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TEST ANXIETY: EFFECTS ON STANDARDIZED TESTING, AVERAGE  
CLASSROOM ASSESSMENTS, AND FOURTH GRADE STUDENTS

by  
Elysia J. Ochs

A Thesis

Submitted in partial fulfillment of the requirements of the  
Master of Science in Teaching Degree  
of  
The Graduate School  
at  
Rowan University  
June 29, 2006

Approved by

Professor

Date Approved

6/29/06

## ABSTRACT

Elysia J. Ochs

TEST ANXIETY: EFFECTS ON STANDARDIZED TESTING, AVERAGE  
CLASSROOM ASSESSMENTS, AND FOURTH GRADE STUDENTS  
2005/2006

Dr. Randall Robinson  
Master of Science in Teaching

The purpose of this study was to compare the effects of both standardized testing and average classroom assessments on the levels of test anxiety. The study was a correlation study with a sample of 42 fourth grade students. The students came from four separate classrooms within the same elementary school. This study adapted Wren and Benson's (2004) Children's Test Anxiety Scale (CTAS). The subjects in this study were administered two identical questionnaires entitled, "How I Feel About Tests." The first CTAS was administered in the week following the New Jersey Assessment of Skills and Knowledge (NJ ASK). The second CTAS was administered one month later. Each subject's CTAS was studied individually and compared to the group. It was found that 88 percent of the subjects experienced higher levels of test anxiety during the first CTAS. This CTAS was utilized to determine the level of test anxiety students experience during standardized testing. Twelve percent of the subjects showed a heightened level of test anxiety during the second CTAS. The second CTAS was used to rate students' level of test anxiety during average classroom tests and quizzes.

## ACKNOWLEDGEMENTS

To the residents of I5, Erin, Lindsay, Val, Lauren, and Stef, I cannot begin to tell you how grateful I am for your love, support, and constant guidance. Tuesday night dinners helped me to keep my sanity and helped me to find my lost sense of humor. You ladies are the sole reason I was able to conquer all of this year's uphill battles.

I especially thank Erin who patiently guided me through the more technical details of this project. I am in your debt for the late night guidance sessions and the hour, long phone conversations. Erin, without you I would still be on page one.

To my parents I can only say thank you for your continued support. I may seem ungrateful at times but nothing could be farther from the truth. Your patience and love have both proven inexhaustible.

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## CHAPTER I

### Scope of the Study

#### Introduction

Senate Bill 107 (2001) requires students in grades three through eight to be tested annually in Mathematics, Language Arts, and Science. Standardized tests have become a constant of America's education system. Senate Bill 107 (2001) has set a benchmark for all schools requiring them to have every student pass the annual standardized test by 2014. As the date approaches schools will be anxious to meet this goal and thus will feel more and more pressure. Some of this anxiousness and pressure will be transferred from school administrators and teachers to their students. Testing for Results (n.d.) writes, "Testing, in any form, does sometimes cause anxiety. Effective teachers understand this and help students prepare for it. Testing is a part of life, and young people need to be equipped to deal with it" ("Testing for Results," n.d.).

"Bush Testing" (2001) describes the philosophy of "The Alliance for Childhood, a new group of nationally prominent psychiatrists, child development authorities, and educators, who noted that the growing emphasis on high-stakes testing is damaging education and causing a sharp increase in test-related anxiety, showing up as headaches, stomach aches, sleep problems, acting out and depression" (Bush Testing, Spring 2001).

#### Statement of the Problem

The researcher studied the following focus question: Do standardized tests cause higher levels of test anxiety in elementary school students than the average classroom



assessments such as unit tests and quizzes? This paper also discussed the following sub questions: What are the national and state assessment standards? Is there pressure to perform well on standardized tests? What role do teachers play in standardized tests? What causes test anxiety and what are its effects? How is test anxiety assessed?

### Hypothesis

It was hypothesized that standardized tests cause higher levels of test anxiety than average classroom assessments in math, science, and social studies as measured by the Children's Test Anxiety Scale (CTAS) in fourth grade children.

### Limitations of the Study

The study was focused on 43 fourth grade students in four different classrooms within the same elementary school. The first limitation of the study was that the information gained from the classrooms was not easily transferable to other classrooms across the country. The numbers were also too small to be considered statistically significant to the broader fourth grade population.

The second limitation was that the study operated on the assumption that students indeed do experience test anxiety during most testing situations. Another aspect of this limitation was the assumption that all signs of test anxiety were visible manifestations of anxiety. Also, it assumed that these signs of anxiety would be measurable in an average classroom. The level of anxiety an individual student did or did not feel varied with each student and has the potential to change daily.

The third variable that affected the study was that the subjects came from four different classrooms. This is a factor because all teachers are required by the district to give the same classroom assessments but their teaching techniques varied. Teachers may have also modified the tests. The only consistent test was the New Jersey Assessment of Skills and Knowledge (NJ ASK), the standardized test used by all fourth grade students in the state.

The fourth limitation of the study was that every classroom was different because an independent teacher with his or her own educational philosophy guided it. Each independent teacher should have followed district curriculum as it applied to the students in his or her classroom. However, the researcher could not assure that every teacher followed the district curriculum exactly. Therefore, the sample quizzes and tests might not have translated exactly to the four individual classrooms.

### Definition of Terms

The following is a list that defines terms used throughout the paper:

*Average Classroom Assessments* Tests and quizzes given during and after academic units in math science, or social studies.

*High-Stakes Testing* A term referring to the severity of the consequences associated with performance on a test or assignment” (Cizek and Burg 2006, p. 126). Tests that can decide if a student should move on to the third grade, whether a student will graduate high school can be included in this category, or whether a school district will receive federal or state funding (Cizek and Burg, 2006).

*Test* A series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability. A basis for evaluation or judgment (American Heritage Dictionary, 2006).

*Test Anxiety* “A specific form of anxiety, comprising a combination of cognitive and physiological responses, and aroused in testing situations or similar situations involving personal evaluation” (Cizek and Burg, 2006, p.129). “A scientific construct, referring to a set of phenomenological, physiological, and behavioral responses that accompany concern about negative consequences or failure on an exam or similar evaluative situation” (Zeidner, 1998, p. 17).

*Quiz* A questioning or an inquiry. A short oral or written test. To test the knowledge of by posing questions (American Heritage Dictionary, 2006).

## CHAPTER II

### Review of the Literature

#### Introduction

Chapter One of this paper presented an introduction to the topic of standardized tests and test anxiety. The researcher posed the following question: Do standardized tests cause higher levels of test anxiety in elementary school students than the average classroom assessments such as unit tests and quizzes? In Chapter One the researcher hypothesized that standardized tests cause higher levels of test anxiety than average classroom assessments in math, science, and social studies as measured by the Children's Test Anxiety Scale (CTAS) in fourth grade children.

Chapter One also defined the terms tests, quizzes, high-stakes testing, and test anxiety. The researcher defined average classroom assessments as tests and quizzes during and after academic units in math science, or social studies. According to the American Heritage Dictionary (2006) tests can be defined as “series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability” (American Heritage Dictionary, 2006). Quizzes are defined as a “short oral or written test” (American Heritage Dictionary, 2006). Cizek and Burg (2006) define high stakes as “a term referring to the severity of the consequences associated with performance on a test or assignment” (p. 126). Tests that can decide if a student should move on to the third grade, whether a student will graduate high school can be included in this category, or whether a school district will receive federal or state funding. The emotions or physical reactions to the testing process can be measured and are often

defined as test anxiety. Cizek and Burg define test anxiety as “ a specific form of anxiety, comprising a combination of cognitive and physiological responses, and aroused in testing situations or similar situations involving personal evaluation” (Cizek and Burg, 2006, p.129). Test anxiety can also be defined as “a scientific construct, referring to a set of phenomenological, physiological, and behavioral responses that accompany concern about negative consequences or failure on an exam of similar evaluative situation” (Zeidner, 1998, p. 17).

In order to research test anxiety and its effect on elementary students it is necessary to explore government education standards, the pressure to perform, the role of teachers, what causes test anxiety, and how test anxiety is assessed. This literature review looks at test anxiety of elementary students in five sections. The first section discusses national and state standards of elementary student assessment. The second section describes the pressure to perform. The third section examines the role of teachers in standardized testing. The fourth section studies the cause and affect of test anxiety. The fifth and final section looks at the assessment of test anxiety.

### National and State Assessment Standards

“Help Your Child Improve in Test-Taking” (1993), a U.S. Department of Education publication writes:

“Don't judge a child on the basis of a single test score. Test scores are not perfect measures of what a child can do. There are many other things that might influence a test score. For example, a child can be affected by the way he or she is feeling, the setting in the classroom, and the attitude of the teacher. Remember, also, that one test is simply one test” (p. 3).

Less than the ten years later the U.S. Department of Education writes in “Testing for Results” (n.d.), “Annual testing provides important information on student achievement, so teachers and parents may determine how best to improve student performance and diagnose problems that might be associated with poor performance” (“Testing for Results, n.d).

The national assessment standards are based on Senate Bill 107 ( 2001), No Child Left Behind, an amendment to the Elementary and Secondary Education Act of 1965. Senate Bill 107 ( 2001) requires each State to have academic standards for all public elementary school and secondary school children in math and language arts by the beginning of the 2005- 2006 school year. Senate Bill 107 (2001) also states that all standards must expect the same knowledge, skills, and levels of achievement for all students. “By May 2003 states must have academic content standards in reading and language arts and math that cover each of grades 3 through 8” (Standards and Assessments, 2003).” Standards and Assessments (2003) discusses that by 2005-2006, States must have academic content standards in science that cover the grade spans 3 through 5, 6 through 9, and 10 through 12. Senate Bill 107 (2001) requires that all standards are to specify what children are expected to know and be able to do, teach advanced skills, and be measured on three levels: basic, proficient, and advanced.

The next step of the national standards is assessment of state standards. Senate Bill 107 (2001) requires that each State develop an accountability system that must be based on the aforementioned academic standards and adequate yearly progress. Senate Bill 107 (2001) defines adequate yearly progress with the following criteria: 1) academic standards are met by all public elementary and secondary schools in the State, 2)

“statistically valid and reliable” measurements 3) continuous academic improvement for all students, 4) measures the progress of public elementary schools in reference to state academic standards, 5) results must document achievement of all students divided into four main categories; “economically disadvantaged students,” “students from major racial and ethnic groups,” “students with disabilities,” and English language learners. The only exception to this would be if a category could not yield statistically reliable information or the results would identify information about a specific student (S.671, 2003). Senate Bill 107 (2001) also requires that schools start with a baseline figure and create a plan, not to extend past 2014, to reach 100 percent proficiency in the four categories.

Senate Bill 107 (2001) also requires that States assess the State standards annually and separately for mathematics and language arts. The assessments must be the same for all schools and educational agencies in the State. Senate Bill 107 (2001) requires that each year the assessments “meet or exceed the proficient level.” The stipulation with this is that over the course of 12 years, every school will reach 100 percent proficiency on assessments. “States may include either or both criterion-referenced assessments or augmented norm-referenced assessments” (“Standards and Assessments”, 2003). Standards and Assessments (2003) states that during the 2005-2006 school year, States must administer annual assessments in language arts and math in each of grades 3 through 8 annually.

The State of New Jersey has an academic standards system known as the New Jersey Core Curriculum Content Standards (NJCCCS) ( NJ Department of Education, n.d.). The Department of Education (n.d..) has created nine content areas which include

the following: Visual and Performing Arts, Comprehensive Health and Physical Education, Language Arts Literacy, Mathematics, Science, Social Studies, World Languages, Technological Literacy, and Career Education and Consumer, and Family and Life Skills.

According to Understanding Accountability (2005) all New Jersey students take one of three tests: New Jersey Assessment of Skills and Knowledge (NJ ASK), Grade Eight Proficiency Assessment (GEPA), and the High School Proficiency Assessment (HPSA). For the purpose of this literature review only the NJ ASK, which assess grades 3 through 5, will be detailed further. Understanding Accountability (2005) states that all three tests are based on the NJCCCS and all students in New Jersey must “reach the proficiency benchmarks.” Schools that fail to meet the Adequate Yearly Progress will be labeled “a school in need of improvement.”

The proficiency benchmarks are as follows for the NJ ASK Language Arts Literacy: The starting benchmark was 68 percent, the benchmark for 2004-2005 was 75 percent, the benchmark for 2007-2008 is 82 percent, the benchmark for 2010-2011 is 91 percent, and the benchmark for 2013-2014 is 100 percent (Understanding Accountability, 2005, p. 7).

The proficiency benchmarks are as follows for the NJ ASK Math: The starting benchmark was 53 percent, the benchmark for 2004-2005 was 62 percent, the benchmark for 2007-2008 is 73 percent, the benchmark for 2010-2011 is 91 percent, and the benchmark for 2013-2014 is 100 percent (“Understanding Accountability”, 2005). All schools automatically receive 5 percent applied to the total population and each subgroup



in order to protect against misidentifying any school or district for not meeting Adequate Yearly Progress (“Understanding, Accountability”, 2005).

For a school to be meet the Adequate Yearly Progress they need to meet the benchmark for each subgroup of the total population and meet the attendance requirements for both sections of the NJ ASK (“Understanding Accountability”, 2005). 95 percent of the students enrolled by July 1st for grades 3, 4, and 5, including English Language Learners and special education students must take the test (“Understanding Accountability”, 2005). If this does not happen, the school automatically fails to meet Adequate Yearly Progress.

Not only does the total population have to meet the benchmarks of the NJ ASK language arts and math, but also each individual subgroup with 20 or more students, the requirement to be statistically significant, needs to meet the benchmark. The special education subgroup needs to include 35 or more students to be considered statistically significant (“Understanding Accountability”, 2005).

The subgroups for New Jersey include the following: White students, African-American students, Hispanic students, Asian/Pacific Indian students, other racial group students, economically disadvantaged students, students with disabilities, and limited English proficient students (“Understanding Accountability”, 2005). If any of these groups fail to meet the benchmark for math or language arts the school will be considered in need of improvement.

#### Pressure to Perform Well on Standardized Tests

Standard tests have come to be known as high-stakes tests. Cizek and Burg

(2006) define high stakes as “a term referring to the severity of the consequences associated with performance on a test or assignment” (p. 126). Cizek and Burg expand on their definition by offering the example of a high school student not being allowed to graduate unless he or she passes the required standardized test.

John Jennings, author of *Why National Standards and Tests?* (1998), points to the obvious fact that society is looking to public school and deciding not only are they “not good enough” but that is time to make them better. According to Johnson and Johnson (2002) those in favor of accountability and standards for schools do so in the name of improving education. It is believed by some that high standards are the key to motivating students, teachers, and school administrators to achieve higher scores.

Zeidner (1998) states that “tests are increasingly personally important in modern society” (Zeidner, 1998, p. ix). Zeidner (1998) quotes Sarason (1959) ‘contemporary society is best described as test-oriented and test consuming’...‘we live in a test-conscious, test-giving culture in which the lives of people are in part determined by their test performances’ (Zeidner, 1998, p. 4).

States, districts, and schools are required to make Adequate Yearly Progress or face the consequences. Questions and Answers (n.d.) reports on the actions that are taken should a school fail to meet Adequate Yearly Progress. If a Title I school, one that receives federal funding, fails for two consecutive years, it will be labeled as a school “needing improvement” the third year (“Questions and Answers”, n.d.). At this point school officials are required to create a two-year plan to reverse the school’s newly acquired label (“Questions and Answers”, n.d.). The students attending “must be offered the option of transferring to another public school in the district, which may include a

public charter school, that has not been identified as needing school improvement” (“Questions and Answers”, n.d.).

After the third year of failure to meet Adequate Yearly Progress, the district is to continue the needs improvement status and offering school choice (“Questions and Answers”, n.d.). In addition, Questions and Answers (n.d.), states that students who are low-income and are eligible for supplemental services, such as tutoring or remedial classes, from a state-approved provider. According to Testing for Results (n.d.) a school that fails for four years faces “corrective actions” from the district, which can include: replacing certain staff, implementing a new curriculum, and continuing to offer school choice and supplemental services to students who are classified as low-income. Should a school fail five consecutive years the district must restructure the entire school. “This many include, reopening the school as a charter school, replacing all or most of the school staff, or tuning over school operations either to the state or to a private company with a demonstrated record of effectiveness” (“Testing for Results”, n.d.).

Botelho (2003) writes about the pressure for not only schools to perform on standardized tests, but for students as well. He also notes that meeting these new standards also comes at a time when many states and cities face budget crises. ““This is making everybody nervous because public education is being told to do a lot of things; there are a lot of mandates on a lot of levels, but resources are scarce,’ said [Mark] Townsend, who is also a board member on the National PTA” (Botelho, 2003, p.2).

Schools are facing labels that are based on test scores, but that is not always a fair indication of what a school does daily for its students (Botelho, 2003, p.2). Botelho (2003) also discusses States such as Texas and Louisiana that have created retention laws

that deny third and fourth graders advancement to the next grade if they fail the state test. Botelho (2003) quotes Townsend, who says, ““You cannot simply change student performance by mandating it”” (Botelho, 2003, p.2).

### Role Teachers Play in Standardized Tests

Sadker and Zittleman (2004) report that in many classrooms across the country the focus is on test preparation and not student learning. “In a nationwide pool of more than 1,000 public school teachers, Education Week found that two-thirds felt their stats had become too focused on state tests” (Sadker and Zittleman, 2004, p. 741). Sadker and Zittleman (2004) discuss Kentucky’s state assessment. They found that when questions or concepts were reused scores increased, but when new questions and concepts were used the scores decreased. In some schools, tests scores had, on average, increased the gap between reused and new concepts, thereby suggesting that students were “coached” by teachers on reused questions (Sadker and Zittleman, 2004).

Sadker and Zittleman (2004) point to another problem that arises because of high-stakes testing: teacher stress. Sadker and Zittleman (2004) report that in a national study, seven out of 10 teachers “reported feeling test stress, and two out three believed that preparing for the test takes time for teaching important, non-tested, topics” (Sadker and Zittleman, 2004, p. 743). Sadker and Zittleman (2004) also report that teachers felt they were discouraging children from a love of learning.

One role teachers take on when standardized tests are involved is teaching to the test. “Students practiced filling in ‘bubbles’ on stock tests and learned that test markers never have the same letter choice for a correct answer three times in a row... ‘Three in a

row, no, no, no” (Janesick, 2001, p. 100). Janesick (2001) write that schools are expected to meet proficiency standards with limited monetary resources to accomplish the reform.

Testing for Results (n.d.) represents the U.S. Department of Education’s stance on standardized assessment. It counters the idea that teachers must teach to the test by stating, “Testing is part of teaching and learning. Gifted and inspiring teachers use tests to motivate students as well as to assess their learning” ( “Testing for Results”, n.d.). Testing for Results (n.d.) goes on to say that effective teachers see testing as integral part of teaching and are able to incorporate testing into their instructing without hindering the learning process. However, teachers feel pressure to reach proficiency levels and to do so with limited resources and time.

#### Causes and Effects of Test Anxiety

Testing for Results (n.d.) writes, “Testing, in any form, does sometimes cause anxiety. Effective teachers understand this and help students prepare for it. Testing is a part of life, and young people need to be equipped to deal with it” (“Testing for Results,” n.d.). Zeidner (1998) points to the fact that early on children are exposed to this test culture and become both “test-oriented and test anxious” (Zeidner, 1998, p.4). “ The increase in usage of test scores to evaluate educational attainments and programs, coupled with greater public pressures for higher levels of school learning and academic achievement, has helped create a more pressure-laden atmosphere in the school and university system” (Zeidner, 1998, p.6). Zeidner defines anxiety as “ a basic human emotion, signaling uncertainty or threat in the environment” (Zeidner, 1998, p. 16).

Test anxiety can be defined as “a scientific construct, refers to a set of phenomenological, physiological, and behavioral responses that accompany concern about negative consequences or failure on an exam of similar evaluative situation” (Zeidner, 1998, p. 17). Cizek and Burg define test anxiety as “ a specific form of anxiety, compromising a combination of cognitive and physiological responded, and aroused in testing situations or similar situations involving personal evaluation” (Cizek and Burg, 2006, p.129). Psychologists recognize test anxiety as one of the most prevalent forms of anxiety and it is seen as rising with every test that is added (Cizek and Burg, 2006) .

Zeidner (1998) describes recent studies of test anxiety and their importance to understanding it. Zeidner (1998) credits Spielberger as one of the biggest names in testy anxiety research. Spielberger studied the difference between state and trait personality traits as related to anxiety. Cizek and Burg (2006) define a trait as “an enduring characteristic of a person” that has “pervasive effects or is evident in diverse aspects of a person’s life” (Cizek and Burg, 2006, p.129). Cizek and Burg (2006) define state as “a temporary phenomenon or reaction that is evoked only in specific situations” (Cizek and Burg, 2006, p. 129). According to Zeidner (1998), Spielberger was able to conceptualize test anxiety as a situation specific from of trait anxiety. Zeidner (1998) has developed six categories of test anxious students, and describes how anxiety affects each category.

Zeidner (1998) proposed that test anxiety does not fit one mold and therefore describes six individual types of anxious students. The first group is examinees with Deficient Study and Test-Taking Skills. Students in this group have “trouble with encoding, organization, and application” of information (Zeidner, 1998, p. 52). The second group is Examinees Experiencing Anxiety Blockage and Retrieval Problems. This

group has sufficient study skills but “anxiety blockage prevents them from retrieving during the test” (Zeidner, 1998, p. 52). They cannot handle “the stress and pressure of evaluative situations”; the test is handed to them and everything they learned cannot be accessed (Zeidner, 1998, p. 52).

The third group is Failure-Accepting Examinees. According to Zeidner (1998) this group of students has poor study skills, low academic ability, and a history of failure. These factors lead the students to expect failure and accept it; it becomes a form of “learned helplessness” (Zeidner, 1998, p. 53). Zeidner’s (1998) fourth group is Failure-Avoiding Examinees. Zeidner (1998) states that these students strive to achieve as a way of establishing their worth to themselves and others. They work hard to achieve and are constantly afraid that working hard will still result in failure. “They feel unprepared even though = they study as much as students who succeed” and they will become most anxious during the test (Zeidner, 1998, p. 54).

Zeidner’s (1998) final two groups include Self-Handicappers and Perfectionistic Overstrivers. The fifth group, Self-Handicappers, create “impediments, such as decreasing effort, to performance in evaluative situations so that the individual has a ready excuse for potential failure” (Zeidner, 1998, p. 54). According to Zeidner (1998) these students may exaggerate the amount of anxiety they actually experience so they can have an excuse for their possible failure. Zeidner’s (1998) final group is the Perfectionistic Overstrivers. According to Zeidner (1998) these students hold high personal standards of academic achievement they are always concerned about not performing to a high enough standard and therefore counteract this feeling with order and organization.

Zeidner (1998) breaks the perfectionist into two categories; adaptive and non-adaptive. Zeidner (1998) states that the adaptive perfectionist takes pleasure in working hard and striving for excellence in academics and takes pride in a “job well done” (Zeidner, 1998, p. 55). Zeidner (1998) makes the point that the non-adaptive perfectionist is the one most closely tied to test anxiety. They have “deep-seated feelings of inferiority and fear that they will not meet their own self imposed or externally imposed (parents, teachers, peers) standards and this forces them into an endless cycle of self-defeating overstriving” (Zeidner, 1998, p. 55). According to Zeidner (1998) for the non-adaptive perfectionist nothing but a perfect score will reassure them of their personal value. Zeidner (1998) states that this will only perpetuate anxiety because no matter how hard they try eventually there will be one test that defeats them because perfection and not excellence is their ultimate goal.

Two other categories of perfectionist according to Zeidner are the self-related perfectionist and the socially prescribed perfectionist. The former are those students who impose high standards for themselves and are not willing to accept flaws or failure with themselves. The latter, according to Zeidner (1998), believe that “others maintain unrealistic and exaggerated expectancies that are difficult, if not impossible to meet; one must meet these expectations to win approval and acceptance from others” (Zeidner, 1998, p. 56). Zeidner cites Fleet who suggests, “sense of externally imposed standards of perfectionism that is most associated with anxiety in evaluative situations, causing high-test anxious subjects characterized by socially prescribed perfectionism to be especially anxious in test situations” (Zeidner, 1998, p. 56).



## Assessing Test Anxiety

Test anxiety is assessed in different ways. Cizek and Burg (2006) point to the irony of measuring test anxiety; the best way is to administer a test. Zeidner(1998) talks about the experimental studies that measure students' text anxiety over an extended period of time. Test anxiety research focuses on children and adults, but for the purpose of this literature review only the assessment of children will be discussed.

Zeidner (1998) discusses subjective self-reports. Questionnaires and inventories “measure the state of anxiety and asks individuals to report which of the relevant symptoms of anxiety they are currently experiencing in a particular testing situation” (Zeidner, 1998, p. 107). Zeidner also describes questionnaires that measure trait anxiety and will ask students to report on what they generally experience during test situations. Zeidner (1998) makes it clear that questionnaires and interviews should be combined with observations neither alone can offer enough information.

Another method described by Zeidner (1998) is Think-Aloud Procedures that ask examinees to verbalize what they are thinking while taking the test. Zeidner (1998) states that this can be effective in understanding the thought process of test anxious students, but it can prove to be an ethical problem. When a researcher asks students to report during the test, they are taking away time from the student to actually complete the test and drawing their attention to their anxiety.

The two final techniques that Zeidner (1998) discussed in detail are thought-listing techniques and systematic observations. Test-listing techniques are defined as “asking subjects to provide spoken or written records of their cognitive responses to specific stimuli” (Zeidner, 1998, p. 108). Zeidner (1998) is basically saying that the

researcher is asking students to keep a written or spoken journal of any thoughts they have during testing; whether those thoughts are related to the process of answering questions or self deprecating thoughts of failure. The final method is to take systematic observations. Zeidner (1998) states that the researcher goes into the observation with a list of characteristics that will be observed such as “perspiration, excessive body movement, and inappropriate laughter during the exam” (Zeidner, 1998. p. 111).

Cizek and Burg describe testing for test anxiety in greater detail. They choose tests that could be easily accessed by the readers. The relevant test to this literature is the Children’s Test Anxiety Scale (CTAS). Cizek and Burg state that “ the CTAS can be administered individually or in a group setting” (Cizek and Burg, 2006, p. 161). According to Cizek and Burg the test can be completed by children as young as second grade and will take between five and ten minutes to complete. It is a series of five or six questions that are answered on a rating scale.

### Synthesis

The focus of this literature review is to provide background information in order to effectively answer the question, Do standardized tests cause higher levels of test anxiety in elementary school students than the average classroom assessments such as unit tests and quizzes? This literature review discussed the following sub questions: What are the national and state assessment standards?, Is there pressure to perform well on standardized tests?, What role do teachers play in standardized tests?, What causes test Anxiety, what are its effects?, and How is test anxiety assessed? Each of the sections has their individual merits and offer valuable insight into the cause and effect of test anxiety for elementary school students.

Senate Bill 107 (2003) represents the government's desire to see that no child is left behind because his or her education system failed him or her. Senate Bill 107 (2001) also details the government's plan to prevent the education system failure; the main goal being to have each State report statistical data of standardized tests. On the other hand, Sadker and Zittleman see the importance of leaving no child behind, but do not agree with the government's method to achieve this goal. They see it as an added pressure on teachers and students. Testing for Results (n.d) acknowledges test anxiety, but writes it off because testing is a necessary part of life. Yet, Zeidner and Cizek and Burg see a correlation between the increase in standardized testing and the increase of test anxiety.

When the five sections are combined it offers a more complete picture of test anxiety and its role in today's society. Senate Bill 107 (2001), or No Child Left Behind created the national assessment standards. The national assessment standards are the driving force behind the State assessment standards. The State assessment standards are the driving force behind the teacher's role in standardized testing. National and State assessment standards and standardized tests are responsible for the pressure experienced by teachers and therefore students. The combination of assessment standards, teachers, and pressure create conditions that fuel test anxiety.

## CHAPTER III

### Procedure

### Introduction

Chapter One of this paper presented an introduction to the topic of standardized tests and test anxiety. The researcher posed the following question: Do standardized tests cause higher levels of test anxiety in elementary school students than the average classroom assessments such as unit tests and quizzes? In Chapter One the researcher hypothesized that standardized tests cause higher levels of test anxiety than average classroom assessments in math, science, and social studies as measured by the Children's Test Anxiety Scale (CTAS) in fourth grade children. Samples of average classroom assessments and the CTAS can be found in appendix C.

Chapter One also defined the terms average classroom assessments, high-stakes testing, and test anxiety. The researcher defines average classroom assessments as tests and quizzes. According the American Heritage Dictionary (2006) tests can be defined as "series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability" (American Heritage Dictionary, 2006). Quizzes are defined as a "short oral or written test" (American Heritage Dictionary, 2006). Cizek and Burg (2006) define high stakes as "a term referring to the severity of the consequences associated with performance on a test or assignment" (p. 126). Tests that can decide if a student should move on to the third grade, whether a student will graduate high school can be included in this category, or whether a school district will receive federal or state funding. The emotions or physical reactions to the testing process can be measured and are often

defined as test anxiety. Cizek and Burg define test anxiety as “ a specific form of anxiety, comprising a combination of cognitive and physiological responses, and aroused in testing situations or similar situations involving personal evaluation” (Cizek and Burg, 2006, p.129). Test anxiety can also be defined as “a scientific construct, referring to a set of phenomenological, physiological, and behavioral responses that accompany concern about negative consequences or failure on an exam of similar evaluative situation” (Zeidner, 1998, p. 17).

Chapter Two: The Review of the Literature discussed Senate Bill 107 (2001) or No Child Left Behind (NCLB), the newest plan created to improve the United States educational system. A large portion of this bill is high-stakes testing that requires all students in the country to take an annual standardized test in Mathematics, Language Arts, and Science. NCLB (2001) requires schools to achieve a hundred percent proficiency, or 100 percent of their students to pass the annual test, by 2014.

The Review of the Literature also reported the current research on test anxiety, standardized tests, and the federal and state laws governing these tests. When the single focus question is studied separately one does not see the whole picture. However, when one combines the focus question with the following sub questions the picture comes into focus. What are the national and state assessment standards?, Is there pressure to perform well on standardized tests?, What role do teachers play in standardized tests?, What causes test Anxiety, what are its effects?, and How is test anxiety assessed? Each of the sections has its individual merits and offers valuable insight into the cause and effect of test anxiety for elementary school students.

The following section is divided into three sections. The first section is the Description of the Subjects. The second section is the Procedure. The final section is the Description of the Data Collection.

### Description of the Subjects

The study took place in a fourth grade inclusion classroom and three regular education fourth grade classrooms. The classrooms were in a second grade through sixth grade elementary school located in a southern New Jersey county. It was classified as a suburb of Philadelphia, Pennsylvania. The total school population was 321 students. The average classroom size was 24 students per classroom. There were approximately 21 students for every one teacher.

The National Center for Education Statistics (NCES) (2004) classified the school as a Title I school, but it was not a school wide program. The NCES (2004) stated that there were 61 students are eligible to receive free lunch. The NCES (2004) also stated that there were 35 students eligible to receive reduced lunch. The NCES (2004) change separated the race and ethnicity of students as follows: 12 Asian students, 40 African American students, 11 Hispanic students, and 258 white students.

All of the subjects were between the ages of nine and eleven years old. According to Wood (1997), students at this age are industrious but they are self-critical as well. Wood (1997) also finds that students at age nine are developing an intellectual curiosity. Wood (1997) describes students at this age as highly competitive, self-aware, and impatient. They are often worried and anxious. Wood (1997) also notes that students worry about schoolwork and the world and therefore need the patience and

understanding from their teacher. They are always complaining about the fairness of situations (Wood, 98). Nine-year-olds are quick to give up and teachers need to combat this with second chances because it is important to encourage and build them up (Wood, 1997). The best way to deal with whining, complainants, and moodiness is to laugh it off with them (Wood, 1997). Finally, students of this age often exhibit nail biting, hair twisting, and lip pursing to relieve tension (Wood, 1997).

Wood (1997) describes students at age 10 as high productive with schoolwork, usually conscientious with homework, and they pay attention to organization and directions. 10-year-old students are generally satisfied with own abilities and are happy and flexible (Wood, 1997). Wood (1997) also describes children at this age as industrious, needing order, and therefore liking to order the world around them.

In contrast to nine-year-old students and ten year old students 11 year old students are able to think more abstractly and logically (Wood, 1997). There are also learning to be less egocentric and can see the world from multiple perspectives (Wood, 1997). They are focused on themselves to the extent that they project themselves into adult roles (Wood, 1997). When students of this age view themselves in adult roles studying history, biography, and current events takes on a new exciting meaning (Wood, 126). Wood (1997) explains that students at this age can become easily frustrated but many times they will rise the challenge in school and then at home say that it is too challenging at school or vice versa.

Students' participation was independent from any academic grading. The students were all minors and in order to participate a parent or guardian's signature was required. Parents were given the letter and then asked to sign the permission slip attached

if they wanted their child to participate (appendix A). The letter explained the nature of the research and described what their sons' or daughters' participation would entail. The letter also explained that each subject would complete two surveys over the course of two months. Students' participation was voluntary and if at any point they wanted to discontinue the survey he or she was not required to finish.

### Procedure

Wren and Benson's (2004) Children's Test Anxiety Scale (CTAS) was administered at two separate times during the school year (appendix B). The students were given the first test the week following New Jersey Assessment of Skills and Knowledge (NJ ASK) on March 27, 2006. The second survey was administered one month later on April 25, 2006.

Students that had parental permission were given the CTAS during their morning, silent working time. The students were given the survey under the title, "How I Feel About Tests." This title was used so that students who may be prone to test anxiety did not have their anxiety triggered while reading the survey. The test was given in four different fourth grade classrooms. The subjects were all given the same directions. Students were told to think of a time when they did take a test. They were told to read the questions and answer with what came to their minds first. Subjects could discontinue the survey at any time without repercussions. This did not happen with any subjects.

### Description of the Data Collection Instrument



Questionnaires and inventories “measure the state of anxiety and asks individuals to report which of the relevant symptoms of anxiety they are currently experiencing in a particular testing situation” (Zeidner, 1998, p. 107) Cizek and Burg (2006) describe the Children’s Test Anxiety Scale (CTAS) as one such questionnaire. Cizek and Burg state, “ the CTAS can be administered individually or in a group setting” (Cizek and Burg, 2006, p. 161).

The CTAS is a 25-question survey adapted from Wren and Benson (2001). The copy given to students was entitled “How I Feel About Tests.” This was done intentionally because incorporating the term “test anxiety” in the title may have caused bias in the students. The term could have invoked greater anxiety than students normally display during test taking thus confounding the study. Subjects were asked to answer each question by circling one of the following choices: never, sometimes, most of the time, always. These answers were based on the Likert method of summated rating scale (Wren and Benson, 2001). The answers each corresponded to a number rating “i.e., never=1, sometimes=2, most of the time=3, always=4” (Wren and Benson, 2001, p. 232).

The questions in the item were divided into three sub-sections to study different aspects of test anxiety. The first sub-section measured thoughts during testing. It consisted of eleven questions. The second sub-section measured off-task behaviors. It included seven questions. The final sub-section was autonomic reactions, involuntary, physical reactions, during testing. It contained seven questions (chart 1).

chart 1

Sub-sections of CTAS questions (Wren and Benson, 2001)

Thoughts (11)	Off-Task Behaviors (7)	Autonomic Reactions (7)
<ul style="list-style-type: none"> <li>• I think I am going to get a bad grade.</li> <li>• I think about what will happen if I fail.</li> <li>• I worry about what my parents will say.</li> <li>• I worry about failing.</li> <li>• I think about what my grade will be.</li> <li>• I think most of my answers are wrong.</li> <li>• I think about how poorly I am doing.</li> <li>• I worry about how hard the test is.</li> <li>• I think that I should have studied more.</li> <li>• It is hard for me to remember the answers.</li> <li>• I worry about doing something wrong.</li> </ul>	<ul style="list-style-type: none"> <li>• I look around the room,</li> <li>• I look at other people.</li> <li>• I stare.</li> <li>• I check the time.</li> <li>• I tap my feet.</li> <li>• I play with my pencil.</li> <li>• I try to finish up fast</li> </ul>	<ul style="list-style-type: none"> <li>• I feel nervous.</li> <li>• My heart beats fast.</li> <li>• I feel scared.</li> <li>• My head hurts.</li> <li>• I feel warm.</li> <li>• My hand shakes.</li> <li>• My belly feels funny.</li> </ul>

The questionnaire was set in Times New Roman size 14 font. The entire questionnaire was double-spaced. The 25 questions were dispersed over three pages. “How I Feel About Tests” was placed at the top of each page. On the first page subjects were asked to mark if they were a boy or girl (appendix B).

## CHAPTER IV

### Data Analysis

#### Introduction

Zeidner (1998) quotes Sarason (1959) 'contemporary society is best described as test-oriented and test consuming' ...'we live in a test-conscious, test-giving culture in which the lives of people are in part determined by their test performances' (Zeidner, 1998, p. 4). The pressure to perform well on tests can create a heightened sense of anxiety, or more specifically test anxiety (Zeidner, 1998). The focus of this study is test anxiety and four grade students. The researcher hypothesized that standardized tests cause higher levels of test anxiety than average classroom assessments in math, science, and social studies as measured by the Children's Test Anxiety Scale (CTAS) in fourth grade children.

Chapter one defined the terms average classroom assessments, high-stakes testing, and test anxiety. The researcher defines average classroom assessments as tests and quizzes. According the American Heritage Dictionary (2006) tests can be defined as "series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability" (American Heritage Dictionary, 2006). Quizzes are defined as a "short oral or written test" (American Heritage Dictionary, 2006). Cizek and Burg (2006) define high stakes as "a term referring to the severity of the consequences associated with performance on a test or assignment" (p. 126). Tests that can decide if a student should move on to the third grade, whether a student will graduate high school can be included in this category, or whether a school district will receive federal or state funding. The

emotions or physical reactions to the testing process can be measured and are often defined as test anxiety. Cizek and Burg define test anxiety as “ a specific form of anxiety, comprising a combination of cognitive and physiological responses, and aroused in testing situations or similar situations involving personal evaluation” (Cizek and Burg, 2006, p.129). Test anxiety can also be defined as “a scientific construct, referring to a set of phenomenological, physiological, and behavioral responses that accompany concern about negative consequences or failure on an exam of similar evaluative situation” (Zeidner, 1998, p. 17).

Forty-two fourth grade students participated in this study. The subjects participated in two identical CTAS surveys over the course of four months (appendix B). The first CTAS was administered the week after students took the fourth grade New Jersey Assessment of Skills and Knowledge (NJ ASK) in March 27, 2006. The second CTAS was administered one month later on April 27, 2006. The data from both was compiled to perform a correlation study between the first and second survey.

#### Standard Deviation

The initial data was compiled into table 1 and table 2. The data from these were used to create a third table. The third table compared the first two tables by individual question and by each student. The first CTAS scores for each question were subtracted by the score of its counterpart from the second CTAS. Each student’s score was calculated and then divided by the number of questions, 25, to find the mean. This mean represents the amount of change between the first survey and the second survey.

After each mean was tallied the total mean for all of the individual scores was calculated. The mean for the entire sample was .091428571 and was shortened to .0914. The mean score of each student was subtracted by the total mean and then the answer was multiplied to the power of two. For instance, subject number two's mean score was .2 (figure 1).

figure 1

Calculating the Subject's Mean

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$$\begin{aligned} .2-.0914 &= (.1086)^2 \\ &= .0117 \end{aligned}$$


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The next piece involved finding the standard deviation of the sample. All of the squared answers were added together to find the sum of all squares, .490968. The sum of squares was divided by (n-1), where n equals the total sample, 42. This answer was .011974829. The square root of this number was then found in order to find the standard deviation, .109429563. The formula for standard deviation is written below (figure 2).

figure 2

Formula for finding the Standard Deviation

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$$S^2 = \frac{\text{sum of squares}}{(n-1)}$$

$$S^2 = \frac{.490968}{(42-1)}$$

$$S^2 = \frac{.490968}{41}$$

$$\sqrt{S^2} = \sqrt{.011974829}$$

$$S = .109429563$$

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### Results of the First and Second CTAS

An analysis of the two (CTAS) surveys revealed that students experienced more test anxiety during standardized testing than during average classroom assessments. However, while the data shows that most students' test anxiety decreased during average classroom assessments individual results were examined as well. On closer inspection it was found that students' experienced heightened test anxiety in specific areas across the total sample.

The first CTAS administered on March 27, 2006, had an average score of 52.95 out a possible score of 100. The CTASs were individually recorded and each answer was scored (table 1). These scores were based on the Likert method of summated rating scale (Wren and Benson, 2001). The answers each corresponded to a number rating "i.e., never=1, sometimes=2, most of the time=3, always=4" (Wren and Benson, 2001, p. 232). Table I is an abbreviated record of the CTAS scoring.

table 1

Children's Test Anxiety Scale (CTAS): March 27, 2006

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Subjects	Sex	Question 1	Question 2	Question 3	Total Score
1	m	2	2	3	49
2	m	4	2	4	84
3	m	2	3	4	70
4	f	2	1	3	54
5	f	3	4	4	70

6	m	2	2	4	71
7	f	1	2	3	53
8	m	2	4	2	46
9	m	1	2	1	36
10	f	2	3	1	40
11	f	3	2	4	57
12	f	2	1	2	42
13	f	1	2	2	54
14	f	2	3	2	53
15	f	2	2	1	42
16	f	2	3	3	61
17	f	2	3	3	69
18	m	2	2	2	33
19	f	2	1	4	68
20	m	2	1	2	43
21	m	3	1	3	42
22	f	2	2	4	43
23	f	2	1	4	48
24	m	1	1	1	31
25	m	2	2	1	50
26	f	2	2	1	33
27	m	2	3	2	62
28	f	4	2	3	70
29	m	2	2	3	64
30	f	2	3	2	46
31	f	2	2	3	76
32	f	2	2	1	37
33	m	1	2	1	44
34	m	3	1	2	57
35	m	3	2	3	47
36	m	1	2	2	45
37	f	4	3	4	59
38	f	2	4	1	45
39	f	2	1	2	52
40	f	2	1	1	42
41	f	3	4	4	85
42	f	2	1	4	51
Average					52.95238095

The second survey, administered on April 25, 2006, had an average score of 50.66 out a possible score of 100. This survey was recorded in the same manner as table 1. The scores were based on the Likert method of summated rating scale (Wren and Benson, 2001). The answers each corresponded to a number rating “i.e., never=1, sometimes=2, most of the time=3, always=4” (Wren and Benson, 2001, p. 232). Table 2 is also an abbreviated record of the CTAS scoring.

table 2

Children’s Test Anxiety Scale (CTAS): April 25, 2005

Subjects	Sex	Question 1	Question 2	Question 3	Total Score
1	M	2	2	2	42
2	M	4	2	4	79
3	M	2	3	4	64
4	F	3	1	3	48
5	F	3	4	4	64
6	M	2	2	3	66
7	F	0	2	3	46
8	M	2	4	2	40
9	M	0	2	1	35
10	F	2	3	1	40
11	F	3	1	4	55
12	F	2	1	2	42
13	F	0	2	2	53
14	F	2	3	2	50
15	F	2	2	1	39
16	F	2	3	2	55
17	F	2	3	3	66
18	M	2	2	2	33
19	F	2	1	4	65
20	M	2	1	2	37
21	M	3	1	2	35
22	F	2	2	4	42
23	F	2	2	3	50
24	M	1	1	1	30
25	M	2	2	1	48
26	F	2	2	1	33
27	M	2	3	2	63



28	F	4	2	4	62
29	M	2	2	3	62
30	F	2	3	2	45
31	F	2	2	3	76
32	F	2	2	1	37
33	M	1	2	1	43
34	M	3	1	2	56
35	M	3	2	3	49
36	M	1	2	2	44
37	F	4	3	4	59
38	F	2	4	1	45
39	F	2	1	2	54
40	F	2	2	2	45
41	F	3	4	4	85
42	F	2	1	4	46
Average					50.66666667

### Comparison of CTAS

Examining the mean of each subjects indicated whether there was a change in the level of test anxiety. Twelve percent of the subjects showed a heightened level of test anxiety during the second CTAS. The second CTAS was used to rate students' level of test anxiety during average classroom tests and quizzes. Eighty eight percent of the subjects experienced higher levels of test anxiety during the first CTAS. This CTAS was utilized to determine the level of test anxiety students experience during standardized testing.

Each individual question from both CTASs was compared to calculate the difference. The scores from the second CTAS were subtracted from the scores of the first CTAS. The mean of each subjects' amount of change was calculated (table 3). The positive means represent a decline in anxiety from the first CTAS, focused on

standardized tests, to the second CTAS, focused on average classroom assessments. The negative means represents a higher level of anxiety in the second CTAS when compared to the first CTAS. Table 3 had been abbreviated to show three questions and the final averages.

table 3  
Comparison of CTAS

Subjects	Sex	Question 15	Question 17	Question 19	Question 20	Question 22	Mean Difference
1	m	1	1	0	0	1	0
2	m	0	0	0	0	0	0.2
3	m	1	0	0	1	0	0.24
4	f	1	1	0	1	1	0.24
5	f	0	1	0	0	0	0.2
6	m	0	1	0	0	1	0.2
7	f	1	1	0	2	0	0.28
8	m	1	1	0	1	1	0.24
9	m	0	0	0	0	0	0.04
10	f	0	0	0	0	0	0
11	f	0	0	0	0	0	0.04
12	f	0	0	0	0	0	0.04
13	f	0	0	0	1	0	0.04
14	f	0	0	0	1	1	0.12
15	f	1	0	0	0	0	0.12
16	f	0	1	0	0	0	0.24
17	f	0	0	0	0	1	0.12
18	m	0	0	0	0	0	0
19	f	0	0	0	0	1	0.12
20	m	0	1	0	0	0	0.24
21	m	0	1	0	0	0	0.28
22	f	0	0	0	0	0	0.04
23	f	0	2	1	0	-1	-0.04
24	m	0	0	0	0	0	0
25	m	0	0	0	0	0	0.08
26	f	0	0	0	0	0	0
27	m	0	0	0	0	0	-0.04
28	f	0	0	0	0	3	0.32

29	m	0	0	0	0	0	0.08
30	f	0	0	0	0	0	0.2
31	f	0	0	0	0	0	0
32	f	0	0	0	0	0	0
33	m	0	0	0	0	0	0.04
34	m	0	0	0	0	0	0.04
35	m	0	0	1	0	0	0.04
36	m	0	0	0	0	0	0.04
37	f	0	0	0	0	0	0
38	f	0	-1	0	0	0	0
39	f	0	0	0	0	0	-0.08
40	f	0	0	0	0	0	-0.04
41	f	0	0	0	0	0	-0.04
42	f	2	0	0	0	2	0.2

Eight questions had six or more subjects that had the test anxiety either increased or decreased (table 4). Question number three, “When I am taking a test I feel nervous,” had five subjects that decreased his or her level of nervousness by one point. Question number three also has one subject whose nervousness increased by one point in the second CTAS. Question number four contained six subjects who level of anxiety was higher by one point in the first CTAS. It also has one subject anxiety was lower by one point in the first CTAS.

Questions seven and nine had the highest number of subjects increasing or decreasing their test anxiety. Question seven, “When I am taking a test I worry about failing,” had thirteen subjects who anxiety was one point higher in the first CTAS. One subject’s test anxiety was three points higher in the first survey. The final subject in question seven was one point higher in the second CTAS. Question nine was, “When I am taking a test I worry about doing something wrong.” Question nine had similar

results to question seven with thirteen subjects' test anxiety higher by one point in the initial CTAS. Four subjects had test anxiety levels two points higher in his or her first CTAS when compared to the second CTAS.

Seven subjects showed a higher level of anxiety in the first CTAS on question fifteen. The question was, "What I am taking a test I think most of my answers are wrong." Six subjects had an anxiety level one point higher in his or her first CTAS. One subject had an anxiety level of two points higher in his or her first CTAS.

Question seventeen, "When I am taking a test I worry about how hard the test is," had eleven subjects with heightened or decreased anxiety between the first and second CTAS. Nine subjects had higher anxiety by one point in his or her first CTAS. One subject had two points higher in his or her first CTAS. The final subject had one point higher in his or her second CTAS.

Question twenty asked students to answer, "When I am taking a test I think about what will happen if I fail." Five subjects showed one point higher on the first CTAS. One subject showed two points higher in the first CTAS when compared to the second CTAS.

The final question, 22, involved ten subjects. The question asked subjects to answer, "When I am taking a test I think about how poorly I am doing." Seven subjects had an anxiety level one point higher on his or her first CTAS. One subject had two points higher on his or her first CTAS and another had three points higher. The final subject had one point higher on the second CTAS.

All of the questions that are listed in table 4 fall under the *Thoughts* section of the CTAS. The questions on the CTAS were divided into three sections: thoughts, off-task

behavior, and autonomic reactions, or physical reactions. The eight questions all show that most students' test anxiety is manifested through his or her personal thoughts during testing. Subjects felt increased test anxiety when thinking about the implications of answering a question incorrectly, the difficulty of the test, and the outcome of the test.

table 4

Comparison Between First and Second CTAS (Questions 3, 4, 5, 9)

Subjects	Sex	Question 3	Question 4	Question 5	Question 9
1	m	1	1	0	1
2	m	0	0	0	0
3	m	0	0	0	1
4	f	0	0	-1	2
5	f	0	1	1	1
6	m	1	0	0	0
7	f	0	0	0	0
8	m	0	0	0	1
9	m	0	0	0	0
10	f	0	0	0	0
11	f	0	0	0	0
12	f	0	0	0	0
13	f	0	0	0	0
14	f	0	0	0	0
15	f	0	0	0	2
16	f	1	1	0	2
17	f	0	0	0	1
18	m	0	0	0	0
19	f	0	0	0	0
20	m	0	0	0	1
21	m	1	1	0	1
22	f	0	0	0	1
23	f	1	0	1	1
24	m	0	0	0	1
25	m	0	1	0	0
26	f	0	0	0	0
27	m	0	0	0	0
28	f	-1	1	0	0
29	m	0	0	0	2
30	f	0	0	2	0
31	f	0	0	0	0

32	f	0	0	0	0
33	m	0	0	1	0
34	m	0	0	0	0
35	m	0	0	0	0
36	m	0	0	0	1
37	f	0	0	0	0
38	f	0	0	0	0
39	f	0	0	0	1
40	f	0	-1	0	0
41	f	0	0	0	0
42	f	0	0	0	1

(table 4 continued)

Comparison Between First and Second CTAS (Questions 15, 17, 19, 20, and 22)

Subjects	Sex	Question 15	Question 17	Question 19	Question 20	Question 22
1	m	1	1	0	0	1
2	m	0	0	0	0	0
3	m	1	0	0	1	0
4	f	1	1	0	1	1
5	f	0	1	0	0	0
6	m	0	1	0	0	1
7	f	1	1	0	2	0
8	m	1	1	0	1	1
9	m	0	0	0	0	0
10	f	0	0	0	0	0
11	f	0	0	0	0	0
12	f	0	0	0	0	0
13	f	0	0	0	1	0
14	f	0	0	0	1	1
15	f	1	0	0	0	0
16	f	0	1	0	0	0
17	f	0	0	0	0	1
18	m	0	0	0	0	0
19	f	0	0	0	0	1
20	m	0	1	0	0	0
21	m	0	1	0	0	0
22	f	0	0	0	0	0
23	f	0	2	1	0	-1
24	m	0	0	0	0	0
25	m	0	0	0	0	0
26	f	0	0	0	0	0
27	m	0	0	0	0	0
28	f	0	0	0	0	3

29	m	0	0	0	0	0
30	f	0	0	0	0	0
31	f	0	0	0	0	0
32	f	0	0	0	0	0
33	m	0	0	0	0	0
34	m	0	0	0	0	0
35	m	0	0	1	0	0
36	m	0	0	0	0	0
37	f	0	0	0	0	0
38	f	0	-1	0	0	0
39	f	0	0	0	0	0
40	f	0	0	0	0	0
41	f	0	0	0	0	0
42	f	2	0	0	0	2

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## CHAPTER V

### Summary, Conclusions, & Recommendations

#### Introduction

“The testing of school-aged children in the United States has continued to increase over the past 25 years” (Wren and Benson, 2004, p. 227). This increase corresponds to the increase of federal and state laws that require schools to meet accountability goals (Cizek and Burg, 2006). Yet, there exist few studies that detail the effects of increased standardized testing (Johnson and Johnson, 2002). This research studied the effects of standardized testing on fourth grade students’ test anxiety levels. The study included 42 subjects that each took two identical Children’s Test Anxiety Scales (CTAS) adapted from Wren and Benson (2004).

The data showed that students experienced a greater level of test anxiety with standardized test than average classroom assessments. The researcher defines average classroom assessments as tests and quizzes. According the American Heritage Dictionary (2006) tests can be defined as “series of questions, problems, or physical responses designed to determine knowledge, intelligence, or ability” (American Heritage Dictionary, 2006). Quizzes are defined as a “short oral or written test” (American Heritage Dictionary, 2006).

#### Summary of the Problem

This study investigated the effect standardized tests have on test anxiety levels when compared to average classroom assessments. The goal of the researcher was to



answer the following question: Do standardized tests cause higher levels of test anxiety in elementary school students than the average classroom assessments such as unit tests and quizzes? The researcher also proposed to answer the following sub questions: What are the national and state assessment standards? Is there pressure to perform well on standardized tests? What role do teachers play in standardized tests? What causes test anxiety and what are its effects? How is test anxiety assessed?

### Summary of the Hypothesis

It was hypothesized that standardized tests cause higher levels of test anxiety than average classroom assessments in math, science, and social studies as measured by the Children's Test Anxiety Scale (CTAS) in fourth grade children.

### Summary of the Procedure

The study used Wren and Benson's (2004) Children's Test Anxiety Scale (CTAS). The CTAS was administered at two separate times during the school year (appendix B). The students were given the first test the week following New Jersey Assessment of Skills and Knowledge (NJ ASK) on March 27, 2006. The second survey was administered one month later on April 25, 2006.

Students that had parental permission were given the CTAS during their morning, silent working time. The students were given the survey under the title, "How I Feel About Tests." This title was used so that students who may be prone to test anxiety did have their anxiety triggered while reading the survey. The test was given in four different fourth grade classrooms. The subjects were all given the same directions. Students were

told to think of a time when they did take a test. They were told to read the questions and answer with what came to their minds first. Subjects could discontinue the survey at any time without repercussions. This did not happen with any subjects.

### Summary of the Findings

The mean was found for the first CTAS and the second CTAS. The first CTAS administered on March 27, 2006, had an average score of 52.95 out a possible score of 100. The second survey, administered on April 25, 2006, had an average score of 50.66 out a possible score of 100. The CTASs were individually recorded and each answer was scored (table I). These scores were based on the Likert method of summated rating scale (Wren and Benson, 2001). The answers each corresponded to a number rating “i.e., never=1, sometimes=2, most of the time=3, always=4” (Wren and Benson, 2001, p. 232). Table I is an abbreviated record of the CTAS scoring.

Examining the mean of each subjects indicated whether there was a change in the level of test anxiety. Twelve percent of the subjects showed a heightened level of test anxiety during the second CTAS. The second CTAS was used to rate students’ level of test anxiety during average classroom tests and quizzes. Eighty eight percent of the subjects experienced higher levels of test anxiety during the first CTAS. This CTAS was utilized to determine the level of test anxiety students experience during standardized testing.

Each individual question from both CTASs was compared to calculate the difference. The scores from the second CTAS were subtracted from the scores of the first CTAS. The mean of each subjects’ amount of change was calculated. The positive

means represent a decline in anxiety from the first CTAS to the second CTAS. The negative means represent a higher level of anxiety in the second CTAS. The standard deviation for the comparison of both CTAS was .109429563.

### Conclusions

The results of this study indicated that there was a difference in the level of test anxiety when standardized tests and average classroom assessments were compared. Fourth grade students were more likely to experience test anxiety with a standardized test than during an average classroom assessment.

The greatest impact on students' test anxiety was their own thoughts. Eight questions of the 25 had higher numbers of subjects that were more anxious in the first CTAS than the second. Wren and Benson (2004) characterized each question into one of three areas; thoughts, off-task behavior, and autonomic reactions, or physical reactions. Each of the eight questions was from Wren and Benson's (2004) thought section. The fourth grade students in this sample were more prone to test anxiety when they thought about three aspects of testing. The first was when the student thought about the difficulty of the test. The second thought that effected students' test anxiety levels was the worry they were doing something wrong. The final thought that effected students was the possibility of getting a bad grade or even failing the test.

### Implications and Recommendations

The study was done a small sample in only one elementary school and yet still yielded results. Standardized tests can cause test anxiety at higher levels than average

classroom assessments. Standardized tests are a prevalent part of society and therefore the effects these tests have on children need to be studied further.

A future researcher may find merit in increasing the sample size significantly. In addition to increasing the sample size a researcher may consider including multiple samples from various school districts. For instance, comparing CTAS results in urban, suburban, rural districts. As stated earlier standardized testing is the result of federal and state laws requiring schools prove their worth and be accountable for students' education. A future study that compares a school that is meeting accountability standards and a school that is failing to meet accountability standards would broaden the view of test anxiety.

The CTAS asked subjects question pertaining to parental views but did not include the subject's view of teachers. Teachers play an important role in shaping students' test taking abilities and therefore it should not be omitted of study on test anxiety. Peers also play a role in a students' academic career and their influence may also have implication for test anxiety.

A final recommendation would be to include students' test scores and his or her thoughts while testing. Tests could be matched with CTAS. For instance, students could take a social studies test and follow it with the CTAS. Students' grades on the social studies test could then be compared to their level of anxiety during the test. Another method of recording student thoughts during testing would be to interview them during the testing. The researcher could stop at timed periods and ask the student to describe his or her thoughts aloud or have him or her write their answers. These thoughts could then be compared to the student's actual test grade.

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Appendix A

Consent Letter and Permission Form

Dear Parent or Guardian,

I am writing this letter to introduce myself. My name is Elysia Ochs. I am currently enrolled in Rowan University's Collaborative Education Masters program. This is a five-year program in which I have studied elementary education, special education, and reading. I have already earned my Bachelor Degree in Collaborative Education and this year I am enrolled in the Masters Program for this same major. One aspect of my program is to participate in student teaching. I am fulfilling this requirement at this Elementary School in Mrs. R and Mrs. P's fourth grade classroom.

Another aspect of this program requires me to become more knowledgeable about students' developmental needs. I have chosen to learn more about students and the way that they feel about testing. I will be looking closely at students' reactions both to classroom tests and standardized tests. This will be done using a 25-question survey entitled, How I Feel About Tests. Students' participation is voluntary and anonymous.

I will only be sharing what I learn within the Rowan University Community. Your son or daughter will be asked to complete two identical surveys. One will be given in March after standardized testing takes place, and the other survey will be given in mid-April. If at either time your son or daughter does not want to begin or finish the survey they do not have to continue. I appreciate your understanding and cooperation. Please return the attached sheet with your child. If you have any questions please do not hesitate to contact me. I can be reached by phone at 555-555-5555 ext. 307. I can also be contacted through e-mail at xxxxx@xxxx.com.

Sincerely,

Elysia J. Ochs



\_\_\_\_\_, my son or daughter has permission to participate in the  
(Student's name)

How I Feel About Tests survey.

\_\_\_\_\_  
( Parent or Guardian's Signature)

\_\_\_\_\_  
(Date)

Appendix B  
Children's Test Anxiety Scale

## How I Feel About Tests

I am a girl\_\_\_\_\_ I am boy

1. When I am taking a test my heart beats fast.  
never            sometimes            most of the time            always
2. When I am taking a test I look around the room.  
never            sometimes            most of the time            always
3. When I am taking a test I feel nervous.  
never            sometimes            most of the time            always
4. When I am taking a test I think I am going to get a bad grade.  
never            sometimes            most of the time            always
5. When I am taking a test it is hard for me to remember the answers.  
never            sometimes            most of the time            always
6. When I am taking a test I play with my pencil.  
never            sometimes            most of the time            always
7. When I am taking a test I worry about failing.  
never            sometimes            most of the time            always
8. When I am taking a test my belly feels funny.  
never            sometimes            most of the time            always

## How I Feel About Tests

9. When I am taking a test I worry about doing something wrong.

never            sometimes            most of the time            always

10. When I am taking a test I check the time.

never            sometimes            most of the time            always

11. When I am taking a test I think about what my grade will be.

never            sometimes            most of the time            always

12. When I am taking a test I think that I should have studied more.

never            sometimes            most of the time            always

13. When I am taking a test my head hurts.

never            sometimes            most of the time            always

14. When I am taking a test I look at other people.

never            sometimes            most of the time            always

15. When I am taking a test I think most of my answers are wrong.

never            sometimes            most of the time            always

16. When I am taking a test I feel warm.

never            sometimes            most of the time            always

17. When I am taking a test I worry about how hard the test is.

never            sometimes            most of the time            always

## How I Feel About Tests

18. When I am taking a test I try to finish up fast.

never            sometimes            most of the time            always

19. When I am taking a test my hand shakes.

never            sometimes            most of the time            always

20. When I am taking a test I think about what will happen if I fail.

never            sometimes            most of the time            always

21. When I am taking a test I tap my feet.

never            sometimes            most of the time            always

22. When I am taking a test I think about how poorly I am doing.

never            sometimes            most of the time            always

23. When I am taking a test I feel scared.

never            sometimes            most of the time            always

24. When I am taking a test I worry about what my parents will say.

never            sometimes            most of the time            always

25. When I am taking a test I stare.

never            sometimes            most of the time            always

## Appendix C

### Social Studies, Science, and Math Tests

Name \_\_\_\_\_ Social Studies  
Date \_\_\_\_\_ Test

Crossroads of the Revolution

Part A: Directions. Write a B if the sentence is about the British. Write a C if it is about the colonists.

1. \_\_\_\_\_ A group of them dumped tea overboard during the Boston Tea Party.
2. \_\_\_\_\_ They passed the Sugar Act, the Stamp Act, and the Townshend Acts.
3. \_\_\_\_\_ They met at the Continental Congress and decided to work together as a team.
4. \_\_\_\_\_ George Washington led a group of them across the Delaware River in 1776.
5. \_\_\_\_\_ In 1786, they surrendered to George Washington.

Part B. Fill in the blank with the correct answer from the list below.

delegate	Patriot	George Washington
Loyalist	taxes	Thomas Jefferson
Paul Revere		

6. A \_\_\_\_\_ is someone who is chosen to speak and act for other people.
  7. The group that remained loyal and faithful to the king were known as the \_\_\_\_\_.
  8. The group of colonists who wanted their independence from England were called \_\_\_\_\_.
  9. This man was the leader of the Continental Army. \_\_\_\_\_
-

10. \_\_\_\_\_ was one of the men who rode all night to warn the people that the British soldiers were coming.

11. The colonists in America were angry about the \_\_\_\_\_ that the British had passed.

12. \_\_\_\_\_ wrote the Declaration of Independence.

Part C. Circle the letter of the correct answer and write in on the line.

\_\_\_\_\_ 13. George Washington crossed the Delaware River during the Battle of: A) Morristown B) Springfield C) Greenwich D) Trenton

\_\_\_\_\_ 14. The \_\_\_\_\_ helped the Americans win the war by sending soldiers, ships, and money. A) Dutch B) French C) Spanish D) Germans

\_\_\_\_\_ 15. The War for Independence was also called the : A) Civil War B) Revolutionary War C) French and Indian War D) Colonial War

\_\_\_\_\_ 16. When a British bullet wounded her husband, she took his place firing a cannon. A) Rhoda Farrand B) Tempe Wicke C) Molly Pitcher D) Martha Washington

\_\_\_\_\_ 17. A secret group of men who disagreed with Great Britain's taxes were the: A) Sons of Liberty B) Loyalists C) Lobster backs D) apprentices

\_\_\_\_\_ 18. The German soldiers who helped the British were called: A) Hessians B) Loyalists C) Patriots D) militiamen

Part D. Fill in the blank.

19. The Declaration of Independence was signed on (give the date)

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20. The King of England when the colonists declared their independence was \_\_\_\_\_

**Part E: Essay** Answer the following question in complete sentences.

21. Explain how life was hard for the American soldiers (Continental Army) during the winter months at Morristown. Please give specific examples. \_\_\_\_\_

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**Part F: Skills Work**

Use pages 50-51 of the Junior Geographer Atlas to answer the following questions.

22. Augusta, Maine is located on which river? \_\_\_\_\_

23. The capital of Connecticut is \_\_\_\_\_

24. Locate the state of Vermont. Find the city of Burlington. Burlington is located on Lake \_\_\_\_\_

25. Locate the state of New York. Find the city of Rochester. What lake is north of Rochester? \_\_\_\_\_

Write the letter of the correct answer in the blank before the question.

\_\_\_\_\_ 26. About how many miles is it from Reading, Pennsylvania, to Atlantic City, New Jersey? a) 50 b) 75 c) 100 d) 125

\_\_\_\_\_ 27. Locate the state of New York. To go from Cooperstown to Utica you should travel: a) southeast b) southwest c) northeast d) northwest

\_\_\_\_\_ 28. Locate the state of New York. To travel from Elmira to Ithaca you should travel: a) southeast b) southwest c) northeast d) northwest

**Extra Credit (Worth 1 point apiece)**

29. \_\_\_\_\_ River forms the border between Vermont and New Hampshire.

30. Locate the state of Pennsylvania. About how many miles is it from Gettysburg to York? \_\_\_\_\_

31. What is the first truth mentioned in the Declaration of Independence?

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## Chapter Test

### Magnetism



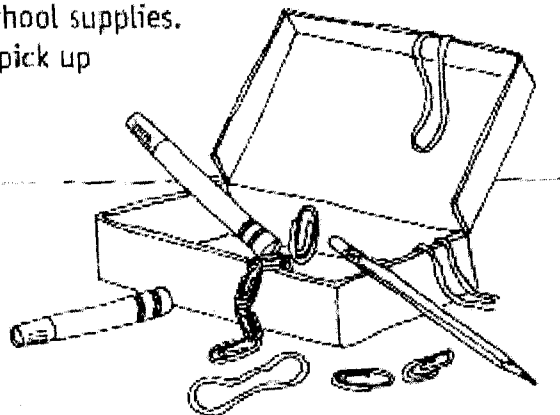
Name \_\_\_\_\_ Date \_\_\_\_\_

## Analyze Information

For questions 1-4, circle the letter of the correct answer.

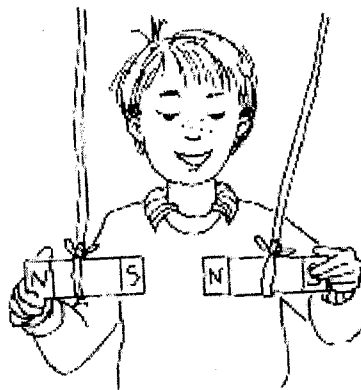
1. Andrea just spilled a box of school supplies. Which of the items could she pick up with a magnet?

- a. rubber bands
- b. pencils
- c. markers
- d. metal paper clips



2. What will happen to two bar magnets if the south end of one is moved closer to the north end of the other?

- a. They will attract each other.
- b. They will stay in fixed positions.
- c. They will repel each other.
- d. They will lose their magnetism.



3. What will happen if you hold a large magnet near a small steel can covered by a piece of paper?

- a. The magnet will repel the can because both are metal.
- b. The magnet will attract the can.
- c. The paper will prevent the magnet from attracting the can.
- d. The magnet will lose its magnetism.



Name \_\_\_\_\_

Science Chapter 1D

Date \_\_\_\_\_

Test (page 3)

Write true or false on the line.

11. \_\_\_\_\_ You can't see a magnetic field.
12. \_\_\_\_\_ A maglev train runs on gasoline.
13. \_\_\_\_\_ A temporary magnet keeps its magnetism for a long time.
14. \_\_\_\_\_ Lines of force are heaviest at the poles.
15. \_\_\_\_\_ Earth is a huge magnet.
16. \_\_\_\_\_ The same end of a lodestone always points south.

Answer the following questions in complete sentences

Write what these magnets would do if put together and tell why.

17. 

S	N
---	---

N	S
---	---

\_\_\_\_\_  
\_\_\_\_\_

18. 

S	N
---	---

S	N
---	---

\_\_\_\_\_  
\_\_\_\_\_

19. If you sprinkled iron filings on this magnet, where would they be thickest and closest together?



\_\_\_\_\_  
\_\_\_\_\_

Student's Name

Date

# Individual Profile of Progress: Unit 9



\_\_\_ 16  
 \_\_\_ 16  
 \_\_\_ 16  
 \_\_\_ 13  
 \_\_\_ 18  
 \_\_\_ 16

Check ✓			Learning Goals	Comments
B	D	S		
			9a Use an estimation strategy to divide decimals by whole numbers.	
			9b Use an estimation strategy to multiply decimals by whole numbers.	
			9c Find a percent or a fraction of a number.	
			9d Give equivalencies between "easy" fractions (fourths, fifths, and tenths), decimals, and percents.	
			9e Give equivalencies between hundredths-fractions, decimals, and percents.	
			9f Use a calculator to rename any fraction as a decimal or percent.	

### Notes to Parents

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**Beginning** - Children cannot complete the task independently. They show little understanding of the concept or skill. Children's responses may have fragments of the appropriate material and may show effort to accomplish the task. However, the responses indicate little understanding of either the concepts or computational procedure involved.

**Developing** - Children show some understanding of concepts or skills. Part of the task is accomplished, but it is apparent that more understanding is needed in order for children to accomplish the entire task. While understanding is good, it is not quite secure or completely independent.

**Secure** - Children can apply the skill or concept correctly and independently. Children's strategies and executions meet the content, thinking processes, and demands of the task. The response reflects a broad range of understanding, and children can apply the understanding in different contexts.



Skill 9C: \_\_\_\_ / 6

Solve:

13) 25% of 24 = \_\_\_\_\_ 14) 60% of 35 = \_\_\_\_\_

15)  $\frac{2}{3}$  of 90 = \_\_\_\_\_ 16)  $\frac{4}{5}$  of 20 = \_\_\_\_\_

17) Emma bought a coat that sold for \$150. She had a coupon for a 10% discount.

- How much money will she save with the coupon? \_\_\_\_\_
- How much will she pay for the coat? \_\_\_\_\_

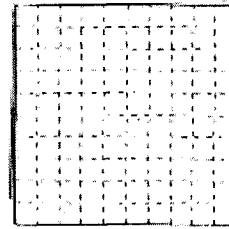
Skill 9D: \_\_\_\_ / 13

Fill in the table of equivalent fractions, decimals, and percents.

	Fraction	Decimal	Percent
18.	$\frac{1}{2}$		
19.	$\frac{1}{4}$		
20.	$\frac{3}{4}$		
21.	$\frac{2}{5}$		
22.	$\frac{3}{5}$		
23.	$\frac{4}{5}$		
24.	$\frac{3}{10}$		
25.	$\frac{7}{10}$		
26.	$\frac{9}{10}$		
27.	$\frac{2}{2}$		



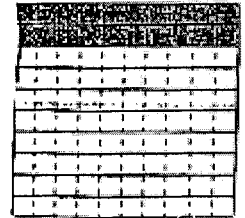
28. Shade 40% of the square to the right.



- What fraction of the square did you shade? \_\_\_\_\_
- Write this fraction as a decimal. \_\_\_\_\_
- What percent of the square is shaded? \_\_\_\_\_

Skill 9E \_\_\_\_\_ / 8

29. Jimmy set a goal of jogging a total of 100 miles over the summer. He filled in the square to keep track of the miles he jogged. During the first two weeks of June he jogged 20 miles.



- Write a fraction to show how many miles he has jogged. \_\_\_\_\_
- Write a percent to show how many miles he has jogged. \_\_\_\_\_

Write the following fractions as percents.

29)  $\frac{3}{100} =$  \_\_\_\_\_

30)  $\frac{57}{100} =$  \_\_\_\_\_

Write the following fractions as hundredths fractions and then as percents.

	hundredths fraction	percent
31)	$\frac{9}{10} =$ _____	_____ %
32)	$\frac{3}{10} =$ _____	_____ %

Skill 9F \_\_\_\_\_ /6

Use a calculator to rename each fraction as a decimal.

33)  $\frac{7}{16} =$  \_\_\_\_\_    34)  $\frac{3}{25} =$  \_\_\_\_\_    35)  $\frac{6}{32} =$  \_\_\_\_\_

Use a calculator to rename each fraction as a percent.

36)  $\frac{3}{8} =$  \_\_\_\_\_ %    37)  $\frac{15}{16} =$  \_\_\_\_\_    38)  $\frac{3}{96} =$  \_\_\_\_\_

