regard to: (a) using standardized test scores to evaluate teaching effectiveness, (b) their students feeling overly stressed by standardized tests, (c) principals feeling overly stressed by the tests, and (d) standardized tests measuring what they are intended to measure. Principals were also evenly divided in their opinions about standardized testing having a positive impact on teaching and student learning.

Research Question #2

To what extent are there differences between the perceptions of principals of Title I schools and nonTitle I schools regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?
Surprisingly, the results indicated no significant differences between principals of Title I schools and principals of non-Title I schools regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing. Therefore, all five null hypotheses were retained. The mean for principals of Title I schools ($M = 3.12$) was almost identical to the mean for principals of non-Title I schools ($M = 3.18$) regarding general impact-accountability. The mean for principals of Title I schools ($M = 3.20$) was almost identical to the mean for principals of non-Title I schools ($M = 3.31$) concerning the validity of standardized tests. The mean for principals of Title I schools ($M = 3.76$) was almost identical to the mean for principals of non-Title I schools ($M = 3.79$) regarding the use in individualized instruction dimension of standardized tests. The mean for principals of Title I schools ($M = 3.80$) was slightly higher than the mean for principals of non-Title I schools ($M = 3.63$) regarding the impact on curriculum dimension of standardized testing. The mean for principals of Title I schools ($M = 3.27$) was slightly higher than the mean for principals of non-Title I schools ($M = 3.03$) in relation to the stress related to standardized testing dimension.

Perhaps the fact that there were so few differences between Title I and non-Title I principals indicates that principals are not letting the income level of their students alter their expectations for high performance. Title I funding from the federal government also assists high poverty schools with interventions, resources, and staff development. The mean for Title I principals was only slightly higher regarding the “stress dimension.” This might indicate that pressure to achieve AYP status exists among all subgroups.

Research Question #3

To what extent are there differences between female and male principals and their perceptions regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in
individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

The results indicated no significant differences between male and female principals regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing. Therefore, all five null hypotheses were retained. The mean for female principals ($M = 3.13$) was almost identical to the mean for male principals ($M = 3.11$) regarding their perceptions of the general impact-accountability dimension of standardized testing. The mean for female principals ($M = 3.11$) was slightly lower than the mean for male principals ($M = 3.26$) in reference to the validity of standardized tests dimension. The mean for female principals ($M = 3.74$) was slightly lower than the mean for male principals ($M = 3.77$) regarding their perceptions of use in individualized instruction of standardized tests. The mean for female principals ($M = 3.76$) was almost identical to the mean for male principals ($M = 3.79$) regarding the impact on curriculum dimension of standardized tests. The mean for female principals ($M = 3.31$) was almost identical to the mean for male principals ($M = 3.17$) in relation to the stress related to standardized testing dimension.

The lack of differences based on gender might indicate that the increasing numbers of female school administrators are more similar than different from their male counterparts in their perceptions of what is important in school leadership.

**Research Question #4**

To what extent are there differences among the perceptions of principals with master’s, specialist, and doctorate degrees regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?
The results indicated no significant differences among principals with master’s, specialist, and doctorate degrees regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing. Therefore, all five hypotheses were retained. The mean for principals with a master’s degree ($M = 3.01$) was slightly lower than the mean for principals with a specialist degree ($M = 3.28$) and principals with a doctorate degree ($M = 3.10$) regarding their perceptions of the general impact-accountability dimension of standardized testing. The mean for principals with a master’s degree ($M = 3.19$) was almost identical to the mean for principals with a specialist degree ($M = 3.23$) and principals with a doctorate degree ($M = 3.17$) regarding their perceptions of the validity of standardized tests dimension. The mean for principals with a master’s degree ($M = 3.70$) was almost identical to the mean for principals with a specialist degree ($M = 3.83$) and principals with a doctorate degree ($M = 3.61$) regarding their perceptions of using standardized tests to individualize instruction. The mean for principals with a master’s degree ($M = 3.78$) was almost identical to the mean for principals with a specialist degree ($M = 3.75$) and principals with a doctorate degree ($M = 3.75$) regarding the impact of standardized tests on the curriculum. The mean for principals with a master’s degree ($M = 3.24$) and the mean for principals with a specialist degree ($M = 3.36$) was slightly higher than the mean for principals with a doctorate degree ($M = 2.83$) regarding stress related to standardized testing.

More than half of the principals had earned a degree higher than a master’s degree. This might suggest that principals are engaging in studies that keep them aware of current and most effective practice in educational leadership.

Research Question #5

To what extent are there differences among the perceptions of principals in the three groups (1-6 years of experience, 7-14 years of experience, and 15-39 years of experience) regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the
validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing?

The results indicated no significant differences among principals in the 3 years of experience bracketed groups regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of standardized tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing. Therefore, all five null hypotheses were retained. The mean for principals with 1 to 6 years of experience ($M = 3.24$) was slightly higher than the mean for principals with 7 to 14 years of experience ($M = 2.98$) and the mean for principals with 15 to 39 years of experience ($M = 3.16$) regarding the general impact-accountability dimension. The mean for principals with 1 to 6 years of experience ($M = 3.14$) was almost identical to the mean for principals with 7 to 14 years of experience ($M = 3.17$) and only slightly lower than the mean for principals with 15 to 39 years of experience ($M = 3.29$) regarding the validity dimension of standardized tests. The mean for principals with 1 to 6 years of experience ($M = 3.92$) was slightly higher than the mean for principals with 7 to 14 years of experience ($M = 3.69$) and the mean for principals with 15 to 39 years of experience ($M = 3.64$) regarding the use of standardized tests to individualize instruction. The mean for principals with 1 to 6 years of experience ($M = 3.84$) was almost identical to the mean for principals with 7 to 14 years of experience ($M = 3.76$) and the mean for principals with 15 to 39 years of experience ($M = 3.72$) regarding the impact of standardized tests on the curriculum dimension. The mean for principals with 1 to 6 years of experience ($M = 3.38$) was slightly higher than the mean for principals with 7 to 14 years of experience ($M = 3.28$) and principals with 15 to 39 years of experience ($M = 3.05$) regarding stress related to standardized testing. This might suggest that recent education has prepared principals to use standardized testing as a tool rather than to view it as a burden.
Conclusions

Based on the data analysis of this study, principals’ perceptions of standardized testing were more positive than negative. The following conclusions were obtained from this study:

Conclusion #1

Principals view standardized testing positively as a viable tool to use for accountability purposes, individualizing instruction, assigning remedial activities, and identifying needs of exceptional children. The research indicated that principals use test data in many ways to improve their schools. According to the U.S. Department of Education (2003), school systems must continue to measure growth in students’ achievement and use the results to modify instructional methods to meet the needs of every child.

Conclusion #2

Regardless of Title I status, gender, highest degree earned, and years of experience in current position, there were no significant differences in principals’ opinions of standardized testing regarding the five dimensions of standardized testing: (a) general impact-accountability, (b) the validity of the tests, (c) use of standardized tests in individualizing instruction, (d) the impact of standardized tests on the curriculum, and (e) stress related to standardized testing.

Conclusion #3

Standardized testing has limitations. A majority of the principals disagreed with the statement, “Standardized tests are fair for all ethnic and racial groups.” A majority of principals agreed that knowing a child’s test scores could bias a teacher toward that child before he or she has the child in class. An overwhelming number of principals stated their students take practice tests in preparation for standardized tests and more than half of the principals indicated that there should be other forms of questions besides multiple choice on standardized tests. Although there was no significant difference between principals who were neutral or disagreed with the items
versus those who agreed, principals were evenly divided in their opinions with regard to: (a) the use of standardized test scores to evaluate teaching effectiveness, (b) their students feeling overly stressed by standardized tests, (c) principals feeling overly stressed by the tests, and (d) that standardized tests measure what they are intended to measure. Slightly less than half of the principals agreed that standardized tests have a positive impact on teaching and student learning. This indicates need for improvement in the way standardized tests are used. Standardized testing can never be eliminated because the data are currently what principals have to measure student achievement; nonetheless, there needs to be a more effective means of evaluating student learning. Using only one means of evaluating student learning might provide neither an accurate picture for an entire school year nor sufficient data to individualize instruction for all students.

**Recommendations for Practice**

The following recommendations are presented to policy makers and principals regarding standardized testing:

1. Federal funding must continue to be allocated to support schools with a high percentage of students participating in the free- or reduced-cost meals program. Meeting AYP in all subgroups will depend on Title I resource allocation.

2. When planning and implementing intervention programs, principals must consider their faculties, students, parents, and communities. The students’ success depends on the effectiveness of the school leader. Principals should not allow themselves to focus solely on test scores but rather use test results to do what is best for their unique situations.

3. Students should be tested at different intervals during the year rather than one long test at the end of a school year. This might alleviate much class time being spent preparing for the end-of-year standardized test.

4. Principals should continue proactively to lead the way to use test data as appropriate tools to address accountability issues.
Recommendations for Further Research

1. This study could be replicated using a larger sample and perhaps a focus on schools that have failed to make AYP to see if their staff members' perceptions of standardized testing are different.

2. This study could be replicated using principals of urban school systems to see if their perceptions of standardized testing are different.

3. This study could be replicated using teachers in order to analyze their perceptions.

4. More research needs to be conducted to determine the effects of No Child Left Behind legislation on standardized testing and student achievement.

5. A qualitative study of principals’ perceptions might be more illuminating.

Personal Reflections

As a principal of a rural elementary school, my perceptions of standardized testing do not support the findings. The emphasis on standardized testing has impacted the curriculum, quality of teaching, and the pure joy of learning. It is not a meaningful measure when too much time is devoted to teaching to the test rather than to instructional processes that allow students to problem-solve, create, and construct their own learning. A focus on high quality teaching that meets the needs of every individual student is the recipe for success. Educational leaders need to think outside the high-stakes testing box in order to prepare students for the future.
REFERENCES


APPENDICES
APPENDIX A
Survey Instrument

Impact of Standardized Testing on Teaching and Learning

Please answer the following questions about your experience, your school, and standardized testing and its impact on your school.

Your participation is voluntary. You can refuse to answer any question.

1. How many years have you been an administrator?___________ (including this year.)

2. What is the highest degree you have earned? (Check one)

   ___ 1. Masters
   ___ 2. Specialist
   ___ 3. Doctorate

3. What is your gender?

   ___ 1. Female ___ 2. Male

4. What grade configuration is in your school? ___________

5. What is the classification of your school?

   ___ 1. Title I School
   ___ 2. Non-Title I School
   ___ 3. Does not apply to my school.

6. ___ % of free-and reduced-meals program students

7. Regarding AYP, is your school?

   ___ 1. In good standing
   ___ 2. Not in good standing

8. Do your students take practice tests before the “official” standardized test?

   ___ 1. Yes ___ 2. No

9. What percentage of instructional time do you perceive is spent each year teaching concepts only because they are on standardized tests? ________%
10. What percentage of instructional time do you perceive is spent each year teaching basic test-taking skills for standardized tests? ______ %

11. What percentage of the final subject grade should standardized system or state-wide testing count? ______ %

12. What percentage should standardized system or state-wide testing play in promotion decisions? ______ %

13. In your professional opinion, most standardized tests tend to have
   ___ 1. Too few questions
   ___ 2. The right number of questions
   ___ 3. Too many questions

14. Do you think there should be other forms of questions rather than just multiple-choice questions on standardized tests?
   ___ 1. Yes
   ___ 2. No

15. If you answered yes to question 14, which of the following would you recommend? (Check all that apply)
   ___ 1. Short answer
   ___ 2. Matching
   ___ 3. Task Performance
   ___ 4. Essay
   ___ 5. True-False
   ___ 6. Fill-in-Blank
   ___ 7. Other (please specify) _____________

For each of the following statements, please circle the number that most closely reflects the extent to which you disagree or agree with the statement as it relates to your experience, philosophy, and school:

16. Standardized test scores should be used for monitoring student achievement.
   Strongly Disagree  Disagree  Neither Agree or Disagree  Agree  Strongly Agree
   1 2 3 4 5

17. Standardized test scores should be used as an accountability measure when reporting to parents.
   Strongly Disagree  Disagree  Neither Agree or Disagree  Agree  Strongly Agree
   1 2 3 4 5

18. Standardized test scores should be used in individualizing instruction.
   Strongly Disagree  Disagree  Neither Agree or Disagree  Agree  Strongly Agree
   1 2 3 4 5

19. Standardized test scores should be used in assigning course grades.
   Strongly Disagree  Disagree  Neither Agree or Disagree  Agree  Strongly Agree
   1 2 3 4 5

20. Standardized test scores
should be used to evaluate teaching effectiveness.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Standardized test scores should be used to assign remedial activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. Standardized test scores should be used to identify the needs of exceptional children.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

23. Rate the overall impact of standardized testing on student learning.

   ____ 1. Very Negative Impact
   ____ 2. Negative Impact
   ____ 3. Neither Negative nor Positive Impact
   ____ 4. Positive Impact
   ____ 5. Very Positive Impact

24. Rate the overall impact of standardized testing on teaching.

   ____ 1. Very Negative Impact
   ____ 2. Negative Impact
   ____ 3. Neither Negative nor Positive Impact
   ____ 4. Positive Impact
   ____ 5. Very Positive Impact

For each of the following statements, please circle the number that most closely reflects the extent to which you disagree or agree with the statement.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>25. My students feel overly stressed by standardized tests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. As a principal, I feel overly stressed by standardized tests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. The majority of teachers in my school are supportive of standardized tests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. Standardized tests are fair for all ethnic and racial groups.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Neither Agree or Disagree</td>
<td>Agree</td>
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</tr>
<tr>
<td>29.</td>
<td>Knowing a child’s test scores can bias a teacher toward that child before they are in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>30.</td>
<td>Scores from standardized tests help teachers better know what to teach their students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31.</td>
<td>Standardized tests generally measure what they are intended to measure.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32.</td>
<td>The content covered on standardized tests is reasonable for each grade level.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33.</td>
<td>Standardized tests have an important place in the school curriculum.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34.</td>
<td>My school system puts too much emphasis on standardized test scores.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35.</td>
<td>I have used standardized test scores to improve my school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36.</td>
<td>Standardized tests are an appropriate tool to address accountability issues in education.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37.</td>
<td>Students, in general, do their best on standardized tests.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38.</td>
<td>Standardized tests measure what students have learned.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39.</td>
<td>Standardized test accountability has caused my school to reach goals that otherwise would not have been attained</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40.</td>
<td>Standardized testing has improved education in the last 5 years</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Questions or comments contact
Terri Dodge, ETSU doctoral student
Terridodge@sevier.org
Thank you for your participation in this survey!
Dear Dr. XXXXX,

I am a doctoral student at East Tennessee State University currently involved in the dissertation phase of the Educational Leadership and Policy Analysis doctoral cohort program. My dissertation is entitled, *Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten Through 12th Grade in United States Schools: East Tennessee Principals’ Perspectives*. The purpose of this study is to examine principals’ perceptions regarding the recent emphasis being placed on standardized testing. I would like your permission to distribute my surveys to all K-12 principals in XXXXX County.

In preparation for this study, I plan to distribute and collect the completed surveys. The distribution of the surveys and the collection of data will be conducted in a manner to limit the disruption of normal school activities. Participation in this study would be based on their free will.

If you have any questions pertaining to this study, please feel free to contact my doctoral advisor, Dr. Louise MacKay, at (xxx) xxx-xxxx, or me at (xxx) xxx-xxxx. Thank you for your cooperation.

Sincerely,

Terri S. Dodge
Doctoral Student
East Tennessee State University

I ______________________________ give Terri S. Dodge permission to conduct her study entitled, *Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten Through 12th Grade in United States Schools: East Tennessee Principals’ Perspectives.*

____________________________________________/  _____________________________
Signature of Director       Date
My name is Terri Dodge and I am a principal in the XXXXX County School System at XXXXX Intermediate. I am currently involved in the research phase of my dissertation in the Educational Leadership and Policy Analysis doctoral cohort program through East Tennessee State University. My dissertation is entitled, *Impact of Standardized Testing Emphasis on Teaching and Learning in Kindergarten Through 12th Grade in United States Schools: East Tennessee Principals’ Perspectives*. The purpose of this study is to examine principals’ perceptions regarding the recent emphasis being placed on standardized testing.

I would appreciate your cooperation in the completion of the attached survey in order to complete my research. Prior permission was granted by the Director of your school system.

If you would like to know the results of this study, I will be happy to send them to you when the study is complete. Just send me an email at terridodge@sevier.org expressing your interest and I will respond to you via email upon the conclusion of the study. If you have any questions regarding the survey, feel free to contact me at the above email address.

Thanks for your cooperation.

Sincerely,

Terri Dodge
VITA

TERRI DODGE

Personal Data:  Date of Birth: December 13, 1957
Place of Birth: Kettering, Ohio
Marital Status: Married

Education:  University of South Florida, Ft. Myers, Florida;
    Bachelor of Science;
    1987

Lincoln Memorial University;
    Masters in Administration;
    1992

Lincoln Memorial University;
    Education Specialist Curriculum and Instruction;
    1993

East Tennessee State University, Johnson City, Tennessee;
    2007

Professional Experience:  San Carlos Elementary School
    3rd grade teacher, Ft. Myers, Florida
    1987-1988

Tropic Isles Elementary School
    3rd & 4th grade teacher, Ft. Myers Florida
    1988-1990

Sevierville Middle School
    7th grade teacher, Sevier County Schools
    1991-1999

Pi Beta Phi Elementary School
    Assistant Principal, Sevier County Schools
    1999-2001

Sevierville Middle School
    Assistant Principal, Sevier County Schools
    2001-2005

Sevierville Intermediate School
    Principal, Sevier County Schools
    2005- Present