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Student progress monitoring: teachers' perceptions

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STUDENT PROGRESS MONITORING: TEACHERS' PERCEPTIONS

By

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The Mississippi Student Progress Monitoring System (MSPMS) was developed for the Mississippi Department of Education to be used to monitor student progress on the state framework which constitutes the curriculum for each course taught in Mississippi schools. This study was designed to investigate teachers' perceptions of the implementation and use of the MSPMS. Research question 1 was to determine if the various independent variables of age, level of education, years of experience as an educator, level of school where teaching, perceived level of computer and/or technology comfort, perceived level of computer and/or technology experience, subject area taught, number of MSPMS tests created, number of MSPMS tests given, amount of support provided, whether program works, and importance of information gained from MSPMS made any difference in teachers' perceptions of the implementation and use of the MSPMS; and research question 2 was to determine whether the teachers' perceptions and

the various independent variables had any significant relationships. Research question 3 looked at teachers' attitudes toward MSPMS. There were no statistically significant differences among the dependent and independent variables. Findings for research question 2 showed that there were no statistically significant correlations among the dependent and independent variables. However, correlations among the independent variables revealed statistically significant relationships between age and years of experience, subjects taught and school level taught, technology experience and level of education, and subjects taught and number of tests given. Examination of the response frequencies for situations in the vignettes for research question 3 revealed that teachers reported feeling more frustrated than anything else when confronted with adversities with the technologies or the MSPMS. All of the findings in this study are limited to a rural Mississippi school district using MSPMS.

DEDICATION

I dedicate this work first and foremost to my God and Savior without whom nothing is possible; and then I dedicate this work to my mom, Wonzie Matlock, who has always set the example of work ethics and need for education throughout my life.

I also dedicate this work to my family, Ken, Ken, Jr. and Gigi, Scotty and Monica, and Stephanie and Jason, as well as to my loving grandchildren Cody, Taylor, Christopher, Morgan, and Hunter. Their sacrifices and love helped me throughout the entire process. I could not have completed the process without their love and support.

Finally, I dedicate this work to Scott, Aimee, Jack, and Maggie. Their sacrifices for a friend will always be greatly appreciated.

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TABLE OF CONTENTS

APPENDIX

LIST OF TABLES

TABLE Page

CHAPTER I

INTRODUCTION

President Bush's No Child Left Behind Act of 2001 focuses on the assessment of students' on-grade-level achievement including state, district, and school accountability for that success (No Child Left Behind Act, 2001). According to the Gateway to 21st Century Skills website (GEM Exchange, 2008), assessments for students who are working citizens of the 21st century, "all assessments are learner-centered, formative, content specific, ongoing and rooted in teaching strategies and most assessments use technology" (GEM Exchange, 2008, ¶ 1). Considering the changes that have come about over the past century alone, it is no wonder that educators may have difficulties helping students of this century. As noted in the definition of assessment of students for the 21st century above, teachers need to move from summative assessments to formative assessments all the while adjusting teaching strategies to meet the needs of the diverse students in the classroom; they must use technology. For many, this is a paradigm shift and possibly even a culture shock (Chappuis & Chappuis, 2007-2008).

Slowly and surely over the past century education has changed, but for the most part it has changed by going in a circle, from one reform to another and back again. Since the advent of the 1983 report *The Nation at Risk: the Imperative for Educational Reform,* the American education system has been in a constant state of reform.

Americans' poor perception of the education process has propelled education into a constant state of reformation (Anderson, Evans, Kozak, & Peterson, 1999). No matter what business one is in, one's taking an evidence-based approach to determine what needs to be done for improvement is critical. Constant assessment of every aspect of the business process must occur in light of changes that need to be made. Because of the financial investments any business makes, monitoring progress is vital (Collins, 2001). Even more important is the investment in the education of students. A study completed by the Partnership for 21st Century Skills (2007) reported that while 75% of the American voters value the skills of reading comprehension, only 10% believe the American educational system is providing the instruction needed for success with this skill. Additionally, 71% of the voters believe technology skills are very important for students to have, but only 25% believe the school systems are doing what needs to be done to provide students with these skills.

According to the U. S. Department of Education (2006) "at its heart, [No Child Left Behind] was intended to help teachers help students reach their potential" (¶ 1). As stated in the National Center on Student Progress Monitoring (2001), the imperative goal of any educator should be to help the learners achieve to their potential. In order to help students achieve to their potential, teachers must know where students are in relationship to where they need to be. Only through formative assessment and observation can a teacher know how to help students. Adjusting teaching strategies to meet the demands of all students is not very easy. A teacher's success in monitoring student progress depends upon the training in developing and administering formative assessments, using the technology available for progress monitoring, and determining and using appropriate

strategies in the classroom that promote progress monitoring (Fisher, Grant, Frey, & Johnson, 2007-2008; National Center on Student Progress Monitoring, 2001).

The Mississippi Department of Education (MDE), realizing a need for monitoring student progress in order to attain the goal of all students being assessed on grade level, applied for and received a grant that helped the state provide a technology web-based monitoring program–MSPMS. In cooperation with Vantage Learning Corporation, the MDE brought in highly qualified teachers for all grade levels and subjects from all over the state to write test items to match the curriculum standards and objectives. These teachers also helped to create practice items to populate the MSPMS database. The Student Progress Monitoring System (SPMS) provides a time-saving way for teachers to use items correlated to the state framework to measure students' academic success.

The program allows teachers to use items formatted just as testing items appear on the following state achievement tests: Mississippi Subject Area Tests (MSATP) for high school (Algebra I, Biology, English II, and U. S. History) and the Mississippi Criterion-Referenced Test–2 (MCT2) for grades three through eight. Because these test items are aligned with the state framework and both the MSATP and MCT2 are aligned with the state curriculum framework, students have the opportunity to develop good test-taking skills while demonstrating their acquisition of the skills/knowledge needed to be proficient in each subject area. Because of the immediate scoring using the MSPMS, teachers are able to give immediate feedback to students and to re-teach or direct students to what needs to be done. Additionally, monitoring student progress helps teachers improve instructional practices. Research has shown that monitoring student progress is effective in improving student achievement (DuFour, 2007; Fuchs, Deno, & Mirkin,

1984; Fuchs & Fuchs, 1999; Furger, 2002). Knowing the results of scientifically-based research begs the question of why teachers are not using this process and/or the technology provided to do so.

MSPMS provides a reporting system that allows district and school level administrators to monitor the use of the program. A report can be generated that shows the number of students tested over a given time period. Over the past two years, teachers in a rural Mississippi School District have not used the MSPMS to its potential. When the district has approximately 375 teachers altogether teaching 25 students per year in grades K–3 (self-contained teaching 4 core subjects each) and an average of 140 students per year in grades 4–12 (departmentalized), the number of SPMS assessments to be given per student at minimum should be four. The expected outcome per teacher should be 400 completed sessions (4 subjects tested 4 times in the year times 25 students per teacher = 400 completed sessions) in grades K–3 and about 560 completed sessions per teacher in grades 4–12.

Data gathered by the researcher prior to this research study showed that the average number of completed sessions in K–3 for 2005-2006 was one per teacher; the average number of sessions completed in grades 4–12 for 2005-2006 was approximately 25 completed sessions per teacher. The numbers increased in the 2006-2007 school year with elementary self-contained grades K–3 averaging about 17 completed sessions per teacher and 102 completed sessions for grades 4–12 teachers. Thus far for the 2008-2009 school year, the average completed sessions for grades K–3 is about 10 and the average completed sessions for grades 4–12 is 100. This preliminary look at the use of the MSPMS gives justification to the proposed study.

Statement of the Problem

Teachers spend hours of their time at school and at home assessing and scoring student work. For the most part, these assessments are summative in that grades are assigned and little, if any, significant feedback is given to students. This research explored teacher attitudes towards the variables potentially associated with the teacher perceptions of the MSPMS. The research also investigated the influence of demographic variables upon teacher perceptions of the MSPMS. Helping students achieve to their highest potential should be the goal of every educator. Using programs that are available to teachers to determine whether students are progressing at the pace necessary to be tested on grade level as required by No Child Left Behind Act is critical. All students are at risk of not reaching their potential when educators ignore the changes needed in instructional practices (Reeves, 2005; 2007a). Assessment is a component of effective instruction. Rieg (2007) concluded that even though research supports it, some teachers do not consider giving timely appropriate feedback or making sure students understand why their answers are not correct as part of effective assessment practices. Whether or not teachers are using feedback from the testing system must be determined as well as why they are or are not using the program (Heritage, 2007).

Purpose of the Study

The purpose of this study was first to investigate a rural Mississippi school district's teachers' perceptions of the MSPMS. The next goal was to identify relationships among the independent variables and teachers' perceptions of the MSPMS. The third aim of this study was to investigate teachers' attitudes towards the implementation and use of the MSPMS within their school district.

Research Questions

The following research questions were addressed during this study:

1. Is a teacher's perception of the web-based MSPMS different based on his or her: (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience, g) subject area taught; (h) number of tests created; and (i) number of tests given?
2. Is there a relationship among the dependent and independent variables of (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience; (g) subject area taught; (h) number of tests created; and (i) number of tests given?
3. What are teachers' attitudes toward the following variables associated with teachers' perceptions of the MSPMS: (a) technology comfort; (b) orientation/professional development; (c) availability/access to equipment; (d) time; (e) support infrastructure (school, district, and/or state level); (f) efficacy of program (does it work? does it produce positive outcomes?); or (g) importance of information gained from MSPMS?

Justification for the Study

Student progress monitoring is a process whereby teachers have instant data on student learning (Black & Wiliam, Wiliam, 2007; 2003; Deno S. L., 2003; Fuchs, Deno,

& Mirkin, 1984) which affect their instructional practice as well as student achievement (Cusumano, 2007; Guskey, 2007; Guskey 2007-2008). If teachers' instructional practices do not improve as a result of student progress monitoring, then the use of student progress monitoring may not be of value to the students and their achievement. Furthermore, if teachers' instructional practices do not improve as a result of using the MSPMS, then the use of MSPMS may not be of value to the students and their achievement. Therefore, determining whether a teacher's attitude impacts his or her use of MSPMS is an important step in establishing the current use and usefulness of the process or technology available. Knowing what teachers' attitudes toward implementing and using MSPMS is highly valuable to school, district, and state leaders who invest time and money in providing the programs and preparing teachers to use the process or system. The ultimate goal of the process or system is to provide for student academic success and to provide for teacher improvement in professional practice.

Limitations of the Study

This study was limited to full-time classroom teachers at all grade levels who teach any of the core academic subjects: reading/language arts, mathematics, science, or social studies. These teachers were from a rural Mississippi school district.

Another limitation of the study was the different browsers used by teachers. All browsers did not work equally with the online survey tool. One caused timeouts within the survey causing data to be incomplete.

Definition of Terms

For the purpose of this study, the following definitions were used:

1. Availability/Access to Equipment–The availability or access to equipment refers to the equipment being available and accessible to teachers and students for instructional and assessment purposes within the school.

2. Computer and/or Technology Comfort–Computer and/or technology comfort refers to the level of comfort a participant has with using the computer and/or other forms of technology to accomplish instructional and assessment goals.

3. Computer and/or Technology Experience–Computer and/or technology experience refers to what extent the participant considers himself/herself experienced with computers and/or other forms of technology.

4. Diagnostic Testing–Diagnostic testing is the use of a standardized or common assessment which covers the skills and/or objectives to be taught throughout the school year for each grade level or course of study. The students' scores indicate what needs to be taught or re-taught.

5. Efficacy of Program–The efficacy of the program refers to the program working correctly and producing useful outcomes.

6. Formative Assessment–Formative assessment is an ongoing assessment or an assessment for learning. The main objective of assessments for learning is to provide feedback to students to inform them of their learning progress. Formative assessments play the major role of student progress monitoring (Reeves, 2007a).

7. Importance of Information Gained from Mississippi Student Progress Monitoring System–Importance of Information Gained from MSPMS refers to what extent the data provided in reports generated by MSPMS is of value to the participant.

8. Level of School Where Teaching–The level of school where teaching refers to the grade level of the school–either elementary, K-5; middle school, 6-8; or high school, 9-12–where the participant teaches.

9. Mississippi Student Assessment Program–The Mississippi Assessment Program was established through the Executive Session of the Mississippi Legislature in 1982, found in chapter. 17, of § 30(1), to be effective from and after July 1, 1983. According to the law, the primary purpose of the statewide testing program is to provide information needed for state-level decisions. The program shall be designed to: (a) assist in the identification of educational needs at the state, district and school levels; (b) assess how well districts and schools are meeting state goals and minimum performance standards; (c) provide information to aid in the development of policy issues and concerns; (d) provide a basis for comparisons among districts and between districts, the state and the nation, where appropriate; and (e) produce data which can be used to aid in the identification of exceptional educational programs or processes.

10. Mississippi Student Progress Monitoring System (MSPMS)–The MSPMS is a web-based database containing multiple choice, short answer, discussion, and essay questions for use in the classroom setting. These items are aligned with the Mississippi Curriculum Frameworks for reading, language arts, English, science, social studies, and mathematics. Additionally, they correspond to different levels of depth of knowledge. These items may be used as homework, formative assessments, summative assessments,

practice tests, and unit tests. Teachers may use these items for intervention with students who need extra help. The system also allows teachers to add items into the database for use with materials not covered in the database. The program allows for students to take tests online or by pencil and paper. Students using the pencil and paper format can bubble in answers on a bubble sheet to be run through a scanning machine connected to the web-based database. As soon as the scores are entered either in the online format or through the use of the bubble sheets, teachers and students receive immediate feedback. The program also contains a reporting feature that provides item analyses, history reports, annual yearly progress reports, and much more (Mississippi Department of Education).

11. Orientation/Professional Development–Orientation or professional development is the instruction and practice in the use of the technologies within the school setting provided for teachers by the school, district, or state.

12. Self-Efficacy–Self-efficacy refers to perceptions about one's capabilities to organize and implement actions necessary to attain a designated performance of skill for specific tasks (Bandura, 1986).

13. Standardized Assessment–A standardized test is one that is administered to students in a consistent manner, following explicit directions. These tests are administered each time in the same way. Such tests include, but are not limited to, the ACT, SAT, and state tests that are set up in this way.

14. Summative Assessment–Summative assessment is an assessment used for the end of unit or end of a period of time. The summative test is also called an assessment of learning and is aimed at producing a grade or ranking a student or school (Reeves, 2007b).

15. Support Infrastructure–Support Infrastructure refers to the technical assistance needed to use MSPMS as well as the technical assistance needed to use the equipment from the school, district, and/or state level.

16. Technology Comfort–Technology comfort is the level at which teachers are comfortable with the use of technology as a teaching or assessment tool in the classroom.

17. Time –Time refers to the amount of time a teacher has to use MSPMS.

18. Vignettes–A vignette is a short scenario in which the issues that occur with some frequency in respondents' lives are easily understood by the respondents. Vignettes should provide enough contextual information for respondents to clearly understand the situation being portrayed, but be ambiguous enough to ensure that multiple solutions exist (Seguin & Ambrosio, 2002).

CHAPTER II

REVIEW OF LITERATURE

In education, assessment is a process or method whereby a student's academic performance, progress, or attainment is measured (Ewell, 2002). The three basic types of assessment are diagnostic, summative, or formative tests. A diagnostic test is used prior to teaching to assess what a student's prior knowledge is. This type of assessment can be considered a precursor of the formative assessment. The second type of assessment is a summative or standardized test that usually comes at the end of a unit or term and assesses learning. These assessments have an end grade or result in mind. The third type of assessment is an ongoing or formative assessment where teachers, students, and parents observe and provide immediate feedback to students to ensure that learning is accurate. These assessments provide students with feedback to help them know that what they are learning is correct or incorrect and to make the necessary corrections before the summative test. This type of assessment involves a process that impacts learning in a positive rather than a negative way. It is with this in mind that educators must focus attention on educational reform found in the use of assessments (Black & Wiliam, 2003).

According to Davies (2007), classroom assessment is a process that involves "formative classroom assessment, feedback, motivation, and summative

evaluation" (p. 31). The very nature of formative assessment is to improve learning by giving feedback to students. The very nature of monitoring student progress is the same– to improve student learning by giving students continuous, constructive feedback on their current progress in relationship to where it needs to be, and by giving them steps that can be done in order to get to that destination.

Assessment

This section on assessment includes the history of America's education and assessment, assessment in Mississippi, types of assessment, and student progress monitoring.

History of America's Education and Assessment

Even Sophocles (270 BC) knew that simply knowing and recalling facts did not mean for a certainty that someone could truly apply that knowledge (Reeder, 2002). Every age has had some form of assessment for learning even though it may not have had a formal education system. From the beginning of mankind, parents have observed children and assessed their learning of how to live. Daily chores, lessons in life, and relationships have always been assessed and confirmed or re-taught as children have grown.

According to Hoover, as reported by Lewis (2005), discussions about formal assessments must begin with the ancient Chinese civil exams which originated in 2357 BC. This centuries-old assessment measured "music, archery, horsemanship, writing, arithmetic, and arts and ceremonies" (Lewis, p. 8), all of which were needed in order to be a civil servant. This form of the exam remained intact until the 1900s when changes

in the culture required changes in the exam. As the culture grew, so did the exam adding "civil law, military affairs, agriculture, revenue, and geography of the empire" (p. 9). To account for the subjectivity that occurred when people assessed written exams, the Chinese brought in multiple readers thus establishing validity and reliability. The French took their cue from the Chinese and implemented similar exams in 1791. England followed suit in 1833. The United States established formal assessments modeled after the Chinese civil exam in 1883 (Lewis).

Lewis (2005) reported the continued presentation of Hoover, who professed that, as with all notable accomplishments, remarkable people take the lead in helping advance the cause. One such leader was Horace Mann who has been deemed by Hoover to be the "father of educational testing" (Lewis, 2005, p. 9). Mann favored moving to written exams such as those used by the ancient Chinese over the oral examinations used by universities. In 1846, schools in Boston began using written exams because, unlike earlier assessments, they were deemed impartial. Educators perceived these written exams as superior to previous exams. The impartiality of the new assessments created great favor in educators. Not only did the test show how well students were taught, it also allowed everyone to establish how easy or difficult particular questions were (Button & Provenzo, 1981; Gutek, 1992; Pulliam & Van Patten, 1999; Tanner & Tanner, 1980).

According to further accounts given by Hoover (Lewis, 2005), another notable assessment was Fisher's Scale Books (1864), which started the standardized testing movement. On the heels of Fisher's Scale Books was the New York Regents' Exam which came out in 1865. Although the New York Regents' Exam began as an

admissions' assessment for high school, it quickly evolved into a college entrance exam (Pulliam & Van Patten, 1999; Lewis, 2005; Tanner & Tanner, 1980).

Another educator with close ties to assessment was Joseph Rice whose interest in exams such as the New York Regents' Exam was to assess how well schools and teachers were doing their jobs–possibly the advent of accountability (Lewis, 2005; Button & Provenzo, 1981). An emulator of Rice, Thorndike was considered by some as the "father of achievement testing". His works impacted educators for decades. His protégés were virtual "Who's Who" in educational measurement for the first half of the twentieth century (Button & Provenzo, 1981; Gutek, 1992; Lewis, 2005; Pulliam & Van Patten, 1999;Tanner & Tanner, 1980).

Two well-known leaders in assessment were Lewis Terman, developer of the Stanford-Binet test (1916) and Stanford Achievement test (1923), and Lindquist, developer of the Iowa Testing Program (1929) and the Iowa Test of Basic Skills (1940). Lindquist was most noted for his desire for all students to be able to compete based on their knowledge of subjects similar to the way athletes compete in their respective sports. Additionally, he wanted tests to avail the users of information that would facilitate improved instruction in the classroom–to improve learning and not status (Button & Provenzo, 1981; Gutek, 1992; Lewis, 2005; Pulliam & Van Patten, 1999).

Historians have exclaimed that history repeats itself. In the realm of assessment one can see that statement validated. In the late 1890s the National Education Association established a Committee of Ten, mainly college presidents, who after studying curriculum issues concluded that there needed to be one academic curriculum

that was rigorous for all students (Ornstein & Levine, 2000; Pulliam & Van Patten, 1999; SCHOOL: The Story of American Public Education).

The early 1900s brought on the era of tracking student achievement through assessments. With America moving into a new urban industrial economy, the need arose to provide an education that prepared immigrant children for work. Although some areas were moving into an industrial economy, many rural schools were seeking agricultural courses in high schools (Ornstein & Levine, 2000; Pulliam & Van Patten, 1999; SCHOOL: The Story of American Public Education).

In 1906, a move to provide a more practical education to prepare students "to work" over "receiving a literary" education began. Six years later (1912) over 250,000 students took IQ tests created by Henry Goodman, Lewis Terman, and others. Because America was such a rural country and many young people worked on farms, the United States government enacted the Smith-Hughes Act which funded agriculture, trade, industrial, and home economic courses in high school for students aged fourteen and up who sought trade careers (Tanner & Tanner, 1980).

With a realization that the needs of students vary greatly and with dropout rates rising, the Commission on the Reorganization of Secondary Education in 1917 published the "Cardinal Principles for Secondary Education" which advocated different curricula for different students pursuing the value of the whole learner not just their academic faculties and education for every student not just those pursuing a college education (Lewis, 2005; Ornstein & Levine, 2000; Pulliam & Van Patten, 1999).

This approach is similar to the Montessori school of thought and lends itself to the Progressive Education Association which was created by Stanwood Cobb, along with

other likeminded educators. Building on the philosophy of John Dewey, these progressive educators guided students through hands-on learning to acquire problem-solving skills based on student interests. Student interest drove the curriculum while flexible teaching methods helped students develop self-discipline. This progressive model of instruction closely resembled the Montessori Method of Education (established by Maria Montessori in the late 20th century). Assessment in these classes is based on observation and non-standardized tests (Button & Provenzo, 1981; Gutek, 1992; SCHOOL: The Story of American Public Education).

During the early 1920s, career tracking took the place of the 'one size fits all' mentality of the existing educational system of college preparatory for everyone. Along with career tracking came the need to know how to assign students to which track, thus ushering in the testing era. Critics of the testing era abounded, yet they did not daunt Lewis Terman as he initiated achievement testing for specific subject areas. Within a decade, these tests were evident in over 75% of large city schools in America as educators began to track students toward specific careers. During the 1930s, the Association for the Advancement of Progressive Education conducted its famous Eight-Year Study (1932-1940) in which the results showed that "students following the progressive curriculum attain better grades, achieve more honors, have higher intellectual drive and curiosity, and participate in more student groups" (p. 2). With all the testing going on, it became necessary for some entity to manage the testing for education; thus the advent of the Educational Testing Service (ETS) in 1947 (SCHOOL: The Story of American Public Education).

With all the pulling back and forth between the progressive educators and the "testing" educators, the last thing the progressive educators wanted was "Sputnik." With the Russian launching of Sputnik, Americans were propelled into the throes of the ETS study, American School Today: A First Report to Interested Citizens, which recommended ability testing, grouping, and differentiated curricula, all of which reinforced tracking based upon abilities. And as history continued to repeat itself, and education continued to cycle, the next two decades (1950s and 1960s) ushered in a 'new' progressive program bringing into the classroom remnants of the previous progressive education program. Not to be left out, the "Back to Basics" movement ushered in more testing–minimum competency tests–(The Elementary and Secondary Education Act of 1965) to assure society that students who graduated had mastered the basic reading, writing, and arithmetic skills needed to succeed in the work environment (Button & Provenzo, 1981; Gutek, 1992; Ornstein & Levine, 2000; SCHOOL: The Story of American Public Education; Stake, 1998).

The testing of students opened itself to tracking students beyond that of tracking for career placement. Students were tracked by their test scores into remedial and special education classes. After several years of tracking, Congress enacted the Individuals with Disabilities Education Act (1975) to make sure that all students received the most appropriate education possible. In order to determine their return on investment in education, the federal government required testing as the instrument whereby schools were assessed.

The next event in history that impacted education and testing was the National Commission on Excellence in Education's report, *A Nation at Risk* (NCEE, 1983). The

impact of this report continues to be felt in education today. The report's urgent message of declining abilities of graduates continued throughout the decade leading to the National Education Goals. The key piece of the Goals 2000 Educate America Act involved student assessment. Although schools did not have to participate in the program, federal funding was given to those schools who participated (Button & Provenzo, 1981; Ornstein & Levine, 2000)

The impact of assessments in the United States today is reflected on the new Adequate Yearly Progress (AYP) part of the No Child Left Behind Act (NCLB). The intent of the act and the adequate yearly progress is to improve student learning. However, states' differing on the major components of the act threatens the credibility of the process and cause outcomes to vary so much that appropriate and valid judgments about each state's educational status are impossible because comparing unlike measures gives little valuable information on student performance nation-wide (No Child Left Behind Act, 2001).

Assessment in Mississippi

From the 1965 Elementary and Secondary Education Act, Mississippi, as well as all states receiving federal education funds, had to begin using standardized assessments to demonstrate good use of the funds provided (Hebbler, personal communication, November 6, 2007).

In 1982 Mississippi legislators enacted the Mississippi Education Reform Act (MERA) of 1982. As a result, Mississippi's original Performance-Based Accreditation System (PBAS) was developed and implemented in accordance with this act which required the establishment of a student assessment program that would provide

assessment that measured student achievement in appropriate subjects and in appropriate grades. The first truly mandated testing in Mississippi came about with this act. The MERA brought about the provision of assistant teachers in grades one and two. In order to determine what the return on the investment was, schools where assistant teachers were hired had to use a norm-referenced test to determine student achievement. Mississippi contracted with CTB McGraw-Hill for this test. Prior to 1982 all districts decided whether to use standardized testing and if so, which test to use. School districts and schools still have the choice to use additional testing if they so choose. No accreditation system was in place prior to this act (Hebbler, personal communication, November 6, 2007; Breazeale, personal communication, November 6, 2007).

In the spring of 1987, Mississippi administered tests as a pilot to the PBAS. The data collected from these tests were used for the design, evaluation, and implementation of the PBAS. School districts were not held accountable for the results of the pilot test. However, beginning with the test in spring 1988, districts were held accountable for student performance. The same tests used in the pilot were used in the 1988 testing. Mississippi chose to use the Basic Skills Assessment Program (BSAP) for reading, writing, and math in grades 3, 5, and 8 and the Stanford Achievement Test (SAT) for reading, language, and math in grades four, six, and eight. Grades four, six, and eight also had a composite score for the SAT (Hebbler, personal communication, November 6, 2007).

The BSAP was used for the 1988-89 school year through the 1991-92 school year as described above and in the 1992-93 school year for grade five only in the math, reading, and writing. The SAT was used through the 1994-95 school year as described

above. Beginning in 1995 and continuing through 1999, Mississippi students were assessed using the Iowa Test of Basic Skills (ITBS) in grades four through eight in reading, language and math. Additionally, students in grades four through eight completed a Performance Assessment (PA) test which consisted of constructed responses in language and math (Hebbler, personal communication, November 6, 2007).

Mississippi assessment for 11th grade high school students from 1988 through 1999 was the Functional Literacy Exam (FLE) covering reading, writing, and math. Additionally, an Algebra I test was used from 1992 through 1996. ACT (originally American College Testing) scores were also used in the Mississippi Performance Based Assessment System. Ninth grade students were assessed in reading, language, and math on the Test of Achievement and Proficiency (TAP) from 1995 through 1999. In addition, they were given Performance Assessment tests in language and math. This assessment consisted of constructed responses (Hebbler, personal communication, November 6, 2007).

Beginning in 2000 and continuing through 2005, Mississippi students were tested with the CTBS/Terra Nova norm referenced tests in reading, language, and math at various grades. Grades four and seven were tested in writing from 2000 through 2005 and then in 2007. The Mississippi Curriculum Test (MCT) for grades two through eight tested students in reading, language, and math from 2001 through 2007. High school students were tested using Subject Area Testing Program (SATP) in Algebra I, Biology I, English II including writing, and U. S. History. Mississippi implemented the Mississippi Curriculum Test 2 (MCT2) and a revised form of the English II and Algebra I tests in the

SATP. These tests were revised to increase the rigor needed to compete nationally and internationally (Hebbler, personal communication, November 6, 2007).

The rural school district in this study followed the state in testing throughout all testing requirements. However, it chose to add tests that would help teachers improve teaching and learning especially on the high school level. Students take Advanced Placement Tests, TABE (Test of Adult Basic Education), the PLAN which is a precursor to the ACT, and other tests that help students determine which academic path and/or career path they need to pursue and what they need to do to follow that path (Breazeale, presonal communication, November 6, 2007).

Types of Assessment

The basic types of assessments are standardized, diagnostic, summative, and formative assessments. Standardized assessments can be used for diagnostic or summative tests. Summative assessments are for the end of unit or end of a period of time. The summative tests are also called assessments of learning and are aimed at producing a grade or ranking a student or school. Most summative assessments (standardized, large-scale) provide very little useful feedback for teachers and students (Barton, 2002; Guskey, 2007; Hattie & Timperley, 2007). Popham (2008) defined a standardized (summative) test as one that is administered, scored, and interpreted in a standard, pre-determined manner. Popham further reported that the standardized tests used for evaluating a school or student's progress can bring about adverse consequences. Among those consequences are teachers reducing curriculum content in the class, teachers drilling and/or using direct instruction, and teachers possibly turning to dishonest measures to cope with the stress of the high-stakes tests. These negative aspects of using

summative testing show that using instructionally insensitive assessments prevent schools, teachers, and students from achieving the highest quality of education available (Haertel, 1999; Popham, 2005; 2008). Reeder (2002), Wright, Horn, and Sanders (1997) give an account about testing for skills acquirement only to find students who all scored high on the skills assessment could not apply those skills. A teacher's misconception in the classroom can be just as adverse as misunderstanding about standardized testing scores representing actual academic instructional progress in schools.

Davies (2007) described the feedback from the standardized assessment as evaluative feedback. This type of feedback is usually for teachers to use as these tests as a rule have a long turnaround time from the testing company.

The second type of assessment is an ongoing assessment called a formative assessment or an assessment for learning. The main objective of assessments for learning is to provide feedback to students to inform them of their learning progress. Formative assessments play the major role of student progress monitoring. The constant monitoring of progress through formative assessments provides students with immediate feedback so misunderstood concepts and skills can be corrected prior to summative assessments (Black & Wiliam, 2003; Sternberg, 2007-2008). Davies (2007) labeled this type of feedback as specific and descriptive. Davies also exhorts that teachers must relate feedback to the criteria. Teachers should provide students with information about what has been done well and what needs to be done differently. The feedback should be non-threatening and should not cause students to shut down. Jensen (1998), LeDoux (1996), Pert (1999), and Pinker (1997) supported this type of feedback in their findings that the brain is so busy protecting itself that a student cannot learn when he or she feels

threatened. Davies also reminds teachers that when students are involved in the assessment process by planning, assessing, self-assessing, and receiving feedback, they are motivated to learn and are engaged in learning.

Neill (1997) purported that even though assessment is beset with problems and shortcomings, assessment must be effective for learning to happen. To be effective, assessment must not measure rote, superficial learning; it must assess understanding. Teachers must cooperate with each other in collaborative assessment planning. The assessments must emphasize the quality of the work rather than the quantity of the work. Marking assessments must be about feedback that impacts learning rather than grades in a gradebook. According to Neil, assessment must be about comparing self-improvement rather than comparing students to each other. Neil also asserts that the assessments that need to be used in the classroom should provide teachers with the knowledge they have to understand what students require and then make that need a priority.

Black and Wiliam (1998) supported formative assessment as showing how student self-esteem can be improved when the assessment monitors the student's progress by giving him/her the necessary feedback. They also assert that formative assessment with proper feedback also brings about more committed and effective learners. Further, they purport that when a student knows what is expected, he or she can see the big picture of what is expected in his or her learning experience. Thus, the student has a better opportunity to develop and apply higher order critical thinking skills. Monitoring student progress requires effective feedback. For this feedback to be effective, it is essential that the feedback establishes what the achievement goal is, establishes where the learner is in

the learning process, and provides a way to close the gap between where the learner is in relation to the achievement goal (Black & Wiliam).

According to Reeves (2007a) the fundamental purpose of assessment is to improve student achievement, teaching practice, and leadership decision-making from the classroom level to the school leadership level to the district level. According to Schmoker (2006), now, more than ever, educators must embrace the opportunity for improving student learning. Schmoker questions schools, educators, and leaders' capacity to look beyond the monumental challenge of changing from current assessment practice to assessment practice that effectively improves student outcomes. The large-scale assessments–assessing large numbers of students in even larger numbers of schools–have founded most of the reform initiatives to date. According the Guskey (2007), these summative assessments serve only to place schools and students in order of their accomplishments–a large scale competition for first place.

Student Progress Monitoring

Guskey (2007) and Safer and Fleischman (2005) concluded that useful assessments are integral to the instructional process and are to be used as information sources for students and teachers; they are to be followed with high quality corrective instruction; and they are to allow for additional chances to be successful. Bloom, Maddus, and Hastings (1981) had earlier proclaimed the same to be crucial in the assessment process. The feedback helps students and teachers identify specific areas of learning difficulty. Additionally Guskey reminds educators that these assessments help teachers improve the quality of their teaching by assessing what worked well and what did not. According to Guskey, ". . . effectiveness in teaching is not defined on the basis

of what they do as teachers. Rather, it is defined by what their students are able to do" (p. 20). Information gleaned from assessments should inform teachers if their method of instruction needs to change. When teachers have the results of assessment that show students have not mastered the skills or concepts taught, moving forward without providing corrective instruction, i.e. presenting concepts or skills in new and engaging ways, would be disastrous. Both the students and the teachers fail to achieve their goals. According to Guskey (2007):

> . . . the purpose of a grade is to provide an accurate description of how well students have learned, then a different outlook is required. In this case, what students know and are able to do become the basis of the grade, rather than how or when they learned the information. From an educational perspective based on what is most helpful to students, this is clearly a more sound, defendable, and equitable position. (p. 25)

When describing his practice of mastery learning nearly four decades ago, Benjamin Bloom reported the same thing Whiting, Van Burgh, and Render discovered in their study published in 1995: their eighteen years of data support the benefits of mastery learning: "positive test scores, higher grade point averages, and positive attitudes toward school and learning" (Guskey, 2007, p. 26). Monitoring student progress has been one of the most important processes in education always, yet with all that is going on to bring about success in education for *all* children, it seems to be the one effective process that is not universally used by teachers. According to Guskey, whether it is called practice of mastery learning, formative assessment, or monitoring student progress, it is the single

most important process a teacher can use in the classroom to improve student achievement.

According to the Mississippi Department of Education, the MSPMS can be used to comprehensively monitor student progress with formative classroom assessments, curriculum-based measurement instruments, and state assessments. The Student Progress Monitoring System (SPMS) is a program initiated in the state of Mississippi to provide a time-saving way for teachers to use items correlated to the state framework to measure students' success. The program allows teachers to use items formatted just as testing items appear on the state achievement tests–Mississippi Subject Area Tests (MSATP) for high school–Algebra I, Biology, English II, and U. S. History; and the Mississippi Criterion-referenced Test–2 (MCT2) for grades three through eight. Because these test items are aligned with the state framework and both the MSATP and MCT2 are aligned with the state curriculum framework, students have the opportunity to develop good test-taking skills while demonstrating their acquisition of the skills/knowledge needed to be proficient in each subject area.

Demographic Variables Impacting Teachers' Perceptions of and Use of Technology

With each advance in the field of technology everyday-life is revolutionized. Such developments naturally lead to research that provides important information to those who would avail themselves of the new technologies. The educational arena is no exception. Harnessing the technological tools available for use in the classrooms has been an objective since the first scribe wrote on cave walls or stones. Demographic variables that are impacted or impact the use of technology have been researched over

and over again. Teacher perception, age, level of education, years of experience as an educator, and computer or technology comfort and experience are just a few that have been investigated. These variables have also been studied within other areas of life such as medicine, testing and accountability, and accepting and adapting to change (which impacts integrating technology and using technology).

Teacher Perception

Regino (2009) reported that teachers in institutions of higher education like reaching new audiences via online teaching. Further he reported that to have buy-in into this new way of teaching, these teachers must perceive reaching high level goals without disrupting other high level goals with the use of the technology. Regino further reported that the perception of faculty members was also affected by their belief that they have the control, the ability, and the resources necessary to use the technology effectively.

Regino's 2009 study showed that teachers' perceptions of online courses were impacted by their training in the use of the online course technologies. Also, their perceptions were impacted by the technologies' working or not working. Faculty members were very concerned with creating and managing courses and assessments.

Rentie (2008) studied the digital divide and how teachers perceived the digital divide as it related to narrowing the technology gap especially for low-income and minority students. In his study Rentie found that all participants in the study reported they agreed or strongly agreed that using technology in the classroom improved student motivation. Further, Rentie found that all participants in the study agreed or strongly agreed that using technology in the classroom enhanced student learning.

Isleem (2003) reported that perceptions do count when teachers decide whether to adopt an innovation. He reported that the participants' own perceptions of the innovative technology or teaching method drove whether the change became adopted.

Robinette (2001) reported that the Pearson product moment correlation coefficient was statistically significant with 0.29 at the .01 level. This score indicated that within his study population the more the perceived vision of the technology score increased, the more the actual implementation score increased.

Teachers' perceptions of technologies as they relate to assessment and online testing are important also. Teachers' perceptions of assessment in its original forms also can impact the use of the technologies involved in assessment. Flores and Clark (2003) conducted a study on teachers' perceptions of high-stakes testing. The authors discovered that teachers do want accountability, but they perceive assessments to be different from high-stakes testing. Teachers also perceive high-stakes testing as a threat to the balance of curriculum and assessment which leads to poor instructional decisions in the classroom. Teachers also perceive over-emphasis on high-stakes testing as detrimental to students, bringing on physical, psychological, and emotional symptoms in students. Smyth (2008) in addressing these issues proposes that student progress monitoring allows for the needs of the students. Student progress monitoring is more individualized for each student and does not have a one-sized assessment for all students.

Michael (2007) reported that a teacher's perception impacts his or her ability to accept and adapt to change. Understanding a teacher's perception about any program is the first step in determining a plan for change in the use of that particular program.

Age

Multiple studies have shown that age is a predictor of computer anxiety (Anderson, 1996; Lloyd & Gressard, 1984; Pope-Davis & Twing, 1991; Ruth, 1996). Lin (2004) studied how older adults react to multimedia interface with hypertext perusal. Czaja and Sharit (1998) found that age affected the level of difficulty experienced in acquiring computer skills and in achieving higher levels of performance. Charness and Bosman (2001) and Kelley and Charness (1995) found in their research that age plays a part in a person's use of computers and his or her ability to adapt to new technologies.

Bryant (2008) reported in her study that teachers reported varying ages from the under 30 group to the over 50 group. Most of these teachers reported varying degrees of ability to use technology, and even those who reported ability to use technology did not use it to the degree that would be expected. Henrickson (2007) reported from his study that age did not impact technology use in the professors from the pre-digital age even when they did not use the technologies of the digital age for classroom instruction. Henrickson also reported that only one quarter of the professors considered student learning needs when deciding whether to use technology for instruction. Prensky (2001) reported similar findings with professors in colleges who balk at using technology in the classroom.

According to Nelson (2007) in his study of teacher perception and use of problem-based learning (PBL) with online technologies, teachers' perceptions across all ages reported positive perceptions towards using online PBL for learning technology integration. His study also looked at technology comfort and age and found that

participants in the 31 to 40 and 41 and above age ranges showed evidence that suggested a lesser degree of technological comfort.

Robinette's (2001) findings showed that as computer use decreased, teacher age and years of experience increased. Nelson's (2007) study showed that even though teachers agree that technology is important, they do not feel comfortable with it in teaching, especially in the age range of 31 to 40.

Boland (2008) explored the correlation between age and degree of technology integration. Results from the Pearson correlation showed that age and degree of technology integration did not have a statistically significant bivariate relationship.

Level of Education

The level of education a person has attained as a variable in research studies has had various outcomes. Nelson (2007) reported in his study that more and more teachers of all ages are pursuing advanced degrees via online instruction through universities. Further, Robinette's (2001) study showed that teachers teaching grades 3 and 4 rated themselves much lower or much lower than expected on the International Society for Technology Education (ISTE) technology standards for teachers. Henrickson (2007) reported that tenured college professors continue to balk at integrating technology into the classroom.

Years of Experience as an Educator

The years of experience that an educator has, can, and does affect various aspects of education. In a study of teachers' perceptions of cooperative learning, Krecic and Grmek (2008) found that teachers' experience affected the way they assessed group

learning. In another study conducted by Brown (2007), significant differences in the attitudes of participants toward inclusion of students was found based on the administrator's years of experience as an administrator and as a regular classroom teacher. Administrators with fewer years experience in administration were in greater agreement with the placement of students with disabilities in the regular classroom (inclusion). Based on their years of experience in the regular classroom, administrators did not agree with the idea that regular teachers are not effectively trained to cope with disabled students.

Grahn (2007) discovered in her study that teachers' attitudes toward implementing inclusion, especially with collaboration, varied based on years of experience. Looking at superintendents' knowledge of teacher evaluation law, O'Connell (2007) found that a significant difference exists in superintendents' overall knowledge in terms of years of experience. In a study designed to examine early childhood teachers' beliefs and self-reported practices about teaching and learning mathematics, Swan (2007) found that the more experienced teachers scored higher concerning student learning than those with less experience. In a study of educators' perceptions of character education, Dykes (2007) found that teachers with one to eight years of teaching experience believed character education to be of value while teachers with eighteen years or more of teaching experience did not.

The population that Robinette's (2001) studied ranged from one year of teaching experience to 30 years of teaching experience with a mean number of years teaching at 14.9. His study showed that there was no statistically significant correlation between years of teaching experience and the teacher's perceived level of technology

implementation. However, Robinette's data showed that as computer use decreased there was an increase in teacher age and years of experience.

Boland (2008) studied the relationship of degree of technology integration with various independent variables. The variable of years of teaching experience when compared with degree of technology integration showed no statistically significant relationship between the two.

Level of School Where Teaching (Grade Level Taught)

The variable of grade level taught has been studied in its relationship to teachers' perceptions and attitudes regarding standardized testing (Hall, Villeone, and Phillippy, 1985). Elementary teachers, according to these studies, give more weight to standardized tests than middle and high school teachers. Anderson, Tollefson, and Gilbert (1985) reported in their study that elementary teachers were less positive than middle or high school teachers toward standardized testing. Green and Williams (1989) reported that elementary teachers are more likely to feel they value standardized test results than middle and high school teachers do. Their study also revealed that middle school teachers have a more favorable attitude toward the use of competency testing for students.

Additionally, Robinette (2001) found in his study a statistically significant difference in the mean scores for technology implementation based on grade level taught. The two grade level groups' report of scores for technology implementation showed that the K-2 group had a higher level of implementation of technology than did the 3-4 group.

Teacher Self-Efficacy–Perceived Level of Computer and/or Technology Comfort and Experience

How do teachers perceive themselves with technology? How do teachers perceive themselves with the MSPMS? The perception of their effectiveness and efficiency with either is the teacher's perception of his or her self-efficacy with the technology or the MSPMS. Bandura (1986, 1977) defined self-efficacy as what a person believes he or she can do successfully when confronted with a desired behavior that is required to produce a certain outcome. The theory of self-efficacy suggests that individuals with higher self-efficacy feel more confident that they can complete a task. Studies have shown that self-efficacy is related to computer anxiety and training as well as learning performance and computer literacy (Beckers & Schmidt 2001; Chou 2001). According to a study done by Straub (2008), individuals with a higher level of self-efficacy for technology tend to report a lesser level of unpleasant reaction to technology malfunction because they perceive technology barrier as resolvable where those with lower self-efficacy for technology would not. In Wilfong's study on computer anxiety (2006), individuals reporting lower computer self-efficacy had high correlations to individuals with high reports of unpleasant reactions to technology malfunction.

Bandura (1977) reported that people who regard themselves as efficacious find new and challenging situations which they pursue wholeheartedly. When these people meet with failure, they intensify their efforts. The beliefs that one has regarding his or her self-efficacy are related to his or her motivation (Bandura & Cervone, 1983).

Feltz (1982) reported that a person's self-efficacy beliefs were related to his or her success or failure. For example, if a person had high self-efficacy, he or she would be

successful and that success would predict future success. On the other hand, if a person's self-efficacy were low, he or she would meet with failure, thus predicting future failure.

The theory of self-efficacy has been applied to a plethora of behavioral domains not limited to academic and athletic performance alone, but also including competence in social and/or occupational domains, health-promoting behaviors, and counseling for prevention (Maibach, Schieber, & Carroll, 1996). Multon, Brown, and Lent (1991) conducted eighteen studies of self-efficacy and education. From their work they reported a positive relationship between self-efficacy and persistence. When predicting their academic motivation, low-achieving students appeared more influenced by the level of their self-efficacy.

Bandura's Theory of Self-efficacy has been used in a multitude of studies on varying topics. Research has shown that self-efficacy can influence behaviors individuals decide to carry out, their determination or attempt to surmount difficulty when executing the actions, and their authentic capability to execute the behavior (Compeau and Higgins 1995).

Nelson (2007) found in his study that even though teachers agree that technology is important for student instruction, they do not feel comfortable with it in their own teaching practices. Rentie (2008) reported that respondents in his study were not comfortable with integrating technology into daily lesson planning to the extent that it needed to be implemented. Additionally, Rentie reported that participants were uncomfortable with the technology and the time it takes to truly become effective in integrating the technologies into the classroom instruction.

Isleem (2003), reported in his findings that teachers were more comfortable with the more commonly used computer technologies than with those that are more specialized. In his study, Boland (2008) found that the higher the respondent's level of computer self-efficacy, the higher his or her technology integration scores were.

Subject Area Taught

The subject one teaches can influence the use of technology in the classroom. In a study by Mason (2005), the research showed that teachers of math and technology had more capacity to use technology than those teaching in other subject areas. For the ability to use technology, the study revealed a Cramer's V of .220, $\underline{p}$ =.001 and for frequency of technology use in class a Cramer's V of .241, $\underline{p}$ =.001. Schulter (2006) showed that the specific subject area one teaches does influence the use of technology in the classroom. Schulter's data revealed that 65% of the technologies used by teachers in five different high schools were used by mathematics teachers. Only 35% of the technologies used were used by English teachers.

Boland's (2008) study revealed that the participants in his study were relatively close in mathematics (n=22, 17%) and English/Language Arts (n=16, 13%). The only other relatively large group in his study was health and physical education teachers (n=21, 17.1%). Boland used a One-way ANOVA to compare groups based on subject taught to find any difference between their scores on the degree of technology integration and found the subjects taught did not differ with respect to the degree of technology integration.

Variables Impacting Teachers' Instructional Success

Variables impacting teachers' instructional success include attitudes, technology comfort, orientation or professional development provided, and availability of and access to equipment. Also included in these variables are time, support infrastructure, and importance of information gained. These variables have been researched, and this section provides some of the research regarding them.

Attitude

Over and over again researchers and authors report how important attitudes and perceptions are in the learning process–both teacher and student attitudes and perceptions (Rieg, 2007). Attitude impacts one's behavior. The learning process is impacted by attitude–both teacher and student (Rieg, 2007). A teacher's behavior is also affected by student attitude (Ames, 1992). Rice and Aydin (1991) have suggested that one's attitude correlates to one's implementation of any new innovation thus impacting the success of that implementation. Marzano (1992 & 1997) declared that classroom reform is best achieved when teachers change the way instruction is carried out. All planning, curriculum design, and assessment are aligned to reflect what is best for learning to occur. In order for teachers to carry out this change, they must have an attitude of willingness to change.

According to Griffin (1988), a teacher's attitude toward computers directly relates to his or her role in implementing effectual use of computers in education. Studies have shown that a teacher's successful use of computers is directly related to his or her attitude toward computers (Lloyd and Lloyd, 1985). Nash and Moroz (1997) examined the computer attitude scale factor structures. Because computers have infiltrated the school

system, researchers have realized the need to examine teacher attitude toward technology. Attitudes affect or influence behavior. Rice and Aydin (1991) have suggested that one's attitude correlates to one's implementation of any new innovation thus impacting the success of that implementation.

Mason (2005) found a moderate relationship between teachers' attitudes and their ability to use technology (gamma = .316, p = .002). Ajzen's (1991) theory of attitudes influencing behavior is important to the understanding of attitudes regarding computer or technology use or the lack thereof.

Policymakers have a positive attitude toward large-scale assessments because of their relative inexpensiveness, quick implementation, external mandate, and highly visible results (Linn, 2000). Additionally, the attitude that these high stakes tests bring about focused attention on improving student outcomes and guaranteed success affects the attitude of policymakers regarding assessment.

Guskey (2005) studied stakeholders' attitudes regarding indicators of student learning and reported that educators have a positive attitude toward the value of student portfolio work for assessment, teacher-developed assessments, and compositions and writings. Educators agree that standardized assessments are relative in that the data they provide, but they have a negative attitude toward the use of this data for rating of schools and teachers. The lack of direct control over the alignment of the standardized assessment to school, district, and/or state curricula further generates negative attitudes toward the value of standardized assessments.

In order for teachers to accomplish the desired improvements through assessments, they must change their attitudes about assessment and their interpretation of

test results. For the majority of teachers, assessment means an end of the unit or end of a time period exam that shows what students did or did not learn. When a teacher does give a quiz during the learning process, it is usually to determine if students did the assigned reading or have paid attention during class. The primary use of these assessments is assigning grades (Guskey, 2007). Stiggins (1999) surveyed states to determine whether or not teachers were required to demonstrate competency in assessment before becoming a licensed teacher. Less than 50% of the states require the competency. This reported data supports why many students experience hours of studying for a major exam just to find questions on the test that had absolutely nothing to do with what they studied. Parents have opinions regarding the use of standardized tests also. In a Gallup Poll (1986), Green and Williams (1989) reported that 77% of parents were in favor of achievement testing.

Technology Comfort

Most studies measure for computer anxiety to determine one's level of comfort with technology. Lloyd and Gressard (1984) reported that computer anxiety influences the acceptance of computers as well as their use as teaching and learning tools. Knowing to what extent a person has anxiety regarding the use of computers allows those providing professional development and/or computer training to address the fear by addressing two factors–the ownership of a computer and the experience needed to become comfortable with them.

Nelson's (2007) study showed that even though teachers agree that technology is important, they did not feel comfortable with using technology within their instructional activities in the classroom. Another study conducted by Castriotta (2004) revealed that

the knowing or not knowing of an online mentor for a college course did not make any difference in the level of computer comfort the student reported.

Orientation/Professional Development

Stiggins (2007) espoused the need for teacher training in the use of formative assessments. Further, Ainsworth (2007) acknowledged the need for professional development for teachers in the areas of aligning assessments of and for learning, using common formative assessment practices, identifying power standards, and unwrapping standards to provide for better formative assessment and student progress monitoring. Gallagher and Ratzlaff (2007-2008) explained that the use of standardized or summative testing for accountability has produced a "teaching-for-coverage" mentality in classrooms. A great need for professional development exists for helping teachers shift from this mentality to a "learning-for-understanding" mentality. Teachers need to know how to design reliable and valid assessments and how to give appropriate feedback to students. According to Shepard, Taylor, and Kagan (1996), teachers need to know how to connect instruction with assessment and then be able to provide constructive feedback. Professional development for teachers in using the results of the assessment to improve instructional strategies is also necessary (National Education Association, 2001).

Boland (2008) used a simultaneous regression analysis on the variables of computer self-efficacy, support, and professional development in technology as predictors of the degree of technological integration. In this study he found that those participants with higher levels of computer self-efficacy and those with positive feelings about the value of technology professional development had a higher degree of technology integration.

Bryant's (2008) study also reported that 95% of the teachers surveyed reported they agreed or strongly agreed that the professional development offered motivated them and provided instruction for technologies needed to support instruction in the classroom. Another question regarding professional development showed that 70% of the teachers agreed or strongly agreed that the professional development changed their teaching philosophy. Data from the study also showed that teachers believed that their technology skills were improved, they were more motivated, and they used the technologies more frequently because of the follow-up professional development offerings.

Availability/Access to Equipment

A study by Mason (2005) showed that the availability of computers for use by teachers and actual teacher use of computers had a positive relationship (gamma = .449, $\underline{p}$ = .000). Watson (2006) studied factors affecting teachers' level of classroom Internet use and teachers' self-efficacy regarding classroom Internet use. He found that the most common response to the number of Internet accessible computers in the classroom was between 2 and 3. The number of Internet accessible computers in a classroom affects the actual use of computers for learning in the classroom.

Bryant (2008) reported in her study that 95% of the respondents informed the researcher that the technologies available in their classrooms were less than two years old. Also, 96% reported having five or more computers in their classroom for instructional purposes. Over 90% reported having access to computer labs and laptop cart labs. Nelson (2007) reported that respondents informed the researcher that they had access to computer labs for instruction, but with minimal capacity for classroom

numbers. Robinson (2003) reported findings in her study that showed respondents had a negative perception regarding having the technology tools needed for use in their classrooms.

Time

Time is always a factor in every aspect of the educational environment. Even the issuance of credit for a course is based on seat time spent in that class. Any time a new task is tackled, time is involved. In the early stages of a newly implemented program, more time is needed. The more often a task is done, the more fluent a person becomes with that task. Early use of formative assessments and the use of any type of computer program take more time for teachers. Teachers are driven to cover more and more curriculum each year. Adding anything to the day's already bulging schedule brings about more frustration and anxiety. Whiting and others (1995), concluded that teachers may need a period or two of class time to start using formative assessment in class. However, in the long run teachers are more effective because they address minor learning problems early on, thus reducing the time needed to address compounded learning problems later. The corrective instruction gives students direction in how to improve (Wiggins, 1998).

Reeves (2007a) reported that the amount of time spent devoted to teaching literacy can increase the level of reading comprehension to the proficient level and higher. Ninety minutes of instruction in literacy can bring about 55% of the students to proficiency or higher. One hundred and twenty minutes of instruction brings that percentage to 72, and 180 minutes puts the percentage at 80. Teachers of literacy courses (reading, language arts/English, and mathematics) need more time to take students from

where they are to where they need to be. Time is also essential for monitoring progress. The more time a teacher has available for instruction and assessment, the greater the achievement for students.

With one of the main goals of the No Child Left Behind Act being the closing of the achievement gap, school leaders must ask themselves if they have provided ample time, opportunity, and support for teachers to collaborate and assess the results of common, formative assessments (Reeves, 2007a). Stiggins and Chappuis (2006) listed giving timely feedback that students can understand and use as an important component of assessment that impacts the reduction of the achievement gap.

Support Infrastructure

In a study conducted by Spaulding (2007), 53% of teachers either agreed or strongly agreed with three out of the four survey items regarding technical support availability and type in their school. Forty-three percent disagreed or strongly disagreed that materials (e.g., software, printer supplies) for classroom use of computers are readily available.

Bryant's (2008) study showed that 80.7% of the teachers in the study perceived the level of support infrastructure to be adequate and available at all times. Just over half of these participants reported needing more support in the provision of demonstrated technology-rich lessons. When answering survey items to reveal the level of teacher peer-support when using technologies for instruction, 87.3% agreed or strongly agreed.

Robinson (2005) reported that the low mean scores in her study indicated that the respondents had negative perceptions toward support provided in their schools. Boland (2008), in his study, revealed a statistically significant relationship between support and

technology integration. The more support provided, the higher the technology integration score was.

Importance of Information Gained

The importance of information gained means that what is gained is useful. Yushau (2006) reported that a teacher's attitude toward information technology is a crucial factor in his or her successfully integrating technology into the teaching of his or her class. Further, Yushau found that age and computer experience tend to affect a teacher's perception of the information gained through the use of technology as important. Is it useful and valuable is the question.

Robinson (2008) reported in her study that the participants had a positive perception about the information gained by using technologies in the classroom. Combs (2003) reported that the majority of the teachers in his study agreed that they found computers and technologies to provide important information for classroom instruction.

Vignettes

A vignette is a short scenario in which the issues that occur with some frequency in respondents' lives are easily understood by the respondents. Vignettes should provide enough contextual information for respondents to clearly understand the situation being portrayed, but be ambiguous enough to ensure that multiple solutions exist (Seguin & Ambrosio, 2002). According to Hughes and Huby (2002), vignettes can help researchers in their pursuit of understanding the beliefs, perceptions, and attitudes of people in various circumstances. Gould (1996) explains that researchers have increased their use

of vignettes because of the limitations when using questionnaires in studies of beliefs, perceptions, and attitudes.

A vignette is a thoroughly detailed description of real situations (Alexander & Becker, 1978). The purposes that vignettes serve can vary from establishing rapport with research participants to dealing with very sensitive topics to comparing different groups' perceptions regarding certain issues. Another purpose of using vignettes is that respondents more easily provide information about their beliefs and attitudes (Morrison, Stettler, & Anderson, 2002).

According to West (1982), vignettes should provide a realistic situation without providing unusual characters or events, easily understandable and relatable events, clear information, and multiple solutions. Salmon, Tandon, and Murray (2004) in their world health survey pilot study stated that integrating anchoring vignettes in surveys can improve the comparability of self-reported measures.

Summary

The review of literature revealed that many studies have been conducted on assessment, its history, and the way assessment has been used for educational reform. The literature defined assessment as a process or method whereby a student's academic performance, progress, or attainment is measured (Ewell, 2002). Further, the literature revealed three types of assessment: diagnostic, summative, and formative. Formative assessment has been the main focus of this study. Black and Wiliam (2003) reported that the formative assessment is the type of assessment that involves a process that impacts learning in a positive rather than negative way. Researchers have reported that assessment and student progress monitoring have the same goal to improve student

learning through continuous, constructive feedback regarding their current status of learning in relationship to where it needs to be (Davies, 2007).

From the earliest of times, formal assessments have been discussed. China in 2357 BC, France in 1791, England in 1833, and America in 1883 established formal assessments (Lewis, 2005). The history of assessment revolved through formal assessment to progressive more hands-on types of assessment. Educators continue today to find themselves going between the two. *The No Child Left Behind Act* has propelled America into the realm of more assessment for learning in order to help all children succeed.

Mississippi has followed all the regulations regarding assessment as prescribed by the National Department of Education. The school district of this study has followed Mississippi regulations and even gone above and beyond to provide for the needs of its students.

Studies regarding the various independent variables in this study have been conducted over the years. Technology as a tool for educators as well as in the workplace has been investigated. The investigations have been in the nature of how well it has been perceived and integrated both in the world of work and in education. The perceptions of teachers and others in different fields of work have been investigated in relationship to the technologies as they enter the world. Age has been shown to and not to impact teacher use and perception of technology. Level of education, years of experience, level of school, computer comfort, computer experience, self-efficacy, subjects taught, and attitudes have all been investigated. These studies showed that each variable has impacted teacher or employee use and/or perception of technology and/or assessment.

Research has also revealed a connection between having access to technology, having time, and having a support infrastructure that impacts teacher and/or employee attitudes.

The use of vignettes in surveying people was also found in the review of literature. The use of the vignettes has been reported by Salmon, Tandon, and Murray (2004) as improving the comparability of self-reported measures as found in surveys. Hughes and Huby (2002) reported that researchers have found vignettes to be of help in understanding people's beliefs, perceptions, and attitudes when confronted with certain situations. Based on these reports, a study conducted on teachers' perceptions and attitudes regarding the MSPMS could benefit from the use of vignettes.

CHAPTER III

METHODOLOGY

The goal of this research was first to investigate a rural Mississippi school district's teachers' perceptions of the MSPMS. The next goal was to evaluate relationships among independent variables and teachers' perceptions of the MSPMS. The third aim of this study was to investigate teachers' attitudes towards the implementation and use of the MSPMS within their school district. A one-time survey was used to collect data to answer the three research questions. This chapter describes the methods of the study and consists of the following sections: the research design, a description of the population, an overview of the instrumentation used in the study, reliability, the procedures that were followed in data collection, and the statistical procedures used to analyze data.

Research Design

The research design employed was correlational, and descriptive. A one-time web-based survey was used to acquire demographic information as well as data to investigate teacher attitude towards logical and common variables that influence teacher perception of the MSPMS. Descriptive and correlational research methods were used in this study. According to Fraenkel and Wallen (2006) descriptive and correlational

methods are useful for describing populations, acquiring data from groups of individuals about a given topic, and establishing relationships among variables.

Population

Teachers who teach grades 1-12 core subjects of language arts/reading, mathematics, science, and social studies within a rural school district in Mississippi (N = 72) participated in this study. Those teaching outside the core academic courses described above and/or outside the district were not included.

Instrumentation

Responses to the web-based Mississippi Student Progress Monitoring System-Attitudes and Perception Inventory (MSPMS–API) were used for this investigation. (Appendix A). A two-part situation (vignette) addressing teacher perception of technology and teacher reaction to technology failure comprised Part I of the survey. Part II consisted of six, two-part situations (vignettes) addressing teacher perception of the MSPMS and teacher reaction to adverse encounters with MSPMS. The final portion of the survey was comprised of 17 questions. Of these, nine addressed MSPMS, (three about teachers' perceptions of MSPMS and six about working with MSPMS) and eight measured computer use, self-efficacy with computers, and demographic information.

Once the instrument was placed online, the researcher provided access to the participants. Submission of the survey indicated informed consent according to Institutional IRB requirements. Participant security was accomplished via IP address deletions.

Prior to administration, face and content validity of the items comprising the instrument were established via review and commentary provided by a panel of three experts. The panel consisted of the an MSPMS state trainer with four years of experience in training teachers to use MSPMS and ten years experience as an educator, and two outside consultants. The first expert had 40 years of educational and research experience and the second possessed 30 years of experience in education with a Doctor of Philosophy with a specific emphasis in surveying teachers in various school districts in Mississippi and Oklahoma. The panel review resulted only in minor changes in wording for clarity and visual aesthetics being made.

Following a technique suggested by Patten (2001), the instrument was given to a teacher who had used MSPMS effectively. The teacher verbalized thoughts while completing the survey under the researcher's observation. Notes and observation resulted in several items with confusing wording being changed.

Stability of responses over time was established using 37 teachers from a nearby rural Mississippi school district. Two administrations of the instrument were given separated by a one-week interval. Calculated according to procedures outlined by Shrout and Fleiss (1979), the mean intraclass correlation coefficient (ICC) for the composite score was .82 at one week.

Reliability

Internal consistency of responses of the study population (n = 72) to the three measurement questions comprising the composite teacher perception score was calculated using a Cronbach's Alpha estimate [$\alpha = N \cdot \bar{c} / \bar{v} + (N–1) \cdot \bar{c}$]. Responses were internally consistent ($\alpha = .86$).

Procedures

Approval from the Mississippi State University Institutional Review Board and county school board was received (Appendix B and C, respectively). The proposed instrument and cover letter to participants (Appendix D) were attached to the IRB application. The researcher met with teachers who met the criteria to serve as participants. The teachers were provided a cover letter explaining the research, the voluntary nature of the study and asked to participate. Once committed, participants completed the consent and were guided through the Mississippi Student Progress Monitoring System-API which took no more than 20 minutes of their time. At the close of the study, all participants were invited by the investigator to a workshop to receive the outcomes of the study.

Data Analysis

Data from this study were collected in May 2008. Data were automatically downloaded into a secure database using *SPSS 14* (SPSS, INC Chicago, Ill). Respondents participating within the study who had missing or partial data were eliminated from the initial analysis.

Data were collected for the following research questions through the specific number(s) on the instrument as listed below.

Research Question 1

Is a teacher's perception of the web-based MSPMS different based on his or her (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle, or high school; (e) perceived level of computer

and/or technology comfort; (f) perceived level of computer and/or technology experience, (g) subject area taught; (h) number of MSPMS tests created; and (i) number of MSPMS tests given to students?

This question was answered using MSPMS-API items 23, 24, and 25 to acquire a score for teacher perception of MSPMS (dependent variable). In addition to these items, the demographic (independent) variables listed as a–i above were answered using MSPMS-API items 34, 38, 37, 35, 2, 3, 4, 5, 6, 7, 8, 9, 28, 36, 30, and 31. Using a composite mean score ($\overline{X}$) for items 23, 24, and 25, (dependent variable), the researcher calculated the mean scores for the independent variables and then compared them to the composite mean score for the dependent variable using multiple One-way ANOVAs to determine the difference each independent variable had in relation to the dependent variable. The study found no statistical difference for any of the independent variables in relation to the dependent variable. Cronbach's estimate for internal consistency was calculated for the teacher perception composite score ($\alpha = .86$).

Research Question 2

Is there a relationship among the dependent and independent variables of (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience; (g) subject area taught; (h) number of tests created; and (i) number of tests given?

A correlation analysis employing multiple Pearson r statistics within a matrix testing for two-tailed statistical significant relationships among the independent variables beyond zero was performed.

Research Question 3

What are teachers' attitudes toward the variables associated with teachers' perceptions of the MSPMS Variables: (a) technology comfort;
(b) orientation/professional development; (c) availability/access to equipment; (d) time; (e) support infrastructure (school, district, and/or state level); (f) efficacy of program (does it work? does it produce positive outcomes?); or (g) importance of information gained from MSPMS?

This question was explored utilizing a descriptive approach to responses to the items on the survey instrument. Frequencies of response and thorough analysis were reported for independent attitudes and perceptions of responses provided to the vignettes within the survey instrument.

CHAPTER IV

RESULTS

This study investigated a rural Mississippi school district's teachers' perceptions of the MSPMS. Relationships among the independent variables were also explored and teachers' attitudes towards the implementation and use of the MSPMS within their school district were evaluated. A survey was used to collect data to answer the three research questions. This chapter describes the results of the study and consists of the following sections: participants, and findings of the research study for questions one, two, and three.

Participants

The population in this study consisted of teachers who teach grades 1-12 core subjects of language arts/reading, mathematics, science, and social studies within a rural school district in Mississippi (N=72). Seventy-two usable responses were received

Participants were female (n = 72), elementary, middle school, and high school teachers core subjects in a rural Mississippi school district which utilized the MSPMS.

Findings of the Research Study

The findings of the research study section includes a section on reliability, research question 1 results, research question 2 results, and research question 3 results.

Research Question 1

Is a teacher's perception of the web-based MSPMS different based on his or her: (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle, or high school; (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience; (g) subject area taught; (h) number of MSPMS tests created; and (i) number of MSPMS tests given to students?

The means and standard deviations of the dependent and independent variables are provided in Table 1. No statically significant differences in participants' perception of the MSPMS based on any of the independent variables was found between the means for research question 1.

Table 1 Means and SD of Teachers' Perceptions (DV) and Independent Variables

Variable	Mean	SD
Dependent Variable–Combine 23, 24, 25: I feel that everyone would benefit from using the MSPMS; I feel that the MSPMS works; I feel that the MSPMS produces useful outcomes.	8.40	.230
Independent Variable 34: Age	41.8	9.17
Independent Variable 37: Years of teaching experience	4.07	1.39
Independent 27: Technology Experience	2.44	.977
Independent 28: Technology Comfort	3.72	.655
Independent 30: Assessments created in MSPMS	1.90	.735
Independent 31: MSPMS assessments given	2.10	.842

Data collected to the three items which comprise the composite dependent variable revealed that while 18.1% of the responding teachers strongly agreed that

everyone would benefit from using the MSPMS, 54.2% somewhat agreed that everyone would benefit from using it. A total of 72.3% were in some form of agreement that teachers would benefit from using MSPMS.

Data from survey Part III Question 24, revealed that 8.3% of those surveyed strongly agreed that MSPMS works, with 70.8% agreeing to some degree that the program works. Data from survey Part III Question 25 revealed that 12.5% strongly agreed that MSPMS produces useful outcomes, with 76.4% agreeing to some degree that the program produces useful outcomes. Descriptive data for questions 23, 24, and 25 are found in Table 2.

Table 2 Descriptive Data: Number and Percent for DV Teachers' Perceptions

Part III Survey Question Dependent Variable	Disagree		Somewhat Disagree		Somewhat Agree		Agree	
	N	%	N	%	N	%	N	%
23 MSPMS is beneficial to everyone	3	4.17	17	23.6	39	54.2	13	18.1
24 MSPMS works	6	8.33	15	20.8	45	62.5	6	8.33
25 MSPMS produces useful outcomes	4	5.56	13	18.1	46	63.9	9	12.5

Research Question 2

Is there a relationship among the teachers' perceptions of MSPMS and independent variables of (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of

computer and/or technology experience; (g) subject area taught; (h) number of tests created; and (i) number of tests given?

Table 3 provides a complete correlation matrix. No significant relationships were found between the dependent variable and any independent variable. Significant relationships were shown within the independent variables of subjects a teacher teaches and the school level where he or she teaches ($r = -0.433$, $p = 0.000$); a teacher's age and years of experience ($r = 0.752$, $p = 0.000$); a teacher's technology experience and highest level of education attained ($r = 0.302$, $p = 0.010$); and the subjects a teacher teaches and the number of MSPMS tests given to his or her students ($r = -0.355$, $p = 0.002$).

Table 3 Correlation Matrix Dependent (A) and Independent (B-I) Variables

	A	B	C	D	E	F	G	H	I
A	1.000	0.219	-0.047	0.176	-0.170	-0.061	0.010	0.124	-0.030
	Sig (2 tailed)	0.060	0.696	0.140	0.153	0.608	0.982	0.300	0.785
B		1.000	0.140	0.153	-0.028	0.116	**0.302**	0.156	0.085
		Sig (2 tailed)	0.242	0.199	0.816	0.332	**0.010**	0.190	0.479
C			1.000	0.047	-0.138	**0.752**	0.149	0.140	-0.040
			Sig (2 tailed)	0.695	0.246	**0.000**	0.212	0.239	0.726
D				1.000	**-0.433**	0.045	-0.026	0.142	**-0.355**
				Sig (2 tailed)	**0.000**	0.705	0.829	0.234	**0.002**
E					1.000	-0.122	0.144	-0.010	0.185
					Sig (2 tailed)	0.306	0.227	0.934	0.120
F						1.000	-0.027	0.103	-0.122
						Sig (2 tailed)	0.823	0.389	0.306
G							1.000	0.092	0.109
							Sig (2 tailed)	0.444	0.361
H								1.000	0.010
								Sig (2 tailed)	0.935
I									1.000
									Sig (2 tailed)

Bolded items indicate significant at the .01 level (2-tailed): A. Teachers' Perception of MSPMS, B. Highest level of education attained, C. Years of teaching experience, D. Subjects you teach, E. School level where you teach, F. Age, G. Technology Experience, H. Technology Comfort, I. How many SPMS assessments have you given to your students?

Research Question 3

What are teachers' attitudes toward the following variables associated with teachers' perceptions of the MSPMS: (a) technology comfort; (b) orientation/professional development; (c) availability/access to equipment; (d) time; (e) support infrastructure (school, district, and/or state level); (f) efficacy of program

(does it work? does it produce positive outcomes?); or (g) importance of information gained from MSPMS?

Part I of the MSPMS-Attitude and Perception Inventory (MSPMS-API) consisted of four vignettes (1, 2, 3, 4) setting up technology-related situations with adversities to face for the teachers to read and determine how they would react to the situation. Part II consists of six vignettes (5, 6, 7, 8, 9, 10) setting up MSPMS and technology-related situations with adversities to face for the teachers to read and determine whether the situation was important to them and then how they would react to that situation. Observation of the data collected from these vignettes (found in Tables 4 through 14) show that respondents considered some situations more important than others and that they emotionally reacted to certain types of technologies in a variety ways.

The three relevant technologies for teachers included the cell phone, the web, and the credit card swipe machine. The fourth vignette included a mechanical technology. The four categories, used in all 10 vignettes, for how important the situation was to the teacher were *not at all important, somewhat important, definitely important,* and *very important* (see Table 4). Whether or not a teacher deemed a situation to be important determined whether his or her attitude was important to the study. The four attitudes studied in the vignettes were *angry*, *challenged*, *frustrated*, and *anxious* (see Tables 5 through 14).

Vignette 1 presented responders with a situation in which a teacher was on the way to work and found himself/herself in a traffic jam. The traffic jam was going to cause him/her to be late to work. The teacher pulled out the cell phone to report his or her situation to the principal only to find the cell phone not working. Because 95.8% of

the responders considered this situation to be very important, their attitudes regarding the situation are important (see Table 4).

Of the 72 responders, the majority reported feeling somewhat angry (41.7%, n= 30) to definitely angry (25%, n = 18) regarding their inability to communicate with the principal via cell phone. Of the remaining 33.3%, 26.4% (n = 19) reported not being angry at all with 6.9% (n = 5) reporting feeling very angry. Only 8.3% (n = 6) of the respondents reported feeling not challenged at all, with 91.7% (n = 66) reporting feeling somewhat challenged (29.2%, n = 21), definitely challenged (33.3%, n = 24), or very challenged (29.2%, n = 21) when dealing with a dead cell phone while stuck in traffic on the way to work (see Table 5).

The majority (98.7%) of the responders reported feeling somewhat frustrated (18.1%, n = 13), definitely frustrated (25%, n = 18), very frustrated (55.6%, n = 40) with the situation of the cell phone not working. Only 6.9% (n = 5) reported not being anxious at all regarding the dead cell phone. The majority (93.1%, n = 67) reported being somewhat anxious (12.5%, n = 9), definitely anxious (20.8%, n = 15), or very anxious (59.7%, n = 43) (see Table 5).

Table 4 Frequencies for How Important Situation Is

Vignette	Technology Situation	Not at All Important	Somewhat Important	Important	Very Important
1	In a traffic jam, going to be late to school, need to call principal	1	0	2	69
		1.4%	0%	2.8%	95.8%
2	Entering grades into web-based gradebook program	0	3	15	54
		0%	4.2%	20.8%	75.0%
3	Late for meeting in central office, out of gas, credit card swipe machine	2	18	19	43
		2.8%	11.1%	25.4%	59.7%
4	Elevator in shopping mall out of order	38	18	8	8
		52.8%	25.0%	11.1%	11.1%
Vignette	MSPMS Situations				
5	MSPMS Professional Development important to work	3	10	22	37
		4.2%	13.9%	30.6%	51.4%
6	MSPMS program important to meet work demands	7	11	20	34
		9.7%	15.3%	27.8%	47.2%
7	Support provided by MSPMS trainer important to work responsibilities	4	4	13	51
		5.6%	5.6%	18.1%	70.8%
8	Availability of equipment important to work goals	2	8	12	50
		2.8%	11.1%	16.7%	69.4%
9	Time is important to achieving work goals	2	1	9	60
		2.8%	1.4%	12.5%	83.3%
10	Information gained from MSPMS important to work goals	3	2	24	43
		4.2%	2.8%	33.3%	59.7%

Table 5 Vignette 1 (Survey Question 3)

PART I Situation 1 Part 1 I am driving on the Interstate to school. I have to be on duty right now but I am running a little late. Shortly after I merge onto the Interstate, I begin to slow down because of traffic. Just ahead I see there has been an accident. I am between exits and cannot get off the Interstate. There is no telling how long I will be stuck in traffic. I am responsible for my duty post, and I know I must let my principal know that I am going to be late. I have my cell phone with me and I reach to make the call. 3. Situation 1 Part 2 As I start dialing my principal's number, the cell phone goes completely dead. I check the battery and try turning it on and off again. It is not working. I am unable to call my principal. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	19 26.4%	30 41.7%	18 25.0%	5 6.9%
Challenged	6 8.3%	21 29.2%	24 33.3%	21 29.2%
Frustrated	1 1.4%	13 18.1%	18 25.0%	40 55.6%
Anxious	5 6.9%	9 12.5%	15 20.8%	43 59.7%

Vignette 2 presented a situation in which a teacher was entering grades into a web-based gradebook when the computer locked up and all entries were lost. As found in Table 4, the majority (95.8%) of teachers reported feeling the use of the web-based gradebook to be important (20.8%) or very important (75.0%) (see Table 4). Teachers' responses to the attitude questions revealed that only 4.2% (n = 3) would not feel angry at all in this situation. The majority (95.8%, n = 69) were somewhat angry (26.4%, n = 19), definitely angry (38.9%, n = 28), or very angry (30.6%, n = 22) in this situation. When reporting about feeling challenged, only 6.9% (n = 5) reported not feeling challenged at all. Of the remaining 93.1% (n = 67) of responders, 41.7% (n = 30) reported feeling somewhat challenged, 22.2% (n = 16) definitely challenged, and 29.1% (n = 21) very challenged (see Table 6).

Data collected for responders feeling frustrated for this scenario revealed that every responder reported feeling frustrated to some degree. Of the 72 responders, 8.3% (n = 6) reported feeling somewhat frustrated, 23.6% (n = 17) reported being definitely frustrated, and 68.1% (n = 49) reported feeling very frustrated. The reported data for anxiety revealed that only 13.9% did not feel anxious at all. Of the remaining 86.1% (n = 62), 30.6% (n = 22) reported feeling somewhat anxious, 29.2% (n = 21) reported feeling definitely anxious, and 26.4% (n = 19) reported feeling very anxious (see Table 6).

Table 6 Vignette 2 (Survey Question 5)

Situation 2 Part 1 I have just finished grading papers. I decide to use my gradebook program to record grades. I go to the Internet to open the web-based gradebook program. I begin entering grades for the first class. 5. Situation 2 Part 2 As I start entering in the last few grades, my computer locks up. All of the grades I have entered are not recorded. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	3 4.2%	19 26.4%	28 38.9%	22 30.6%
Challenged	5 6.9%	30 41.7%	16 22.2%	21 29.2%
Frustrated	0 0%	6 8.3%	17 23.6%	49 68.1%
Anxious	10 13.9%	22 30.6%	21 29.2%	19 26.4%

Vignette 3 found the teacher running late for a meeting in the central office and needing gas to get there. When the teacher was ready to pay for the gas at the convenient pay-at-the-pump card-swipe, she found the machine not working, thus causing further delay for the teacher. The majority (85.1%) of the respondents reported feeling the

situation to be important (25.4%) or very important (59.7%) (see Table 4). The majority of the teachers responding to this vignette reported feeling angry. Only 15.3% (n = 11) reported not feeling angry at all. The remaining 84.7% (n = 61) reported feeling somewhat angry (48.6%, n = 35), definitely angry (23.6%, n = 17), or very angry (12.5%, n = 9) (see Table 7).

When asked about feeling challenged by the situation, 37.5% reported they felt no challenge at all, with 40.3% (n = 29) reporting feeling somewhat challenged. The remaining responses indicated that 12.5% (n = 9) felt definitely challenged and 9.7% (n = 7) felt very challenged. The respondents reported their level of frustration in the following degrees: 6.9% (n = 5) did not feel frustrated at all, 22.6% (n = 16) felt somewhat frustrated, 33.3% (n = 24) definitely frustrated and 37.5% (n = 27) felt very frustrated. Revealing their level of anxiety, 30.6% (n = 22) of the respondents reported not feeling anxious at all. The remaining 69.4% (n = 50) reported feeling varying degrees of anxiety. Those reporting feeling somewhat anxious were 31.9% (n = 23), definitely anxious were 26.4% (n = 19), and very anxious were 11.1% (n = 8) (see Table 7).

Table 7 Vignette 3 (Survey Question 7)

Situation 3 Part 1 I am running late today for a meeting in the central office. I start my car and immediately the little low fuel indicator lights up. I need gas. I pull into the local gas station. The station has both automatic credit card swipe at the pump and an attendant inside the station who can handle credit card payments. I pull up to the first available pump. 7. Situation 3 Part 2 I insert my credit card into the card swipe machine. At first, nothing happens. I try again. Then I notice a little note underneath the display that says, "Credit Card not working on pump–please pay inside." When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	11 15.3%	35 48.6%	17 23.6%	9 12.5%
Challenged	27 37.5%	29 40.3%	9 12.5%	7 9.7%
Frustrated	5 6.9%	16 22.2%	24 33.3%	27 37.5%
Anxious	22 30.6%	23 31.9%	19 26.4%	8 11.1%

The fourth technology in the survey was a mechanical technology not related to participants' work at all. This vignette placed the teachers in a mall setting with an elevator that was not working. The majority (52.8%) of the responders reported this situation not to be important at all (see Table 4). When teachers were asked to respond to this question regarding their attitudes, the majority reported they did not feel angry at all (75.0%, n = 54) about the elevator not working. The remaining 25.0% (n = 15) reported they felt somewhat angry (20.8%, n = 15), definitely angry (2.8%, n = 2), or very angry (1.4%, n = 1). In all four categories of attitudes, this scenario elicited fewer responses indicating degrees of any anger, challenge, frustration, or anxiety. The responses for challenged were not feeling challenged at all 73.6% (n = 53), somewhat challenged (19.4% (n = 4), definitely challenged 5.6% (n = 4), and very challenged 1.4% (n = 1).

The responses for feeling frustrated were not frustrated at all 40.3% (n = 29), somewhat frustrated 44.4% (n = 32), definitely frustrated 11.1% (n = 8), and definitely frustrated 4.2% (n = 3). The degrees of anxiety reported were not at all anxious 80.6% (n = 58), somewhat anxious 12.5% (n = 9), definitely anxious 4.2% (n = 3), and very anxious 2.8% (n = 2) (see Table 8).

Table 8 Vignette 4 (Survey Question 9)

Situation 4 Part 1 I am going to a shopping mall. The elevator, the stairs, and the escalator are fairly close to each other. I decide to take the elevator, even if it is only for one floor. 9. Situation 4 Part 2 I step into the elevator. I press the button for the first floor, but nothing happens. I notice an "out of order" sign on the side of the panel. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	54 75.0%	15 20.8%	2 2.8%	1 1.4%
Challenged	53 73.6%	14 19.4%	4 5.6%	1 1.4%
Frustrated	29 40.3%	32 44.4%	8 11.1%	3 4.2%
Anxious	58 80.6%	9 12.5%	3 4.2%	2 2.8%

Part II of the survey dealt specifically with technologies and situations within the school setting that affect the teachers' use of the MSPMS technologies. Each scenario was planned to elicit responses that would aid the researcher in making suggestions at the district level regarding MSPMS technologies and how they would be used within the school system. Teachers were given specific directions regarding the vignettes. They were asked to put themselves in the situation and then decide on a scale of 1 to 4 how much the statement reflected to what degree they felt anger, challenge, frustration, or

anxiety regarding each particular situation. A response of 1 would indicate that they did not feel angry, challenged, frustrated, or anxious at all about the MSPMS situation, and a response of 4 would indicate they felt very angry, challenged, frustrated, or anxious about the MSPMS situation in the scenario.

Vignette 5 (Table 9) set up a situation in which teachers had been trained in the use of the MSPMS and were required to assess their students using the program. In this scenario, teachers were asked first if the situation were important to them, then to what extent they felt angry, challenged, frustrated, or anxious when the program caused the computer to lock up. The majority (82%) reported the situation to be important (30.6%) or very important (51.4%) to them (see Table 4). Only 5.6% (n = 4) of the teachers reported that they would not feel angry at all in this situation. The remaining 94.4% reported that they would feel somewhat angry (40.3%, n = 29), definitely angry (34.7%, n = 25), and very angry (19.4%, n = 14).

Teacher responses regarding feeling challenged indicated 5.6% (n = 4) would not feel challenged at all with 30.6% (n = 22) reporting they would feel somewhat challenged, 40.3% (n = 29) reporting they would feel definitely challenged, and 23.6% (n = 17) reporting they would feel very challenged. In reporting their feelings of frustration, teachers indicated that only 2.8% (n = 2) would not feel frustrated at all. The majority reported they would either feel definitely frustrated (34.7%, n = 25) or very frustrated (50.0%, n = 36). The remaining 12.5% (n = 9) reported they would feel somewhat frustrated. Teachers' feeling of anxiety were reported at 12.5% (n = 9) no feeling of anxiety at all, 30.6% (n = 22) somewhat anxious, 34.7%, (n = 25) definitely anxious, and 22.2% (n = 6) very anxious (see Table 9).

Table 9 Vignette 5 (Survey Question 11)

Part I Situation 5-1 I am preparing a diagnostic assessment for my students. I am required to use the web-based SPMS program to assess my students. I am running behind in getting this accomplished. I am glad I have been to all of the SPMS trainings offered and have all of my notes and handouts. 11. Situation 5 Part 2 As I begin to choose my assessment items, I notice that the system is running slowly. Then all of a sudden the computer is locked up. I cannot complete my assessment. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	4 5.6%	29 40.3%	25 34.7%	14 19.4%
Challenged	4 5.6%	22 30.6%	29 40.3%	17 23.6%
Frustrated	2 2.8%	9 12.5%	25 34.7%	36 50.0%
Anxious	9 12.5%	22 30.6%	25 34.7%	16 22.2%

Vignette 6 set up a scenario whereby a principal requested information on student progress at a given point in time. Using the MSPMS program the teacher had to retrieve a report with the requested information. The majority (75.0%) of teachers responded to the question of importance of the MSPMS that it was important (22.8%) or very important (47.2%) (see Table 4). When confronted with the teacher not being able to retrieve the report in the scenario, teachers reported their feelings of anger, challenge, frustration, and anxiety. Data collected revealed that in this situation 11.1% (n = 8) teachers would not feel angry at all. The remaining 88.9% (n = 64) reported that they would feel somewhat angry (33.3%, n = 24), definitely angry (29.2%, n = 21), and very angry (26.4%, n = 19).

When responding to the degree of feeling challenged, 8.3% (n = 6) reported they would not feel challenged at all, 23.6% (n = 17) somewhat challenged, 40.3% (n = 29) definitely challenged, and 27.8% (n = 20) very challenged. Teachers reported feelings about frustration with 2.8% (n = 2) reporting they would not feel frustrated at all. Of the remaining 97.2% of respondents, 11.1% (n = 8) reported they would feel somewhat frustrated, 34.7% (n = 25) definitely frustrated, and 51.4% (n = 37) very frustrated. Of the 72 teachers responding in this study, 13.9% (n = 10) reported that they would not feel anxious at all in this scenario. The remaining 86.1% (n = 62) reported that they would be somewhat anxious (25.0%, n = 18) definitely anxious (22.2%, n = 16), or very anxious (38.9%, n = 28) (see Table 10).

Table 10 Vignette 6 (Survey Question 13)

Situation 6 Part 1 I am a first-year teacher. I received a message from the principal requesting a meeting during my conference period today. He has requested information regarding student progress in my class thus far. I log into the web-based SPMS to retrieve the student item analysis for the last three assessments. I also need to pull up the history report for all of my students.

13. Situation 6 Part 2 As I get the history report up to print, I see that it is blank. There is no report data. When you are in this situation, to what extent do you feel

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Not at all	Somewhat	Definitely	Very
Angry	8 11.1%	24 33.3%	21 29.2%	19 26.4%
Challenged	6 8.3%	17 23.6%	29 40.3%	20 27.8%
Frustrated	2 2.8%	8 11.1%	25 34.7%	37 51.4%
Anxious	10 13.9%	18 25.0%	16 22.2%	28 38.9%

Vignette 7 showed the teacher needing help from the district MSPMS trainer. Teachers were asked to respond to how important the district trainer's availability was to them. The majority (70.8% reported that the support provided by the MSPMS trainer was very important to them (see Table 4). When the scenario presented the trainer as unavailable, teachers reported responses for their feelings of anger, challenge, frustration, and anxiety. When faced with needing help with MSPMS, 11.1% (n = 8) of responders reported that they feel no anger at all when they cannot get that help. Of the remaining 88.9% of responders, 43.1% (n = 31) reported they would feel somewhat angry, 26.4% (n = 19) reported they would feel definitely angry, and 19.4% (n = 14) reported they would feel very angry if they could not receive the help needed when they called for it (see Table 11).

When reporting whether or not they felt challenged, 6.9% (n = 5) of the teachers reported they would not feel challenged at all in this situation. Of the remaining 93.1% (n = 67) of the teachers, 23.6% (n = 17) reported they would feel somewhat challenged while 43.1% (n = 31) reported they would feel definitely challenged. Those reporting that they would feel very challenged were 26.4% (n = 19). The percent of teachers reporting that they would not be frustrated at all was 4.2% (n = 3). The majority of the responding teachers reported that they would feel definitely frustrated (43.1%, n = 31) or very frustrated (41.7%, n = 30). Only 11.1% (n = 8) reported they would feel somewhat frustrated. Teachers' reporting of their feelings of anxiety revealed that most teachers would feel anxious with only 18.1% (n = 13) reporting they would not feel anxious at all. Those reporting that they would feel somewhat anxious were 27.8% (n = 20), with 30.6%

(n = 22) reporting they would definitely feel anxious, and 23.6% (n = 17) reporting they would feel very anxious (see Table 11).

Table 11 Vignette 7 (Survey Question 15)

Situation 7 Part 1 I have been adding assessment items into SPMS. After entering the twenty items I need, I try to create my test. I follow my instructions from the training, but nothing works. I call the district SPMS trainer for help. 15. Situation 7 Part 2 As I listen to the message on the phone, I discover that the district SPMS trainer is out of the office for the week. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	8 11.1%	31 43.1%	19 26.4%	14 19.4%
Challenged	5 6.9%	17 23.6%	31 43.1%	19 26.4%
Frustrated	3 4.2%	8 11.1%	31 43.1%	30 41.7%
Anxious	13 18.1%	20 27.8%	22 30.6%	17 23.6%

In the survey, Vignette 8 was anchored to the availability of the technology to use the MSPMS in the classroom. The scenario has the teacher confronted with planning to give a test online and then not having access to the computers for the assessment. Teachers were asked how important the availability of the technology was to them. The majority (69.4%) of reporting teachers reported that the availability of needed equipment was very important to them (see Table 4). Teachers were asked to report their feelings of anger, challenge, frustration, and anxiety. Teachers who reported that they would not feel angry at all regarding the use of the technology were 5.6% (n = 4). Those reporting

that they would feel somewhat angry were 19.4% (n = 14), with those reporting they would feel definitely angry were 31.6% (n = 26).

Those teachers reporting they would not feel challenged at all were 13.9% (n = 10). Reporting that they would feel somewhat challenged were 20.8% (n = 15) of the teachers, with 36.1% (n = 26) reporting they would feel definitely challenged. Those reporting they would feel very challenged were 29.2% (n = 21). Of the 72 teachers reporting to what extent they would feel frustrated in this situation, 2.8% (n = 2) reported they would not feel frustrated at all with 9.7% (n = 7) reporting they would feel somewhat frustrated. The majority of the teachers reported that they would feel definitely frustrated (27.8%, n = 20) and very frustrated (59.7%, n = 43). When reporting their degree of anxiety, 16.7% (n = 12) of the responding teachers reported they would not feel anxious at all in this situation, with 25.0% (n = 18) reporting they would be somewhat anxious. More than 50% of the responders reported either feeling definitely anxious (37.5%, n = 27) or very anxious (20.8%, n = 15) (see Table 12).

Table 12 Vignette 8 (Survey Question 17)

Situation 8 Part 1 I have prepared my SPMS assessment for my students to take online this Friday. I have signed up to use the computer laptop cart with thirty laptops. I double check with the technology resource technician to be sure the cart will be available and ready for use in my classroom on Friday.

17. When I arrive at the technology resource technician's office to get the laptop cart, I am told that the cart had to be used for a district training that was scheduled at the last minute, and I will have to reschedule my test. When you are in this situation, to what extent to you feel

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	4 5.6%	14 19.4%	26 36.1%	28 38.9%
Challenged	10 13.9%	15 20.8%	26 36.1%	21 29.2%
Frustrated	2 2.8%	7 9.7%	20 27.8%	43 59.7%
Anxious	12 16.7%	18 25.0%	27 37.5%	15 20.8%

In the survey, Vignette 9 was designed to elicit information about the time involved in using the technologies and MSPMS and what attitude teachers have regarding that time. The majority 83.3%) of the responding teachers reported that time was very important (see Table 4). Of the 72 respondents, 27.8% (n = 20) reported that the situation regarding their time would not make them feel angry at all. Those reporting that they would feel somewhat angry were 45.8% (n = 33), with 16.7% (n = 12) reporting they would feel definitely angry, and 9.7% (n = 7) reporting they would feel very angry. A large majority of the teachers reported feeling challenged regarding their time with 25.0% (n = 18) somewhat challenged, 34.7% (n = 25) definitely challenged, and 34.7% (n = 25) very challenged. Only 5.6% (n = 4) reported they would not feel challenged at all.

The majority of the respondents reported they would feel frustrated regarding the issue of time. Those reporting they would be somewhat frustrated were 27.8% (n = 20), definitely frustrated were 29.2% (n = 21), and very frustrated were 38.9% (n = 28). Only 4.2% (n = 3) reported they would not feel frustrated at all. Data from the survey revealed that only 9.7% (n = 7) of reporting teachers would not feel anxious at all about time. The remaining 90.3% (n = 65) reported they would feel somewhat anxious at 15.0% (n = 18), definitely anxious at 19.4% (n = 14), and very anxious at 45.8% (n = 33) (see Table 13).

Table 13 Vignette 9 (Survey Question 19)

Situation 9 Part 1 I rush to school this morning for a parent conference. Just before the bell rings for class, I arrive at my class to begin teaching. After teaching my first two classes, I report for lunch duty. During my conference time, I meet with my collaborative team to discuss a common assessment and the results of the assessment. We review the needs of students who are struggling in our classes and share different teaching strategies to use. I return to teach my last class before reporting to a faculty meeting after school. I still need to create my SPMS assessment. 19. Situation 9 Part 2 After the faculty meeting, I rush to the teacher center to use the laptop. I have thirty minutes before the center closes. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Angry	20 27.8%	33 45.8%	12 16.7%	7 9.7%
Challenged	4 5.6%	18 25.0%	25 34.7%	25 34.7%
Frustrated	3 4.2%	20 27.8%	21 29.2%	28 38.9%
Anxious	7 9.7%	18 25.0%	14 19.4%	33 45.8%

Vignette 10, the final scenario, was designed to elicit information regarding the importance of the reports provided by the MSPMS. The majority (93%) of teachers responding reported that information gained from MSPMS was important (33.3%) or

very important (59.7%) to their work goals (see Table 4). Of the 72 teacher responses, 25.0% (n = 18) reported that the components available through MSPMS that would help them with areas where their students needed more help would make them feel somewhat excited, definitely excited (36.1%, n = 26), and very excited (31.9%, n = 23). Only 6.9% (n = 5) reported they would not feel excited at all. Data collected from this vignette revealed that 43.1% (n = 31) would not feel challenged at all by the components available to help them adjust instruction. The remaining 56.9% (n = 41) reported they would feel somewhat challenged (31.9%, n = 23), definitely challenged (22.2%, n = 16), and very challenged (2.8%, n = 2).

Ten (13.9%) of the responders reported that they would not feel calm when realizing that they had access to components in MSPMS that would allow them to adjust instruction. The remaining 86.1% (n = 62) reported that they would feel somewhat calm (47.2%, n = 34), and very calm (13.9%, n = 10). Teachers reporting that they would not feel anxious at all were 50.0% (n = 36), with 29.2% (n = 21) reporting they would feel somewhat anxious. Teachers reporting they would feel definitely anxious were 15.3% (n = 11) and very anxious, 5.6% (n = 4) (see Table 14).

Table 14 Vignette 10 (Survey Question 21)

Situation 10 Part 1 After giving a formative SPMS assessment, I retrieve an item analysis of student performance. The report shows that over fifty percent of the class did not understand four of the concepts assessed. 21. Situation 10 Part 2 As I start planning different instructional strategies and activities to re-teach the four concepts, my collaborative team member reminds me that SPMS has a curriculum and instruction section that has lessons and strategies based on the misunderstood concepts. When you are in this situation, to what extent do you feel				
Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	**Not at all**	**Somewhat**	**Definitely**	**Very**
Excited	5 6.9%	18 25.0%	26 36.1%	23 31.9%
Challenged	31 43.1%	23 31.9%	16 22.2%	2 2.8%
Calm	10 13.9%	18 25.0%	34 47.2%	10 13.9%
Anxious	36 50.0%	21 29.2%	11 15.3%	4 5.6%

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions, and recommendations based on the results of this study. The research questions, which guided this study, also served as a framework for sections in this chapter.

Summary of Findings

Findings for the three research questions of this study support some of the findings in the review of literature, while others do not. The following is a summary of findings of this study.

Research Question 1

Was a teacher's perception of the web-based MSPMS different based on his or her (a) age, (b) level of education, (c) years of experience as an educator, (d) level of school where teaching, (e) perceived level of computer and/or technology comfort, (f) perceived level of computer and/or technology experience, (g) subject area taught, (h) number of MSPMS tests created, or (i) number of MSPMS tests given?

Although this study did not directly measure computer anxiety or the ability of respondents to adapt to new technologies, it did evaluate the differences between age and teachers' perceptions of the MSPMS program and found that there were no statistically significant differences between age and teachers' perceptions of the MSPMS. A search

of the literature revealed that age was a predictor of computer anxiety (Anderson, 1996; Lloyd & Gressard, 1984; Pope-Davis & Twing, 1991; Ruth, 1996) and played a part in a person's use of computers as well as his or her ability to adapt to new technologies (Charness & Bossman, 2001; Kelly & Charness, 1995). Researchers also found that age affected how difficult it was to acquire computer skills and how difficult it was to achieve higher levels of performance with technologies (Czaja & Sharit, 1998). In 2001, Robinette found that as computer use decreased for participants in his study, their age increased. More current research such as Bryant (2008), Nelson (2007) and Henrickson (2007) showed that age was less a barrier to technology use than it was in the early days of technology use in schools. Bryant (2008) found that teachers of various ages from 30 to 50 had varying degrees of technology abilities, but the variations were not based on age. Henrickson (2007) also found that the age of professors from the pre-digital age did not impact their use of technologies for instruction. Nelson's (2007) study showed that teachers of all ages had positive perceptions toward problem-based learning (PBL).

This study found that a teacher's perceptions of the web-based MSPMS were not different based on the level of education they had attained. The level of education one had attained had been found to impact one's children's level of education (Messersmith & Schulenberg, 2008), one's level of cognitive abilities, and one's level of anxiety and depression (Bjelland, Krokstad, Mykletum, Dahl, Tell, & Tambs, 2008). Nelson's (2007) research study found that the level of education one attained was not impacted by one's age, especially when using an on-line learning environment. The level of education attained was found by Robinette (2001) to impact teachers' self-reported rating on the International Society for Technology Education (ISTE) standards. Other research

(Messersmith & Schulenberg, 2008) found that one's level of education attained had a relationship with his or her children's predicted level of education. The National Institute on Aging (NIA, 2003) found a relationship between one's stage of Alzheimer's disease and his or her level of education which affected his or her cognitive performance.

The results of this study revealed no statistically significant differences between teachers' perceptions of MSPMS and years of experience as an educator. Robinette (2001) found that there was not statistically significant correlation between years of teaching experience and teachers' perceived level of technology implementation. However, he did find a relationship between teachers' use of computers and their years of experience. He reported that as teachers' use of computers decreased, their years of teaching experience increased. A teacher's years of experience as an educator had been found to make a difference in the way he or she assessed group learning (Krecic & Grmek, 2008), his or her attitude regarding inclusion in the classroom (Grahn, 2007), and whether he or she believed students can learn math (Swan, 2007).

Although the literature showed that the school level taught was related to technology integration, this study found that teachers' perceptions of MSPMS were not statistically significantly different from the school level where taught; therefore this study's findings did not support the literature findings. Research studies have been conducted on the variable of grade level taught with various aspects of education such as attitudes regarding standardized testing (Anderson, Tollefson, & Gilbert, 1985; Green & Williams, 1989; Hall, Villeone, & Phillippy, 1985) and technology implementation (Robinette, 2001). These studies revealed that the level of school where teaching (i.e. elementary, middle, or high school) had a relationship to teachers' perceptions of

standardized testing and technology implementation. Elementary teachers valued standardized testing more than middle or high school teachers did according to Hall, et al. (1985) and Green and Williams (1989); however elementary teachers were less positive toward standardized testing than middle or high school teachers according to Anderson, et al. (1985). Robinette (2001) studied level of school where teaching in relation to technology implementation. Based on his findings, elementary teachers of the upper grades (3-4) implemented technology more than those of lower grades (K-2). This study found that the grade level where taught was not statistically significant from teachers' perceptions of MSPMS.

In this study, findings were that teachers' perceptions of MSPMS showed no statistically significant difference from perceived level of computer comfort or from perceived level of experience. Beckers and Schmidt (2001) found that self-efficacy was related to computer anxiety and training. Chou (2001) reported that self-efficacy was related to learning performance and computer literacy. Straub (2008) reported that the higher level of self-efficacy for technology people had, the more capable of handling technology malfunctions because they perceived the problems as resolvable. Nelson (2007) reported that teachers agree technology is important for instruction, but they are uncomfortable using it. Rentie (2008) and Isleem (2003) reported similar outcomes in their studies. Teachers were uncomfortable with integrating technology into the classroom instruction.

The findings in this study showed that the subject taught was not statistically significantly different from teachers' perceptions of MSPMS. Previous research studies showed that the subject taught influenced the use of technology in the classroom.

Mason's (2005) study revealed that teachers of math and technology were better able to use technology, as did Boland's (2008) study. Schulter (2006) found that math teachers used 65% of the technologies in his study with 35% being used by English teachers. Boland (2008) found no statistically significant difference between subjects taught and the degree of technology integration by teachers. Although this study did not support Mason's (2005) and Schulter's (2006) studies, it did support Boland's (2008) findings.

Two variables specific to this study did not have research literature findings. The number of MSPMS tests created and the number of MSPMS tests given are specific to this study. This study found that there were no statistically significant differences between teachers' perceptions and the number of MSPMS tests created or between teachers' perceptions of MSPMS and the number of MSPMS tests given.

Research Question 2

Was there a correlation among the teachers' perceptions of MSPMS and independent variables of (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where taught (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience; (g) subject area taught; (h) number of tests created; and (i) number of tests given?

Although a search of the literature revealed that the independent variables of age (Bryant, 2008; Nelson, 2007; Robinette, 2001) level of education attained (Messersmith & Schulenberg, 2008; Nelson, 2007), years of experience (Anderson, et al., 1985; Green & Williams, 1989; Hall, et al., 1985; Robinette, 2001), perceived level of computer and/or technology comfort or experience (Beckers & Schmidt, 2001; Chou, 2001; Isleem,

2003; Rentie, 2008; Straub, 2008), and subject area taught (Boland, 2008; Mason, 2005; Schulter, 2006), did impact teachers' perceptions in various educational areas, this study found no statistically significant relationships among teachers' perceptions of MSPMS and the independent variables. Additionally, analysis to explore the relationships among the independent variables was conducted. The results showed a strong statistically significant relationship between years of experience and age ($r = 0.752$, $p = 0.000$). Three other pairs of independent variables showed low to moderate significant relationships (highest level of education and technology experience at $r = 0.302$, $p = 0.010$ (low); subjects taught and school level where one teaches at $r = -0.433$, $p = 0.000$ (moderate); and school level where one teaches and number of MSPMS assessments given at $r = -0.355$, $p = 0.002$(low)).

Research Question 3

What were teachers' attitudes toward the following variables associated with teachers' perceptions of the MSPMS: (a) technology comfort; (b) orientation/professional development; (c)availability/access to equipment; (d) time; (e) support infrastructure (school, district, and/or state level); (f) efficacy of program (does it work? does it produce positive outcomes?); or (g) importance of information gained from MSPMS?

Examination of the response frequencies of the final question revealed that teachers reported feeling more frustrated than anything else when confronted with adversities with the technologies or the MSPMS. There were three vignettes which dealt with three types of technologies teachers would use in everyday-life. Using a cell phone, web-based gradebook, and a card-swipe gas pump were the three technologies in the vignettes. The question in the three vignettes gave information on teacher attitudes with

technology comfort. In all three of the work-related technology scenarios, teachers reported the highest frequencies in the definitely and very frustrated categories (combined frequencies = 80.6%, 91.7%, and 70.8% for vignettes 1, 2, and 3 respectively). The second category with the highest frequency reported for these three vignettes was for definitely and very anxious with 80.5%, 55.6%, and 37.5% for vignettes 1, 2, and 3 respectively.

In this study 56.9% of the teachers reported feeling anxious when the technology did not work. Previous research studies for technology comfort focused on reported anxiety to determine the level of comfort with the computer and/or technology. A study conducted by Lloyd and Gressard (1984) showed that computer anxiety influenced the acceptance of computers and their use as instructional teaching and learning tools. Castriotta (2004) and Nelson (2007) found in their studies that teachers do not feel comfortable with technologies used for classroom instruction.

Data from this study revealed that 82% of the teachers reported that technology professional development was important or very important to their use of MSPMS. Prior research indicated that teachers need professional development that helped them move to a mind-set of assessment-for-learning and learning-for-understanding (Gallagher & Ratzloff, 2007-2008). Further, teachers needed to know how to connect instruction with assessment to give constructive feedback to students (Shepard, Taylor, & Kagan, 1996). Boland (2008) found that teachers who were positive about professional development offering in technology integration in the classroom had higher level s of technology integration in the classroom. Also, Bryant (2008) found that teachers in his study

reported that professional development helped them integrate technology more comfortably.

In this study, 86.1% of the teachers reported having the technologies available was important or very important. Also, 87.5% reported being definitely or very frustrated when the technologies were not available. Earlier studies showed that availability of computers for use by teachers and actual use of computers by teachers had a positive relationship (gamma = .449, $\underline{p}$ = .000) (Mason, 2005). Watson (2001) found that the availability of Internet capable computers and teachers' self-efficacy with classroom Internet use were important. Robinson (2003) reported teachers having negative perceptions regarding availability of technologies in their schools. Nelson (2007) and Bryant (2008) reported that teachers in their studies responded positively to the level of computers and technologies in use in their schools.

According to the findings in this study, 95.8% of the teachers reported that time was important or very important to achieving their work goals. Whiting and others (1995) contended that time was needed to really use formative assessments and give timely feedback to students. The issue of time was important when closing the achievement gap (Stiggins & Chappuis, 2006). The use of the MSPMS was supposed to provide more information in less time, thus addressing the issue of time for teachers using progress monitoring strategies. Reeves (2007b) reported from his research that the amount of time devoted to literacy in the classroom increased reading comprehension to proficient and higher. These researchers pointed out that time was important in education.

In this study, 88.9% of the teachers reported that technical support was important or very important. This finding does support the research. Spaulding (2007), reported that 53% of teachers in his study agreed that technical support was important. Robinson (2005), Boland (2008) and Bryant (2008) all reported that support for technology was important to teachers.

Whether or not a program works is important to those using it. In this study, 75% of the teachers reported that the MSPMS program's working properly was important or very important. When the program did not work in the vignette, 86.1% reported that they were definitely or very frustrated.

In this study, 93% of the teachers reported that information gained from MSPMS was important or very important to their work. Also, 68% of the teachers reported being excited about the information they gained from MSPMS. In 2006, Yushau reported that a teacher's perception of information gained from technology was important based on teacher age and experience. Yushau also reported that a teacher's attitude toward technology was crucial to its implementation and use. Combs (2003) and Robinson (2008) both found in their studies that teachers reported that information gained from technologies provided important information.

For variables addressed in research question 3, the majority of teachers considered each independent variable to be important or very important. Each scenario elicited reactions of frustration followed by feeling challenged or angry depending upon the situation. Where they were impacted at work by a situation, they felt strongly that the variable was important, and that the adversity warranted their frustrated, challenged, anxious or angered reactions. The conclusions drawn from these findings and the

recommendations provide important information to administrators, teachers, and instructional technologists for making decisions to improve student achievement through the use of the MSPMS.

Conclusions

Conclusions drawn from this study were based on whether the findings supported or did not support the literature research. Also, conclusions were made based on possible reasons for the findings. These conclusions were framed based on the three research questions for the study.

Research Question 1 asked if teachers' perceptions about the web-based MSPMS were different based on age, level of education, years of experience, level of school where teaching, technology comfort, technology experience, subject taught, number of MSPMS tests created, or number of MSPMS tests given to students.

Conclusions based on the results of this study for research question 1 were:

1. Contrary to the literature, findings of this study demonstrated that respondent's perception of the MSPMS was not different based on age. It is possible that respondents within the rural population of teachers within this study have received technology training as part of their normal yearly teacher training, and they have been immersed into technology-rich environments over the past 10 years, Perhaps exposure to such an environment leads to teachers, regardless of their ages, being comfortable with technological applications, such as MSPMS.
2. This study did not support that the level of education made a difference in teachers' perceptions of the MSPMS. One possible reason for the difference might be that teachers of all levels of education have received training in the use

of technologies and have assignments that require the use of some technologies, especially in advanced degree programs.

3. Findings in this study did not support the literature research on years of experience as an educator. It is possible that the years of experience as an educator was not different from teachers' perceptions of MSPMS because the amount of professional development, both initial and follow-up, provided to all teachers. Also, administrators' expectations of use of the technology tool by all teachers regardless of experience might be a factor in the difference.
4. Although the research literature showed that the level of school where one taught did make a difference in teachers' use of technology, this study did not support those findings. It is possible that the teachers in this study were all required to use the program and that those expectations were monitored by administrators on the school and the district levels.
5. Although the literature showed that teacher's self-efficacy for computer comfort and experience had direct relationships with their use of the technologies being studied, findings in this study did not support that research. Teachers in schools today, as well as others in all work places, are expected to utilize technologies. These technologies are more readily available, not only in the work place, but also everywhere one goes.
6. Findings in this study did not support the literature research on subject area taught. The subject area one taught did not make a difference in teachers' perceptions of MSPMS. Teachers of all core subjects were expected to use

MSPMS. Also, the administration's expectations were monitored which could have affected teachers' perceptions and use.

7. The study of the use of MSPMS is new. The number of tests created and the number of tests given did not make a difference in the teachers' perceptions of MSPMS in this study. Teachers were expected to use the system for progress monitoring of students' achievements.

Most studies found in the scientific literature reported that the variables in this study typically influenced technology associated programs. However, the researcher felt the specific environment for which the respondents work, one that actively infused technology into the daily work life of its employees for the past two decades, could have produced educators that were not as affected by these variables in regard to their use and perception of technology-based assessment programs. Additionally, the methods this rural Mississippi school district employed to train its teachers helped the experienced teachers overcome barriers found in earlier studies. If so, the findings of this study provide administrators with data that can support changing its efforts from basic technology exposure and training to advanced software or program specific training.

Research Question 2 asked if a correlation among the teachers' perceptions of MSPMS and the independent variables of (a) age; (b) level of education; (c) years of experience as an educator; (d) level of school where teaching (i.e. elementary, middle school, or high school); (e) perceived level of computer and/or technology comfort; (f) perceived level of computer and/or technology experience; (g) subject area taught; (h) number of tests created; and (i) number of tests given.

For research question 2, the researcher looked at correlations between the dependent variable of teachers' perceptions of MSPMS and the independent variables listed above in the question. Then the researcher ran correlations between the independent variables to determine if there were any significant correlations. Conclusions based on the results of this study for research question 2 were:

1. The findings for teachers' perceptions being related to the independent variables of age; level of education; years of experience as an educator; level of school where teaching (i.e. elementary, middle school, high school); perceived level of computer and/or technology comfort/experience; subject area taught; and number of MSPMS tests created/given showed no statistically significant relationships and therefore did not support the literature.
2. It is possible that everyday-life offers people a technology-rich environment.
3. Also, as schools have slowly increased the number and kinds of technologies available for education and the professional development needed for using the technologies, the adverse relationships seen in earlier days of these technologies seem to no longer exist.

In looking at relationships among the independent variables, the findings showed relationships between subjects teachers teach and the school level where they teach, teachers' age and their years of experience, teachers' technology experience and their level of education, and subjects teachers teach and the number of MSPMS tests they had given. Conclusions based on the results of the correlations were:

1. Self-contained elementary teachers teach all four core subjects where middle and high school teachers teach one or two core subjects.

2. As teachers' experience increases so does their age.
3. It is possible that requirements for advanced degrees include more technology experiences.
4. Elementary teachers give more MSPMS tests than middle or high school teachers because they are responsible form ore core subjects.

Research question 3 asked what the teachers' attitudes toward the following variables associated with teachers' perceptions of the MSPMS were: (a) technology comfort; (b) orientation/professional development; (c) availability/access to equipment; (d) time; (e) support infrastructure (school, district, and/or state level); (f) efficacy of program (did it work? did it produce positive outcomes?); or (g) what importance of information gained from MSPMS were.

Conclusions based on the results of this study for research question 3 were:

The findings in this study did not support the findings in the research regarding technology comfort for teachers.

1. Teachers have a better attitude toward technology because they are more comfortable with technology. This comfort may be a result of the technology-rich environment in which they live.
2. This study did not support the research on orientation/professional development.
3. Having the necessary equipment and support create an environment where teachers are comfortable with technologies.
4. Teachers may have an attitude of anger because of time constraints when preparing to use and when using technologies.

5. Time constraints may cause teachers to have attitudes of being challenged, frustrated, and anxious when using technologies.
6. Whether a program works creates attitudes of anger, challenge, frustration, and/or anxiety in teachers. Teachers feel that the program is important because it works well and provides them information that helps them improve their instructional practices.

Recommendations

Based on the findings in this study, the following recommendations would benefit the rural Mississippi school district when implementing new technologies and programs for teacher use.

1. The rural Mississippi school district in this study should continue to provide a technology-rich environment for all teachers.

2. Administrators in the rural Mississippi school district should encourage teachers to attain advanced degrees.

3. Regardless of teachers' age, years of experience, school level where teaching, level of technology comfort, technology experience, or subject taught, the rural Mississippi school and district administrators should expect all teachers to use all available technologies for instructional purposes and should monitor that use.

4. The rural Mississippi school district should provide just-in-time technology-rich professional development for all teachers.

5. The rural Mississippi school district should continue to provide equipment, software, instructional technologists, and technicians to provide teacher use of technologies for student instruction.

6. The rural Mississippi school and district level administrators should find a way to provide for adequate time for teachers to learn and to use the technologies for instructional purposes.

7. When selecting software or web-based programs, great care should be given to select programs that give teachers the information they need in order to help students succeed.

REFERENCES

Ainsworth, L. (2007). Common formative assessments: The centerpiece of an integrated standards-based assessment system. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 79-101). Bloomington, IN: Solution Tree.

Ajzen, I. (1991). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology, 22*(4), 665-683.

Alexander, C. S., & Becker, H. J. (1978). The use of vignettes in survey research. *Public Opinion Quarterly*, 1978, *42*(1), 93.

Almeida, L. (2007). The journey toward effective assessment for English language learners. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 147-163). Bloomington, IN: Solution Tree.

Ames, C. (1992). Classroom goals, structures and student motivation. *Journal of Educational Psychology*, *84*(3), 261-271.

Anderson, A. A. (1996). Predictors of computer anxiety and performance in information systems. *Computers in Human Behavior, 12*(1), 61-77.

Anderson, A., Evans, R., Kozak, R., & Peterson, B. (1999). At issue: Improving the perception of public education. Retrieved March 7, 2008, from Horizon Site: http://horizon.unc.edu/projects/issues/papers/Anderson.html.

Anderson, M. A., Tollefson, N. A., & Gilbert, E. C. (1985). Giftedness and reading: A cross sectional view of differences in reading attitudes and behaviors. *Gifted Child Quarterly, 29*, 186-189.

Bandura, A. (1977). *Social learning theory.* New York: General Learning Press.

Bandura, A. (1986). *Social foundations of thought and action.* Englewood Cliffs, N. J.: Prentice-Hall.

Bandura, A. & Cervone, D. (1983). Self-evaluative and self-efficacy mechanisms governing the motivational effects of goal systems. *Journal of Personality and Social Psychology, 45*(5), 1017–1028.

Barton, P. E. (2002). *Staying on course in education reform.* Princeton, NJ: Statistics & Research Division, Policy Information Center, Educational Testing Service.

Bekers, J., & Schmidt, H. (2001). The structure of computer anxiety: A six-factor model. *Computers in Human Behavior, 17*(1), 35-49.

Bjelland, I., Krokstad, S., Mykletun, A., Dahl, A. A., Tell, G. S., & Tambs, K. (2008). Does higher educational level protect against anxiety and depression? The HUNT study. *Social Science and Medicine, 66*(6), 1334-45.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education, 5*(1), 7-75.

Black, P., & Wiliam, D. (2003). 'In praise of educational research': Formative assessment. *British Educational Research Journal, 29*(5), 623-637.

Bloom, B. S., Madaus, G. F., & Hastings, J. T. (1981). *Evaluation to improve learning.* New York: McGraw-Hill.

Boland, D. L. (2008). An analysis of factors affecting teachers' technology integration as perceived by high school teachers. Ph.D. Dissertation, TUI University, United States–California. Retrieved November 25, 2008, from Dissertations & Theses: Full Text database. (Publication No. AAT3340148).

Brown, L. A. (2007). Attitudes of administrators toward inclusion of students with disabilities. Ph.D. dissertation, Mississippi State University, United States - Mississippi. Retrieved March 19, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3270468).

Button, H. W., & Provenzo, J. E. (1981). *History of education and culture in America.* Boston: Allyn and Bacon.

Castriotta, S. M. (2004). Computer science undergraduates' perceptions of e-mail peer mentoring. Ed.D. dissertation, University of Massachusetts Amherst, United States-Massachusetts. Retrieved April 6, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT 3118289).

Chappuis, S., & Chappuis, J. (2007-2008). The best value in formative assessment. *Educational Leadership*, *65*(4), 14-18.

Charness, N., & Bosman, E. A. (2001). Word processing training and retraining: Effects of adult age, experience, and interface. *Psychology and Aging, 16*(1), 110–127.

Chou, C. (2001). Effects of training method and computer anxiety on learning performance and self-efficacy. *Computers in Human Behavior, 17*, 51-69.

Collins, J. (2001). *Good to great*. New York: Harper-Collins.

Combs, M. A. (2003). Computer use among high school educators: Relating teachers' ability, beliefs, and classroom use. Ph.D. dissertation, Fordham University, United States-New York. Retrieved March 6, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT 3101154).

Compeau, D. R., & Higgins, C. A. (1995). Computer self-eficacy: Development of a measure and intial test. *MIS Quarterly, 19*(2), 189-211.

Cusumano, D. L. (2007). Is it working?: An overview of curriculum based measurement and its uses for assessing instructional, intervention, and program effectiveness. *The Behavior Analysist Today, 8*(1), 24-34.

Czaja, S. J., & Sharit, J. (1998). Age differences in attitudes toward computers. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, *53B* (5), 329–340.

Davies, A. (2007). Involving students in the classroom assessment process. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 31-57). Bloomington, IN: Solution Tree.

Deno, S. L. (2003). Developments in curriculum-based measurement. *The Journal of Special Education, 37*(3), 184-192.

DuFour, R. (2007). Once upon a time: A tale of excellence in assessment. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 253-267). Bloomington, IN: Solution Tree.

Dykes, B. A. (2007) Educators' perceptions of character education: Importance, efficacy, and practice. Ed.D. dissertation, The University of Alabama, United States-Alabama. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3270490).

Ewell, P. (2002). An emerging scholarship: A brief history of assessment. In T. W. Banta, & T. W. Banta (Ed.), *Building a scholarship of assessment* (1st ed., pp. 3-25). San Francisco: Jossey-Bass.

Feltz, D. L. (1982). Path analysis of the causal elements in Bandura's theory of self-efficacy and an anxiety-based model of avoidance behavior. *Journal of Personality and Social Psychology, 42*, 764-781.

Fisher, D., Grant, M., Frey, N., & Johnson, C. (2007-2008). Taking formative assessment schoolwide. *Educational Leadership*, *65*(4), 64-69.

Flores, B. B., & E. R. Clark. 2003. Texas voices speak out about highstakes testing: Preservice teachers, teachers, and students. Current Issues in Education 6(3): http://cie.asu.edu/ volume6/number3/ (accessed March 7, 2008).

Fraenkel, J. R. & Wallen, N. E. (2006). *How to design and evaluate research in education (6th* ed.). Boston: McGraw-Hill.

Fuchs, L. S., & Fuchs, D. (1999). Monitoring student progress toward the development of reading competence: A review of three forms of classroom-based assessment. *School Psychology Review, 28,* 659–671.

Fuchs, L. S., Deno, S. L., & Mirkin, P. K. (1984). Effects of frequent curriculum-based measurement of evaluation on pedagogy, student achievement, and student awareness of learning. *American Educational Research Journal, 21*(2)*,* 449-460.

Furger, R. (2002, January 21). *Studies in success: A survey of assessment research.* Retrieved March 12, 2008, from Edutopia.org: http://www.edutopia.org/assessment-research.

Gallagher, C. W., & Ratzlaff, S. (2007-2008). The road less traveled. *Educational Leadership*, *65*(4), 48-53.

GEM Exchange (2008). *Gateway to 21st Century Skills*. Retrieved March 12, 2008, from http://www.thegateway.org/teaching-learning/assessment.

Gould, D. (1996). Using vignettes to collect data for nursing research studies: How valid are the findings? *Journal of Clinical Nursing, 5*(4), 207-212.

Grahn, K. A. (2007). Teachers' attitudes toward the implementation of inclusion, with emphasis on the collaboration element. Ed.D. dissertation, Walden University, United States-Minnesota. Retrieved March 29, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3274725).

Green, K. E., & Williams, E. J. (1989, March). *Standardized test use by classroom teachers: Effects of training and grade level taught.* Paper presented at the annual meeting of the National Council on Measurement in Education, San Francisco, CA.

Griffin, J. (1988). CAL innovation as viewed by purchasers of computer software in secondary schools. *Journal of Computer Assisted Learning*, *4*(3), 150-161.

Guskey, T. R. (2007-2008). The rest of the story. *Educational Leadership*, *65*(4), 28-35.

Guskey, T. R. (2007). Using assessments to improve teaching and learning. In D. Reeves (Ed.), *Ahead of the curve: The power of assessments to transform teaching and learning* (pp. 15-29). Bloomington, IN: Solution Tree.

Guskey, T. R. (2005, April). *Multiple sources of evidence: An analysis of stakeholders' perceptions of different indicators of student learning.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, QC.

Gutek, G. L. (1992). *Education and schooling in America.* Boston: Allyn and Bacon.

Haertel, E. H. (1999). Performance assessment and education reform. *Phi Delta Kappan, 80*(9), 662-666.

Hall, B. W., Villeme, M. G., & Phillippy, S. W. (1985). How beginning teachers use test results in critical education decisions. *Educational Research Quarterly, 9*(3), 12-18.

Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81-112.

Henrickson, K. L. (2007). Concerns of non-and low-users of technology in the classroom among part-and full-time community college faculty. Ph.D. dissertation, Capella University, United States-Minnesota. Retrieved March 6, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT3263153).

Heritage, M. (2007). Formative assessment: What do teachers need to know and do? *Phi Delta Kappan*, *89*(2), 140-145.

Hughes, R., & Huby, M. (2002). The application of vignettes in social and nursing research. *Journal of Advanced Nursing, 37*(4), 382-386.

Isleem, M. I. (2003). Relationbships of selected factors and the level of computer use for instructional purposes by technology education teachers inb Ohio public schools: A statewide survey. Ph.D. dissertation, The Ohio State University, United States-Ohio. Retrieved March 7, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT3124087).

Jensen, E. (1998). *Teaching with the brain in mind.* Alexandria, VA: Association for Supervision and Curriculum Development.

Kelley, C. L., & Charness, N. (1995). Issues in training older adults to use computers. *Behaviour and Information Technology*, *14(2)*, 107-120.

Krecic, M. J., & Grmek, M. I. (2008). Cooperative learning and team culture in schools: Conditions for teachers' professional development. *Teaching and Teacher Education: An International Journal of Research and Studies, 24*(1), 59–68.

LeDoux, J. (1996). *The emotional brain.* New York: Simon & Schuster.

Lewis, A. (2005). *Celebrating 20 years of research on educational assessment: Proceedings of the 2005 CRESST conference*. Center for Research on Evaluation, Standards, and Student Testing. Los Angeles: CRESST.

Lin, D. (2004). Evaluating older adults' retention in hypertext perusal: Impacts of presentation media as a function of text topology. *Computers in Human Behavior*, *20*, 491-503.

Linn, R. L (2000). Assessments and accountability. *Educational Researcher, 23*(9), 4-14.

Lloyd, B., & Gressard, C. (1984). The effects of sex, age, and computer experience on computer attitudes. *AEDS Journal*, *18*, 67-77.

Lloyd, B. H., & Lloyd, E. L. (1985). The reliability and validity of an instrument for the assessment of computer attitudes. *Educational and Psychological Measurement*, *45*, 903-909.

Maibach, E. W., Schieber, R. A., & Carroll, M. F. B. (1996). Self-efficacy in pediatric resuscitation: Implications for education and performance. *Pediatriacs, 97*(1), 94-99.

Marzano, R. J. (2007). Designing a comprehensive approach to classroom assessment. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 103-125). Bloomington, IN: Solution Tree.

Marzano, R. J. (1992). *A different kind of classroom: Teaching with dimensions of learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mason, K. A. (2005). An examination of school- and teacher- related factors that influence technology use in the secondary school curriculum in two Caribbean countries and the development of a predictive model. Ph.D. dissertation, The Pennsylvania State University, United States–Pennsylvania. Retrieved November 18, 2007, from Dissertations & Theses: Full Text database. (Publication No. AAT 3187541).

Messersmith, E. E., & Schulenberg, J. E. (2008). When can we expect the unexpected? Predicting educational attainment when it differs from previous expectations. *Journal of Social Issues, 64*(1), 195-211.

Michael, J. (2007). Faculty perceptions about barriers to active learning. *College Teaching, 55*, 42-47.

Morrison, R. L., Stettler, K., & Anderson, A. E. (2002). *Using vignettes in cognitive research on establishment surveys.* Washington D.C.: U. S. Census Bureau.

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology, 38*, 30-38.

Nash, J. B., & Moroz, P. A. (1997). An examination of the factor structures of the computer attitude scale. *Journal of Educational Computing Research*, *17*(4), 341-356.

National Center on Student Progress Monitoring. National Education Association. (2001, October). *NEA: Accountability and testing–building tests.* Retrieved March 12, 2008, from nea.org: http://www.nea.org/accountability/buildingtests.html

National Education Association. (2001, October). *NEA: Accountability and testing-building tests.* Retrieved March 12, 2008, from nea.org: http://www.nea.org/accountability/buildingtests.html

NCEE. (1983). *A nation at risk: The imperative for educational reform.* Washington D.C.: U. S. Government Printing Office.

Neill, D. M. (1997). Transforming student assessment. *Phi Delta Kappan, 79*(1), 34-40, 58.

Nelson, E. T. (2008). Effects of online problem-based learning on teachers' technology perceptions and planning. Ph.D. dissertation, Capella University, United States-Minnesota. Retrieved March 5, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT 3290657).

No Child Left Behind Act. (2001). Washington D.C.: U. S. Government.

O'Connell, B. T. (2007). Pennsylvania superintendents' knowledge of teacher evaluation law. Ed. D. dissertation, Lehigh University, United States–Pennsylvania. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3270670).

Ornstein, A., & Levine, D. U. (2000). *Foundations of education.* Boston: Houghton Mifflin.

Partnership for 21st Century Skills. (2007). *Beyond the three rs: Voter attitudes toward 21st century skills.* Tucson: Partnership for 21st Century Skills.

Patten, M. L. (2001). *Questionnaire research* (2nd ed.). Los Angeles: Pyrczak.

Pert, C. (1999). *Molecules of emotion: The science behind mind-body medicine.* New York: Scribner.

Pinker, S. (1997). *How the mind works*. New York: W. W. Norton.

Pope-Davis, D. B. & Twing, J. S. (1991). The effects of age, gender, and experience on measures of attitude regarding computers. *Computers in Human Behavior, 7*(4), 333–339.

Popham, W. J. (2005, March 23). *F for assessment: Standardized testing fails.* Retrieved March 1, 2008, from Edutopia.org: http://www.edutopia.org/f-for-assessment

Popham, W. J. (2008). *Classroom assessment: What teachers need to know* (5th ed.). Boston: Allyn and Bacon.

Pulliam, J. D., & Van Patten, J. (1999). *History of education in America.* Upper Saddle River, NJ: Merrill.

Reeder, E. (2002, February 11). *Measuring what counts: Memorization versus understanding.* Retrieved March 1, 2008, from Edutopia.org: http://www.edutopia.org/print/940

Reeves, D. (2007a). Challenges and choices: The role of educational leaders in effective assessment. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 227-251). Bloomington, Indiana: Solution Tree.

Reeves, D. (2007b). From the bell curve to the mountain: A new vision for achievement, assessment, and equity. In D. Reeves, & D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 1-13). Bloomington, IN: Solution Tree.

Reeves, D. (2005). Putting it all together: Standards, assessment, and accountability in successful learning communities. In R. DuFour, R. Eaker, & R. DuFour (Eds.), *On common ground: The power of professional learning communities* (pp. 45-63). Bloomington, Indiana: Solution Tree.

Regino, R. C. (2009). Teacher perceptions of their training to teach online within community colleges in one region in California. Ph.D. dissertation, Capella University, United States-Minnesota. Retrieved March 5, 2009, from Dissertations & Theses: Full Text database. (Publication NO. AAT3341926).

Rentie, V. (2009). A case study of the digital divide: A study of teacher awareness and effects to bridge the gap in underserved communities. Ed.D. dissertation, Pepperdine University, United States-California. Retrieved March 5, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT3296841).

Rice, R. E., & Aydin, C. (1991). Attitudes toward new organizational technology: Network proximity. *Administrative Science Quarterly*, *36,* 219-244.

Rieg, S. (2007). Classroom assessment strategies: What do students at-risk and teachers perceive as effective and useful? *Journal of Instructional Psychology*. Retrieved March 7, 2008 from Find Articles: http://findarticles.com/p/articles

Robinson, W. I. (2003). External and internal factors which predict teachers' computer sage in K-12 classrooms. Ph.D. dissertation, Wayne State University, United States-Michigan. Retrieved March 6, 2009, from Dissertations & Theses: Full Text database. (Publication No. AAT 152335).

Ruth, E. K. (1996). A multivariate analysis of gender, age, and ethnicity as elements shaping technological attitudes, anxiety, and self-efficacy in workplace settings. Ed.D. dissertation, Oklahoma State University, United States-Oklahoma. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT9632964).

Safer, N., & Fleischman, S. (2005). Research matters: How student progress monitoring improves student achievement. *Educational Leadership, 62*(5), 81-83.

Salomon, J. A., Tandon, A., & Murray, C. J. (2004). Comparability of self-rated health: Cross sectional multi-country survey using anchoring vignettes. *BMJ (Clinical Research Ed.), 238* (7434), 258. Retrieved March 29, 2008 from http://www.bmj.com/cgi/content/full/328/7434/258

Schmoker, M. (2006). *Results now: How we can achieve unprecedented improvements in teaching and learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

SCHOOL: The Story of American Public Education. (n.d.). Retrieved February 24, 2008, from Public Broadcasting Service: http://www.pbs.org/kcet/publicschool/roots_in_history

Schulter, D. J. (2006). The influence of the principal's leadership style of teachers' use of technology in the instruction of secondary mathematics and English. Ed.D. dissertation, The University of Arizona, United States–Arizona. Retrieved February 25, 2008, from Dissertations & Theses: Full Text database. (Publication No.AAT3237465).

Seguin, C. A., & Ambrosio, A. L. (2002). Multicultural vignettes for teacher preparation. *Multicultural Perspectives*, *4*, 10-16.

Shepard, L., Taylor, G. A., & Kagan, S. L. (1996). *Trends in early childhood assessment policies and practices.* Report prepared for the National Education Goals Panel. Washington, DC: National Education Goals Panel.

Shrout, P. E., & Fleiss, J. L. (1979). Intraclass correlations: Uses in assessing rater reliability. *Psychological Bulletin, 86*(2), 420-428.

Smyth, T. S. (2008). Who is No Child Left Behind leaving behind? *redOrbit News.* Retrieved March 17, 2008, from http://www.redorbit.com/news/education/1255761/who_is_no_child_left_behind_leaving_behind/index.html

Spaulding, M. W. (2007). Comparison of preservice and in-service teachers' attitudes and perceived abilities toward integrating technology into the classroom.Ed.D. dissertation. University of Memphis-Tennessee. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3293776).

Stake, R. (1998). *Some comments on assessment in U.S. Education.* Retrieved March 1, 2008, from Education Policy Analysis Archives: http://epaa.asu.edu/epaa/v6n14.html

Sternberg, R. J. (2007-2008, December/January). Assessing what matters. *Educational Leadership*, *65*(4), 20-26.

Stiggins, R. (2007). Assessment for learning: An essential foundation of productive instruction. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 59-76). Bloomington, IN: Solution Tree.

Stiggins, R., & Chappuis, J. (2006). What a difference a word makes: Assessment for learning rather than assessment of learning helps students succeed. *JSD, 27*(1), Retrieved March 17, 2008 from http://www.nsdc.org/library/publications/jsd/stiggins271.cfm

Stiggins, R. (1999). Evaluating classroom assessment training and teacher education programs. *Educational Measurement Issues and Practice, 18*(1), 23-27.

Straub, E. T. (2008). Emotional responses to technology failure: Looking beyond the appraisal of subjective importance. Ph.D. dissertation, The Ohio State University, United States-Ohio. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3292719).

Swan, J. H. (2007). Examining early childhood teachers' beliefs and self-reported practices about teaching and learning mathematics. Ed.D. dissertation, The University of Memphis, United States-Tennessee. Retrieved March 17, 2008, from ProQuest Digital Dissertations database. (Publication No. AAT 3276732).

Tanner, D., & Tanner, L. N. (1980). *Curriculum development* (2nd ed.). New York: Macmillan.

U. S. Department of Education. (April 27, 2006). Remarks by Secretary Spellings at No Child Left Behind Summit. *U. S. Department of Education Press Release*. Retrieved March 7, 2008, from the World Wide Web: http://www.ed.gov/news/pressreleases/2006/04/04272006.html

Watson, G. R. (2006). Factors affecting teachers' level of classroom internet use and teachers' self-efficacy regarding classroom internet use. Ed. D. dissertaton. West Virginia University, United States–Virginia. Retrieved March 17, 2008 from ProQuest Digital Dissertations database. (Publication No. AAT 3225402).

West, P. (1982). *Reproducing naturally occurring stories: Vignettes in survey research.* Aberdeen: MCR Medical Sociology Unit.

Whiting, B., Van Burgh, J. W., & Render, G. F. (1995). *Mastery learning in the classroom.* San Francisco: American Educational Research Association.

Wiggins, G. (1998). *Educative assessment.* San Francisco: Jossey-Bass.

Wilfong, J. D. (2006). Computer anxiety and anger: The impact of computer use, computer experience, and self-efficacy beliefs. *Computers in Human Behavior, 22,* 1001-1011.

Wiliam, D. (2007). Content then process: Teacher learner communities in the service of formative assessment. In D. Reeves (Ed.), *Ahead of the curve: The power of assessment to transform teaching and learning* (pp. 183-204). Bloomington, IN: Solution Tree.

Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education, 11*, 57-67.

Yushau, B. (2006). Computer attitude, use, experience, software familiarity and perceived pedagogical usefulness: The case of mathematics professors. *Eurasia Journal of Mathematics, Science and Technology Education, 2*(3). 1-17.

APPENDIX A

SURVEY INSTRUMENT

1 Enter the number assigned to you by the researcher. If you do not have a number, just skip this question.

This survey is completely anonymous. At no time will your name or information appear on this survey. Your participation is completely optional. At any time, you may stop the survey. There will be no penalties for not completing or partial completion of the survey. Submitting the survey gives your consent for Darlene Barron (darlene.barron@lamarcountyschools.org) to use your data in this research project.

Directions: **Below are questions about the use of technology in your everyday life. Try to put yourself in the situation described below. Then read each statement and decide on a scale of 1 – 4 how much this statement reflects how important you feel a particular situation is. Checking the box for a 1 indicates this is something you would never consider important about technology, while checking the box for a 4 indicates that this is something you always consider important about technology.**

2 PART I

Situation 1 Part 1

I am driving on the Interstate to school. I have to be on duty right now but I am running a little late.
Shortly after I merge onto the Interstate, I begin to slow down because of traffic. Just ahead I see there has been an accident. I am between exits and cannot get off the Interstate. There is no telling how long I will be stuck in traffic. I am responsible for my duty post, and I know I must let my principal know that I am going to be late. I have my cell phone with me and I reach to make the call.

1	2	3	4
Not at all important	Somewhat important	Important	Very Important

How important do you think your cell phone is to achieving your goal of reaching your principal?

How important is this situation to you personally?

3 **Situation 1 Part 2**

As I start dialing my principal's number, the cell phone goes

completely dead. I check the battery and try turning it on and off again. It is not working. I am unable to call my principal.

When you are in this situation, to what extent do you feel

	2 Somewhat	3 Definitely	4 Very
Angry			
Challenged			
Frustrated			
Anxious			

4 **Situation 2 Part 1**

I have just finished grading papers. I decide to use my gradebook program to record grades. I go to the Internet to open the web-based gradebook program. I begin entering grades for the first class.

	2 Somewhat important	3	4 Very important
How important do you think the web is to achieving your goal of recording grades?			
How important is this situation to you personally?			

5 **Situation 2 Part 2**

As I start entering in the last few grades, my computer locks up. All of the grades I have entered are not recorded.

When you are in this situation, to what extent do you feel

1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry			
Challenged			
Frustrated			
Anxious			

6 **Situation 3 Part 1**

I am running late today for a meeting in the central office. I start my car and immediately the little low fuel indicator lights up. I need gas. I pull into the local gas station. The station has both automatic credit card swipe at the pump and an attendant inside the station who can handle credit card payments. I pull up to the first available pump.

1 Not at all important	2 Somewhat important	3 Important	4 Very important

How important do you believe the credit card swipe machine at the gas pump is to achieving your goal of filling your gas tank?

1 2 3 4

How important is this situation to you personally?

1 2 3 4

7 **Situation 3 Part 2**

I insert my credit card into the card swipe machine. At first, nothing happens. I try again. Then I notice a little note underneath the display that says, "Credit Card not working on pump – please pay inside."

When you are in this situation, to what extent do you feel

1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry			
1	2	3	4
Challenged			
1	2	3	4
Frustrated			
1	2	3	4
Anxious			
1	2	3	4

8 **Situation 4 Part 1**

I am going to a shopping mall. The elevator, the stairs, and the escalator are fairly close to each other. I decide to take the elevator, even if it is only for one floor.

1 Not important at all	2 Somewhat important	3 Important	4 Very important

How important do you think the elevator is to gaining access to the mall?

1 2 3 4

How important is this situation to you personally?

1 2 3 4

2

Situation 4 Part 2

I step into the elevator. I press the button for the first floor, but nothing happens. I notice an "out of order" sign on the side of the panel.

When you are in this situation, to what extent do you feel

	1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry				
Challenged				
Frustrated				
Anxious				

Directions: **Below are questions about the use of the Mississippi Student Progress Monitoring System (SPMS) in your everyday teaching. Try to put yourself in the situation described below. Then read each statement and decide on a scale of 1 – 4 how much this statement reflects how important you feel a particular situation is. Checking the box for a 1 indicates this is something you would never consider important about the Mississippi Student Progress Monitoring System (SPMS), while checking the box for a 4 indicates that this is something you always consider important about the Mississippi Student Progress Monitoring System (SPMS).**

10

Part II

Situation 5-1

I am preparing a diagnostic assessment for my students. I am required to use the web-based SPMS program to assess my students. I am running behind in getting this accomplished. I am glad I have been to all of the SPMS trainings offered and have all of my notes and handouts.

	1 Not at all important	2 Somewhat important	3 Important	4 Very important
How important do you think the SPMS professional development training is to achieving your goal of using SPMS to create your diagnostic assessment?				
How important is this situation to you personally?				

11 **Situation 5 Part 2**

As I begin to choose my assessment items, I notice that the system is running slowly. Then all of a sudden the computer is locked up. I cannot complete my assessment.

When you are in this situation, to what extent do you feel

1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry			
Challenged			
Frustrated			
Anxious			

12 **Situation 6 Part 1**

I am a first-year teacher. I received a message from the principal requesting a meeting during my conference period today. He has requested information regarding student progress in my class thus far. I log into the web-based SPMS to retrieve the student item analysis for the last three assessments. I also need to pull up the history report for all of my students.

1 Not at all Important	2 Somewhat important	3 Important	4 Very Important
How important do you think using SPMS is to your goal of supplying the requested information to your principal?			
How important is this situation to you personally?			

13 **Situation 6 Part 2**

As I get the history report up to print, I see that it is blank. There is no report data

When you are in this situation, to what extent do you feel

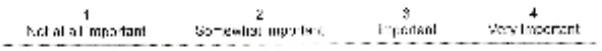
1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry			
Challenged			

Frustrated

Anxious

14 **Situation 7 Part 1**

I have been adding assessment items into SPMS. After entering the twenty items I need, I try to create my test. I follow my instructions from the training, but nothing works. I call the district SPMS trainer for help.



How important do you think the support provided by the district SPMS trainer is to your goal of creating an assessment?

How important is this situation to you personally?

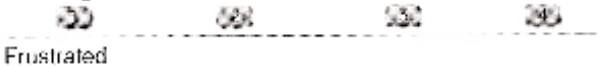
15 **Situation 7 Part 2**

As I listen to the message on the phone, I discover that the district SPMS trainer is out of the office for the week.

When you are in this situation, to what extent do you feel

Angry

Challenged

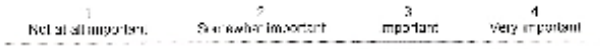


Frustrated

Anxious

16 **Situation 8 Part 1**

I have prepared my SPMS assessment for my students to take online this Friday. I have signed up to use the computer laptop cart with thirty laptops. I double check with the technology resource technician to be sure the cart will be available and ready for use in my classroom on Friday.



How important do you think the availability of the laptop cart

is to achieving your goal of administering your assessment online?

How important is this situation to you personally?

17 When I arrive at the technology resource technician's office to get the laptop cart, I am told that the cart had to be used for a district training that was scheduled at the last minute, and I will have to reschedule my test

1 Not at all	2 Somewhat	3 Definitely	4 Very
Angry			
Challenged			
Frustrated			
Anxious			

13 **Situation 9 Part 1**

I rush to school this morning for a parent conference. Just before the bell rings for class, I arrive at my class to begin teaching. After teaching my first two classes, I report for lunch duty. During my conference time, I meet with my collaborative team to discuss a common assessment and the results of the assessment. We review the needs of students who are struggling in our classes and share different teaching strategies to use. I return to teach my last class before reporting to a faculty meeting after school. I still need to create my SPMS assessment.

1 Not at all Important	2 Somewhat Important	3 Important	4 Very important

How important do you think time is in achieving your goal of creating a web-based SPMS assessment?

How important is this situation to you personally?

19 **Situation 9 Part 2**

After the faculty meeting, I rush to the teacher center to use the laptop. I have thirty minutes before the center closes.

When you are in this situation, to what extent do you feel

1 Not at all	2 Somewhat	3 Definitely	4 Very

Angry

Challenged

Frustrated

Anxious

20 **Situation 10 Part 1**

After giving a formative SPMS assessment, I retrieve an item analysis of student performance. The report shows that over fifty percent of the class did not understand four of the concepts assessed.

1	2	3	4
Not at all important	Somewhat important	Important	Very important

How important do you think the item analysis report from SPMS is in your goal of student achievement?

How important is this situation to you personally?

21 **Situation 10 Part 2**

As I start planning different instructional strategies and activities to re-teach the four concepts, my collaborative team member reminds me that SPMS has a curriculum and instruction section that has lessons and strategies based on the misunderstood concepts.

When you are in this situation, to what extent do you feel

1	2	3	4
Not at all	Somewhat	Definitely	Very

Excited

Challenged

Calm

Anxious

SUBMIT

Teacher MSPMS Attitudes and Perception Inventory (MSPMS API) 2

Part III
Please answer Yes or No to the following statement.

22 I use the Mississippi Student Progress Monitoring System.

Please select the choice that best fits you.

23 I feel that everyone would benefit from using the Mississippi Student Progress Monitoring System

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
(4)	(3)	(2)	(1)

24 I feel that the Mississippi Student Progress Monitoring System works

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
(4)	(3)	(2)	(1)

25 I feel that the Mississippi Student Progress Monitoring System produces useful outcomes.

Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
(4)	(3)	(2)	(1)

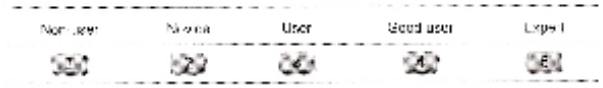
Please complete the following information. Click the button under the information that is correct for you.

26 How many years have you been using computers for personal purposes?

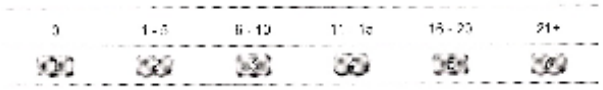
0 - 5	6 - 10	11 - 15	16+
(4)	(3)	(2)	(1)

27 How many years have you been using computers for educational purposes?

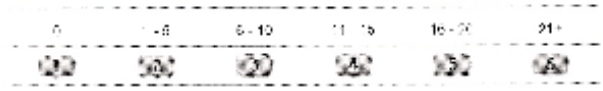
28 In my use of computers, I consider myself as a(n)



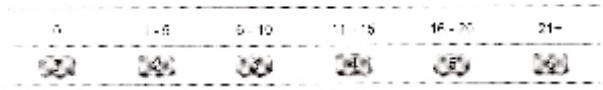
29 How many hours of professional development for SPMS have you participated in?



30 How many assessments have you created in SPMS?



31 How many SPMS assessments have you given to your students?



Teacher MSPMS Attitudes and Perception Inventory (MSPMS APD) 2

32 How many hours per week do you spend creating and/or interpreting assessment results from SPMS?

0 | 1 - 5 | 6 - 10 | 11+

33 How many hours per week do you have at work to create and/or interpret assessments results in SPMS?

0 | 1 - 5 | 6 - 10 | 11+

34 Age

22 - 25 | 26 - 30 | 31 - 35 | 36 - 40 | 41 - 45 | 45 - 50 | 51+

35 School level where you teach

Elementary K - 5 | Middle School 6 - 8 | High School 9 - 12

36 Subject(s) you teach

English Language Arts (Reading) | Mathematics | Science | Social Studies | All

37 Years of teaching experience

0 | 1 - 5 | 6 - 10 | 11 - 15 | 16 - 20 | 21+

38 Highest level of education attained

BS or BA | MS or MA | Specialist | Doctorate | Post Doctorate

SUBMIT

APPENDIX B

INSTITUTIONAL REVIEW BOARD APPROVAL

Mississippi State University

April 29, 2008

Darlene Barron
79 Franklink Place
Hattiesburg, MS 39402

RE: IRB Study #08-135: MSPMS-API-Mississippi Student Progress Monitoring System - Attitude and Perception Inventory

Dear Mrs. Barron:

The above referenced project was reviewed and approved via administrative review on 4/29/2008 in accordance with 45 CFR 46.101(b)(2). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please refer to your IRB number (#08-135) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact irb@research.msstate.edu or 325-3294.

Sincerely,

Katherine Crowley
Assistant IRB Compliance Administrator

cc: Dr. Connie Forde

Office for Regulatory Compliance
P. O. Box 6223 • 70 Morgan Avenue • Mailstop 9561 • Mississippi State, MS 39762 • (662) 325-3294 • FAX (662) 325-8776

RECEIVED
MAY 0 8 2008

Procedural Modification/Addendum Request Form

Please note: This form may NOT be used for personnel changes or time extensions. Please complete a Personnel Modification form for personnel changes or a Continuing Review Request form for time extension requests.

IRB Docket #: 08-135

Principal Researcher/Investigator: Darlene D. Barron

Research Title: MSPMS-API-Mississippi Student Progress Monitoring System – Attitude and Perception Inventory

1. **Summarize / Itemize requested changes and justification for each.**

   Per the request of my Dissertation Committee, I need to remove the 13 items of the Marlowe-Crowne Social Desirability Scale to a separate document. The reason for this is that the 13 items do not belong in the actual MSPMS-API instrument.

2. **Do changes require a REVISED CONSENT statement or procedure?** *If so, attach revised form and procedures.* NO

3. **Do changes require revisions to the assessment of risk of harm to the subjects?** *If so, attach revisions.* NO

4. **Do changes require revisions to the methods of ensuring anonymity or confidentiality?** *If so, explain.* NO

Signature of Researcher/Investigator: Date: 05/06/2008

Signature of Advisor (if student): Date: 5/6/08

** (For office use)

Type of Approval: ✓ *Administrative*
Expedited
Full Board *Date of meeting:*

Authorized IRB Representative: *Date:* 5/8/08

Version February 2005

APPENDIX C

LETTER OF APPROVAL FROM SCHOOL BOARD

CREATING OUR FUTURE

LAMAR COUNTY
SCHOOL DISTRICT
P.O. Box 609
Purvis, MS 39475

April 11, 2008

To Whom It May Concern:

On April 7th the Lamar County School District Board of Education approved Mrs. Barron's study in our school district.

If you need any further information, please contact me.

Sincerely,

Ben Burnett

Dr. Ben Burnett
Superintendent

APPENDIX D

EXPLANATORY LETTER TO PARTICIPANTS

Darlene Barron
79 Franklin Place
Hattiesburg, MS 39401

Lamar County School District
Teachers Grades 1 – 12
Subjects English, Math, Science, Social Studies

May 2008

Dear Fellow Lamar County School District Instructors:

Your attitudes and opinions are valuable. As you know, the field of Education changes constantly because of technology which means that our jobs and the skills we have also change. I am conducting a research study through Mississippi State University to find out about your needs concerning the Mississippi Student Progress Monitoring System, now MSPMS in order to help your classroom, and what motivates you to use MSPMS.

I would greatly appreciate your time in completing the survey included below. Your participation is crucial to the success of this research, and it should only take about 20 minutes to complete the survey. Feel free to e-mail or call me if you have any questions.

Please be assured that your participation is totally voluntary, and if you choose to participate, all your answers will be kept completely confidential. Any data used in reports or articles will be used in aggregate form, so individuals will be named. Participation or non-participation will not negatively impact you in any way, and you may discontinue completion of the survey at anytime. Your return of the survey indicates your consent to participate in this study. If you have questions regarding your rights as a research subject, please contact the MSU Office for Regulatory Compliance at (662) 325-3220 or e-mail irb@orc.msstate.edu. The results of this survey may be requested by sending an e-mail to darlene.barron@lamarcountyschools.org.

Your practices and opinions are valued and appreciated, and it is important to know how Mississippi educators keep up with the changes in technology so that we can share new ideas and adapt practices as needed. Thank you for taking your valuable time to read this letter, and I hope you will be able to participate in this worthwhile study. I appreciate your help!

Please click on the following link to begin the survey:

Gratefully,

Darlene L. Barron

Darlene L. Barron
Lamar County School District
Instructional Technology Specialist
601-794-5256 EXT 1006
601-791-6294 (FAX)
darlene.barron@lamarcountyschools.org

Dr. Connie Forde
662.325.2281 (o)
cmf3@ra.msstate.edu