

**AN EXAMINATION OF READING LEVELS OF PRE-SERVICE
AGRICULTURAL EDUCATION TEACHERS AND THE TExES EXAM**

A Record of Study

by

CAROL ANN COHEA WOODWARD

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

August 2007

Major Subject: Agricultural Education

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Approved by:

Co-Chairs of Committee,	Gary Briers James Smith
Committee Members,	Julie Harlin Matt Baker Lauren Cifuentes
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ABSTRACT

An Examination of Reading Levels of Pre-Service Agricultural Education Teachers and
the TExES Exam. (August 2007)

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The objective of this study was to identify factors that may be related to performance of prospective teachers of agricultural science on the TExES. The purposes of this study were to 1) identify demographic characteristics of pre-service agricultural science teachers, 2) describe academic performance and reading abilities of pre-service agricultural science students, 3) describe relationships among demographics, academic performance, reading abilities, and perceptions about their reading, 4) determine if differences existed between students who chose to take the TExES versus those who chose not to take the TExES test, 5) identify relationships between students' reading abilities and their performance on TExES, and 6) explore relationships between performance on the TExES and rival variables (predictors of TExES performance in addition to reading ability).

Pre-service agricultural science students from six Texas universities were administered a Reading Placement Appraisal (RPA) which indicates grade equivalent reading levels, reading rates and vocabulary levels. One hundred sixteen students

completed the survey, the reading appraisal, and the TExES exam and participated in the research. These students were either in their final semester of school or in their student teaching semester. These students took their Professional Development TExES test during this semester or in the semester following.

The instruments used to collect information were a two page questionnaire created by the researcher and a computerized reading appraisal provided by Taylor Associates. The results from the TExES were evaluated on a pass/fail basis instead of a numerical score.

The Pearson product moment correlation coefficient revealed a low but positive relationship between gender, age or ethnicity and passing the TExES; however, there were interesting trends observed. Positive relationships were found between reading levels, vocabulary levels, and self perception of students' reading ability. Additionally, a relationship was detected when reading and vocabulary varied by more than two grade levels. The higher discrepancy was found to be indicative of failure on the TExES exam.

DEDICATION

I would like to dedicate this record of study to my parents, Jack and Gerry Cohea, who always encouraged me to strive for my dreams and although they are no longer physically here will always be in my heart. I would also like to share this dedication with my in-laws, Louis and Eddie Mae Woodward, who were so supportive and encouraging in place of my parents. To my husband of twenty-one years, Lowell, and my children, Cade, Colton and Nikki, who do not know what it is like to have a mother who is not going to school.

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I would like to thank everyone who helped and gave me encouragement with this project. This has been a long process with some major set backs along the way, but everyone connected to the Doc at a Distance program was always supportive and willing to assist. While I am one of the last of the first cohort to finish, hopefully, because of everyone's help along the way, not the least.

I would especially like to thank my committee chair, Dr. Gary Briers who was always patient with me even though I had a million questions and who provided so much assistance and feedback.

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Special thanks to the entire faculty and staff at both Texas A&M and Texas Tech Universities for providing this program and working so hard to make it successful. A special thanks is also extended to all faculty, staff and students of the universities participating in this research.

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To the first cohort even though our distance was great everyone was so supportive and encouraging of each other, it was a pleasure to be part of the group. Thank you! To Zana with each other's support, we did it!

Finally, I would like to thank my family for their support and would like to say that this is yours as much as it is mine; it could not have been done without you.

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CHAPTER I

INTRODUCTION

In 1981, the Texas legislature passed Senate Bill 50, which required individuals seeking teacher certification to pass comprehensive examinations. This requirement of successful completion of basic competency certification tests became law when Texas House Bill 72 passed. The Examination for the Certification of Educators (ExCET) was developed by The National Evaluation Systems (NES) to test these basic competencies (Cohen, 1989).

In 1986, Texas implemented the Examination for Certification of Education in Texas (ExCET) to test the competency of future teachers. Teacher candidates needed to pass this test with at least 70% correct in order to receive teacher certification. While candidates could take the test as many times as necessary to pass, universities were held accountable for pass rates of first-time test takers. If the pass rate dropped below 70%, the universities were at risk of losing their accreditation.

In the fall of 2002, the State Board for Educator Certification (SBEC) implemented a new teacher certification examination program that supplanted the ExCET. The new certification examination program was called the Texas Examination of Educator Standards (TExES). The change was the result of the evolution of public

This record of study follows the style and format of the *Journal of Agricultural Education*.

education in Texas to align grades kindergarten through college. While the new TExES tested included the same subject matter as the former ExCET, it broke the test into sections that were grade-level appropriate. The purpose of both the ExCET and the TExES was to evaluate content knowledge. Candidates must pass the test in order to be certified, although they may take the test as many times as necessary; however, universities and colleges risk losing accreditation if first-time test takers do not have high enough pass rates (Texas Education Agency, 2001).

Anyone seeking teacher certification in Texas must take the TExES Pedagogy and Professional Responsibilities (PPR) section. An individual must meet one of the following criteria in order to qualify to take the PPR:

- Complete an approved teacher education program at an accredited Texas college or university, or
- Be enrolled in the last semester of a Teacher Education program in an accredited Texas college or university, or
- Be currently enrolled in the second semester of an alternative teacher certification program, or
- Hold a current teacher certification in another state or country, or
- Hold a current one-year certificate issued by the Texas Education Agency, or
- Be a post-baccalaureate student eligible to take a test, or
- Be enrolled in the spring semester of a Teacher Education program before summer completion of the teacher education program, or

- Hold a valid Texas teacher certification and a bachelor's degree and seek additional certification (SBEC, 2006).

Kinnison and Nolan (2001) found that education foundations and grade point averages (GPA) were positively correlated to passing the ExCET exam. Their findings suggested that factors other than knowledge of educational pedagogy alone were necessary to be successful in passing the ExCET Professional Development Test. The ExCET exam is considered “High-Stakes Testing” with the consequences for good or poor performance on a test substantial. Some very important decisions are being made on the basis of a single test score (International Reading Association, 2001). Test takers who attain a 70% meet the criterion for passing; those who do not must repeat the test at a later date (Simonson, Poelzer, & Zing, 2000). If certain percentages of students from an institution fail to pass the tests over a period of time, then that institution may lose its certification role (Chambers, Munday, Sienty, & Justice, 1999).

Although test takers can retake the test until they pass, they may not be hired for a teaching position until they have passed the TExES. Universities have more at stake with first-time test takers since the universities lose their accreditation if their students do not have high enough pass rates. With so much at stake for educators with the TExES test, it is important that variables be studied that would identify at-risk students, not only for the benefit of the students taking the test, but also for the benefit of teacher educators.

Purpose of the Study

The objective of this study was to identify factors that may be related to performance of prospective teachers of agricultural science on the TExES. The purposes of this study were to 1) identify demographic characteristics of pre-service agricultural science teachers, 2) describe academic performance and reading abilities of pre-service agricultural science students, 3) describe relationships among demographics, academic performance, reading abilities, and perceptions about their reading, 4) determine if differences exist between students who chose to take the TExES versus those who chose not to take the TExES test, 5) identify relationships between students' reading abilities and their performance on TExES, 6) explore relationships between performance on the TExES and rival variables (predictors of TExES performance in addition to reading ability).

Significance of the Study

Results of this study will provide valuable information to Texas universities and their students in preparing for the TExES exam. Currently, in Texas and throughout the United States, there is a shortage of teachers. Failing the TExES exam prevents students from entering teaching. Reading levels could act as a predictor of student success on the TExES exam. If reading levels are determined to be too low, then remediation could occur sooner, allowing the students to be better prepared for taking the certification examination. Higher pass rates on the certification examination allow more students to enter teaching fields. So, additionally, the results of this research would assist public schools by allowing students to enter the teaching field as soon as possible. Community

colleges would benefit as well since the cost of education continues to rise, and many students often chose to attend these colleges before continuing with higher education. Community colleges that use reading levels as indicators of success on the TExES exam could better prepare their students to be successful as the students continue their education.

Assumptions

It was assumed that all participants had completed the necessary course work with satisfactory grades for certification. The second assumption was that the participants would participate at their best ability and honestly answer the questions asked.

Delimitations

This study was delimited to participants enrolled in a state-accredited teacher certification program and in their final semester of study. Data were collected from eligible students during a time period from spring semester 2004 to spring semester 2005. Students were enrolled and completing their programs in teacher certification at Texas A&M, Texas Tech, Tarleton State, Sam Houston State, West Texas A&M, and Sul Ross State Universities.

Limitations

Limitations of the study included that the results of this study may not be applied to the target population of prospective agricultural science teachers in Texas since it was not a true random sample. The study was limited to pre-service agricultural students who were available for testing. The testing was done over a period of several semesters

of students in the final semester of their student teaching blocks. In addition, the lack of ethnic diversity of pre-service agricultural science students affected the results of the study. A larger sample of a diverse population might alter the results of this study. Interesting trends were observed but a larger overall test group could also alter the results, changing these trends in a significant manner.

Definition of Terms

For the purpose of this study, the following terms were defined in order to provide clarity of meaning:

ExCET (Examination for Certification of Educators in Texas) -- Texas State Board for Educator Certification determined standards that certified teachers should meet and developed a test called ExCET to meet those standards.

Frustration Reading Level -- the level at which the student is unable to pronounce many of the words or is unable to comprehend the material satisfactorily.

GPA (Grade Point Average) -- The overall grade point average of students' performance while attending college. For the purpose of this study, this is a self-reported GPA.

Independent Reading Level -- the level at which the student reads fluently with excellent comprehension.

Instructional Reading Level -- the level at which the student needs instruction and guidance in order for comprehension to occur.

NES (National Evaluation System) -- a testing service which the Texas Education Agency uses to develop state standardized testing (NES, 2004).

Reading Affinity -- a self-described liking of reading.

Reading Discrepancy -- where there are more than two different grade levels between reading and vocabulary levels.

Reading Efficacy -- a self-identified good reader.

Reading Level -- grade equivalent reading level.

Reading Rate -- the speed at which the student reads as words per minute.

RPA – Computerized Reading Placement Appraisal, used to determine grade equivalent reading levels, vocabulary levels and reading rate.

TASP (Texas Assessment of Skills Program) -- a test developed by the state of Texas that all entering college freshman must take and pass. If the test is not passed, then the student must take remediation classes.

Teacher Certification Candidate: -- a student or former student in a Texas Education Agency approved, university-level, teacher-education program. The candidate must have completed or be near completion of the program for teacher certification to teach agricultural science and technology in Texas.

TEXES (Texas Examination of Educator Standards) – standards determined by Texas State Board for Educator Certification that certified teachers should meet which included the ExCET test. This test then developed into the TEXES to become more aligned with current standards.

TEXES Performance -- pass/fail on the TEXES exam.

Vocabulary Level – grade equivalent vocabulary level.

Summary

In 2002, the TExES exam was implemented in Texas. The purpose of this exam was to establish a teacher's content knowledge. This exam must be passed in order to receive teacher certification. The testing of teachers for certification is not going to go away; so, universities are well served to identify factors affecting students' performance on teacher exams. Multiple studies have shown that factors other than subject knowledge and pedagogy skills are needed to pass the TExES. Because the TExES exam carries high-stakes for both pre-service teachers and universities with teacher certification programs, it would be beneficial to identify variables that could discover at-risk students so that remediation intervention could occur. The purpose of this study was to examine demographics, academic factors, reading abilities and self perceptions for variables that would predict performance (success or failure) on the TExES exam.

CHAPTER II

REVIEW OF LITERATURE

Literature Review

The purpose of this chapter is to review the literature concerning reading and testing.

Testing is often used as a measurement of ability. In addition, Linn (2000) said that the public feels that testing is a measurement of educational quality. The public feels confident about teachers who work with their children and who have passed state teacher examinations (Ananda & Robinowitz, 2001). The measurement for teacher proficiency in Texas is the Texas Examination of Educator Standards (TExES).

Many professionals must complete examinations successfully to become fully certified and to be allowed to practice their professions. Professionals such as physicians must take the United States Medical Licensing Examinations (USMLE), which is a measurement of the physicians' ability to practice their profession (FSMB, 2006). Nurses also have to take an exam similar to the USMLE it is the NCLEX-RN or the National Certification and Licensing Examination for Registered Nurses (NCLEX-RN, 2004). Prospective employees in government positions have to take certification exams also. The U.S. Marshals, the U.S. Secret Service agents, the Internal Revenue Service (IRS) employees, the U.S Immigration and Customs Enforcement agents, and the Bureau of Alcohol, Tobacco, Firearms, and Explosives agents all have to take the Treasury Enforcement Agent Exam (Morgan, 2005). Similar to other exams, this exam measures verbal reasoning, arithmetic, and problem solving (Morgan, 2005). The Police

Officer Exam measures reading, judgment, observation, grammar, map reading, math, and analogies. Prospective police officers must pass the exam in order to become law enforcement officers (Rafilson, 2005). There is even an exam that must be passed in order to become a wine professional. This exam, the Certified Wine Professional, is composed of a written exam as well as analyzing wine (Professional Chef, 2005). Similar to these professions, pre-service teachers have to take examinations to become fully certified and to teach.

During the 1980s, a reform movement occurred as a reaction to the recommendations in the 1983 National Commission on Excellence in Education report *A Nation at Risk* (ETS, 1990). “The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people” (Archived 1983, p. 1). This report created by the National Commission on Excellence in Education was directed to present information on the quality of education in America. Many states implemented competency testing for teaching licensure, and Texas was included in this movement (Chambers et al., 1999).

Texas initially took steps toward educational reform prior to the publication of *A Nation at Risk*. The Commission on Standards for the Teaching Profession, governed by the State Board of Education, was created by a legislative mandate. The manner in which teacher education programs were developed and achieved was changed at this time with the one of the requirements being entry-level testing for admission into teacher education programs. Also included was testing at the completion of their program before receiving the certificate (Veselka, Tackett, & Wood, 1991).

The incoming freshman test, called the Texas Academic Skills Program (TASP), was developed by the National Evaluation Systems in cooperation with the Texas Higher Education Coordination Board and the Texas Education Agency. This test was to be taken before students had accumulated nine hours of college credit. If students did not pass this test, they were placed in remediation until successful scores on all three sections (reading, writing, and mathematics) were achieved (Swanson, 1993). University teacher education programs began to require passing scores on the TASP for admission into teacher education programs (Matthews, 1993).

In March of 1986, the Texas Examination of Current Administrators and Teachers (TECAT) was administered to 202,000 practicing educators. The intent of the test was to boost public esteem and to leverage a tax increase for a teacher pay raise. Testing basic reading and writing skills was intended to identify incompetent teachers. However, 210,000 teachers took the test in two administrations with 99% passing. The test, workshops, and in-service days cost more than policy makers anticipated. Most teachers felt demoralized and threatened by a low-level test. Many also thought that the TECAT damaged public esteem because examples of a very easy test appeared alongside reports of teachers' failure (Shepard, 1987).

In 1981, the Examination for Certification of Educators in Texas (ExCET) was initiated with the passage of SB 50. All teachers in Texas were required to complete comprehensive examinations in their teaching fields and in professional pedagogical knowledge before entering the teaching profession (TEA, 2001). The Texas Education Agency contracted with National Evaluation Systems (NES) to develop tests in 33

teaching fields as well as in pedagogical skills related to instructional planning and curriculum development, assessment and evaluation, instructional methodology and classroom management, and principles of education (TEA, 2001). The Professional Development portion of the Examination for the Certification of Educators in Texas (ExCET) consisted of criterion-referenced multiple-choice tests (Chambers, et al. 1999).

The Texas Examination of Educator Standards (TExES) was implemented in 2002 to replace the ExCET. The purpose of both the ExCET and the TExES was to evaluate content knowledge and test the same subject matter, but the new test was implemented to break the test into age-appropriate sections (TEA, 2001). Since the TExES was new as of 2005, there is not much research available. However, since the ExCET was the predecessor and tests the same content, a review was conducted on factors influencing success on the ExCET. The review yielded the following results.

Since education institutions are under pressure to increase the passing rate of the first time test takers, it is beneficial to identify variables that predict success on the ExCET (Simonsson, et al. 2000). Educators are searching to identify variables which may predict success on state certification examinations (Chambers, et al. 1999).

Several research studies have been conducted to identify variables which could identify success on the ExCET exam. The studies examined a variety of variables such as reading rates, Grade Point Average (GPA), Texas Assessment of Skills Program (TASP) scores, critical thinking, and practice test scores. These various studies were examined to find common variables among the studies.

Kinnison and Nolen (2001) conducted research with 138 undergraduate

education majors at Texas Woman's University and found that there were low to weak relationships between the Professional Development Test of the ExCET and grades for English ($r=.352$) and math ($r=.292$) completed as part of the students' general education course requirements. There were moderate relationships with professional education course work ($r=.428$), and educational foundations and methods grade point average ($r=.429$), with passing the Professional Development Test of the ExCET. While TASP reading scores ($r=.588$) had a moderate relationship, TASP math ($r=.392$), TASP writing ($r=.311$) scores had a low relationship to performance on the ExCET. These findings suggested that factors other than knowledge of educational pedagogy are necessary to be successful on the ExCET Professional Development Test.

Simonsson et al., (2000) conducted research trying to find variables that would predict success on the ExCET exam. They extended previous research in which they identified variables that predict success for Hispanic students, which were: practice ExCET scores, TASP reading scores, and ACT scores. In an extended research study, they increased the sample size and included the above variables, plus TASP math/writing, overall college GPA, and GPA in 18 credit hours of professional development. They found significant correlations between professional development scores on the ExCET and TASP scores in reading ($r=.61$), scores in writing ($r=.41$), ACT scores ($r=.55$), and ExCET practice scores ($r=.50$). They suggested that raising the criterion for selection on each of the three variables would result in higher proportions of students passing the ExCET on the first attempt. In addition, they noted the importance

of developing reading skills at the district level along with introducing and developing practice ExCET sessions at the higher education level.

Chambers et al., (1999) examined 116 undergraduate and emergency-permit students enrolled in a teacher preparation program. Two instruments were used; the first was the Cornell Critical Thinking Test to find indicators for success on the ExCET exam. The Cornell Critical Thinking Test covers induction, deduction, evaluation, observation, credibility, assumption identification, and meaning. Although aspects of critical thinking are listed separately, there is interdependence among them in the actual processes of thinking critically (Ennis, Millman, and Tomko, 1995). The second instrument was the Nelson-Denny Reading Test which determines the level of student ability in three areas of academic achievement: vocabulary, reading comprehension, and reading rate. The total score reflects vocabulary and comprehension components and converts to grade-level equivalent (Chambers, et al.1999).

The researchers also examined five independent variables (GPA, TASP, critical thinking ability, gender, and age) to determine their effects on the Professional Development scores on the ExCET. The results were that these variables in the full model did predict success; however, when the variables were removed from the full model and tested separately, only the set of seven critical thinking subtest scores were meaningful contributors toward success. Therefore, critical thinking abilities of the subjects were predictors of successful performance on the professional development scores on the ExCET. They suggested that specific teaching techniques, such as higher-order questioning, wait time, praise, feedback, problem-solving techniques, inquiry,

student discussion, and interaction can be used effectively for improving students' critical thinking skills.

Boclair (1980) also used the Nelson-Denny Reading scores to examine vocabulary and reading comprehension along with ACT scores and GPA for correlations with the National Teacher Examination (NTE). The results of this study indicated a positive relationship in vocabulary and reading comprehension with the NTE. Boclair (1980) suggested that although reading proficiency is not a sufficient criterion for judging teacher competence, it is a necessary one. Teachers who cannot read well tend to read very little and would, therefore, have an undeveloped vocabulary, lack cultural awareness and subject matter knowledge as well as lack critical thinking ability.

Stryker (2002) questioned if students' test-taking abilities could be improved by students' participating in an intervention program in which they identified their strengths and weaknesses, a form of metacognition. Data were collected from 79 pre-certified teachers who failed on the first attempt on the ExCET exam. After intervention, pre and post-ExCET scores were examined. This study found that test-taking/critical reading intervention significantly increased scores on the ExCET.

The research reviewed has identified variables such as TASP reading scores, GPA, practice test scores, critical thinking, reading comprehension, and test taking/critical reading as predictors of ExCET performance. These findings reinforce Kinnison and Nolan's (2001) suggestion that factors other than pedagogy skills are necessary to be successful on the ExCET. It is noted that all of the variables with the exception of TASP reading scores are not measured until it is time for the TExES exam

to be taken. Critical thinking, while being easy to measure needs remediation by teaching these skills throughout the curriculum (Chambers, et al. 1999). It would be more beneficial to identify students who may be unsuccessful on the TExES sooner so that remediation measures could be provided as soon as possible. This would prevent students from being forced to delay entry into the teaching field. Further research needs to be conducted to identify variables that would indicate potential “at risk” students so that remediation measures could be implemented sooner.

While the TASP provides a measure for reading ability, its purpose was not intended to be diagnostic. However, if reading ability is a significant predictor of TExES performance, then early diagnosis of reading problems or poor performance would be a first step in providing remediation. A summary of factors thought to influence ExCET scores are shown in Figure 1.

The next part of the literature was designed to examine measures of reading ability.

Reading Placement Appraisal

The Reading Placement Appraisal (RPA) determines each student’s independent reading level, silent reading rate and vocabulary level. This instrument is available online at Reading Plus (Taylor, 2001). This instrument was designed by Stanford Taylor and Taylor Associates/Communications, Inc. Stanford Taylor has a long association with developing reading instruments, as his father Earl A. Taylor and his uncles James Y. and Carl C. Taylor developed two of the first instruments to be used in reading instruction in the United States. In the next generation of reading instruments Stanford

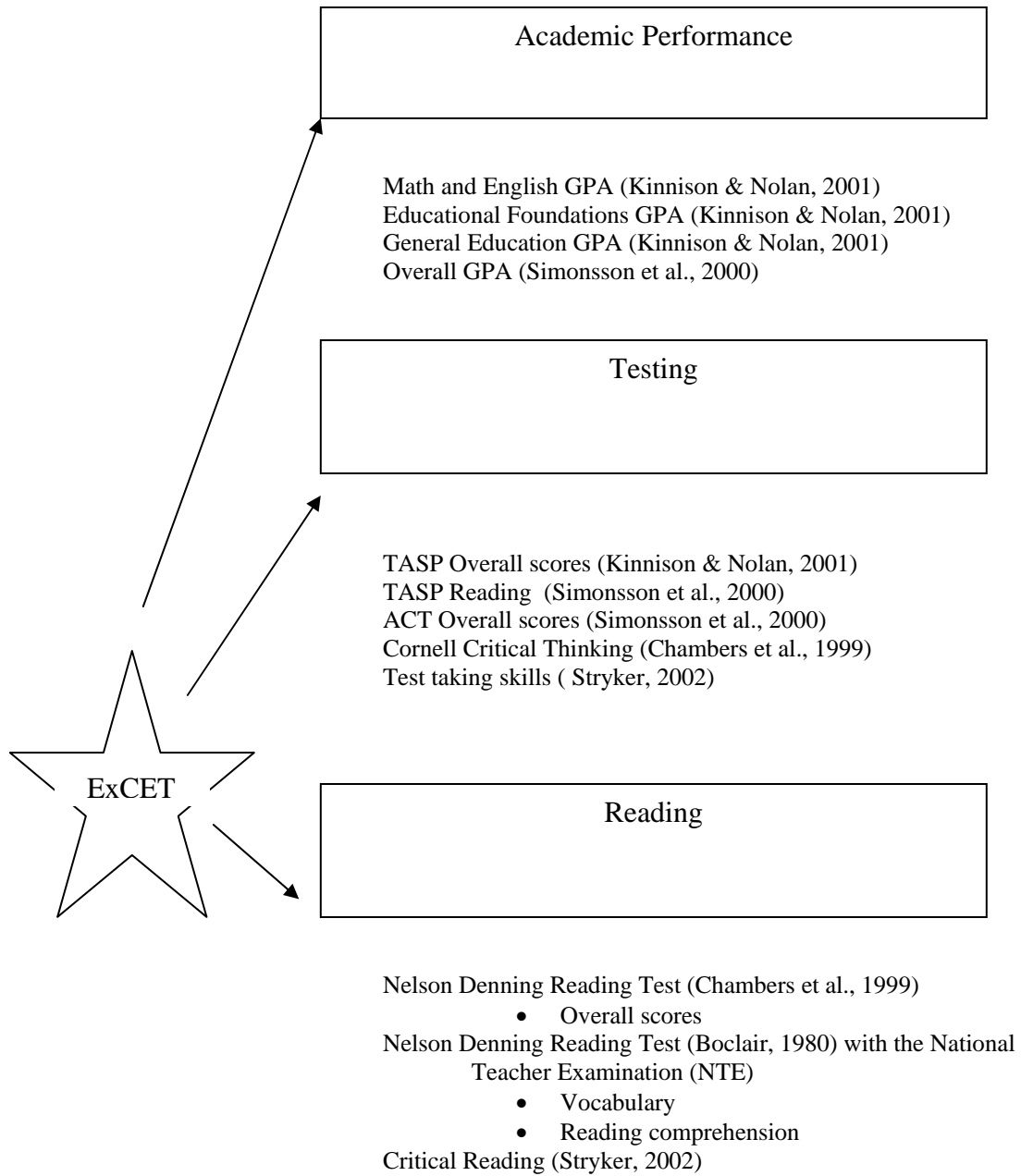


Figure 1. Factors affecting ExCET performance.

Taylor developed the Reading Eye I Camera and conducted the only eye-movement recording norm study. He also developed instrumental devices including Aud-X, the Controlled Reader and the Tach-X Tachistoscope. Over time Taylor simplified controlled reading devices and founded Taylor Associates/Communications which has continued to develop reading programs and reading assessment instruments such as the Reading Placement Appraisal (Taylor, 2005).

After the development of the RPA, which was initially called the Computer Placement Appraisal (CPA), it was field tested and modified over a period of 1 ½ years in several schools and institutions. The RPA yielded very similar levels of independent reading as other instruments such as the Durrell Reading Analysis, the Gray Oral Reading Test, and the Spache Diagnostic Reading Scales. The reading test selections were evaluated in terms of readability levels using the Spache Readability Formula on the lower levels and the Fry Readability Formula on the intermediate levels and higher.

When the RPA scores are compared with standardized reading tests, they have typically been lower than most standardized test results. This can be explained because the RPA measures independent reading levels, and most standardized tests typically measure “frustration reading levels,” which are usually one to two levels above a student’s independent reading level. (Vacca, Vacca, & Burkey, 2003)

The RPA initially determines the student’s Independent Reading Level which is the level where there is very little vocabulary recognition difficulty and successful comprehension occurs without assistance (Vacca, Vacca, & Burkey, 2003). Initially the

student was assigned a testing level by the researcher. In this study, all students were assigned a grade equivalent level of twelve.

There are two forms available for use, and either can be used; however, for this research form A was used. Each reading selection is composed of two frames containing 100 words. A timing loop is used to record the reading rate, and five literal comprehension multiple choice questions follow each reading selection. If the student scores a comprehension rate of 80-100% on the first selection, then the following selection is presented at a higher level. If a comprehension score of 60% or lower occurs, then the next selection is presented at a lower level. A student would continue to read test selections until the RPA determines the highest level read with a comprehension score of 80% or more. A maximum of seven selections would be available.

Following the RPA determination of reading comprehension level, the next selection is 300 words at one level lower than the tentative Independent Reading Level determined in Part 1. During this reading, the student's reading rate is timed. Ten comprehension questions follow this selection, and if the student scores between 60 and 100 %, then another reading selection is not assigned. A comprehension score of 80% or better would leave the student at the originally assigned Independent Reading Level. However, a comprehension score of 70% would result in the student's being assigned a reading level one below the level established in Part I. A 60% score would result in the student's being assigned a level two below the level established in Part I. For any scores

50% or below the student would be given another 300-word reading selection, and the reading level would be adjusted according to the student's reading rate.

The skills comprehension questions consist of 10 different types of reading comprehension questions:

- a. Main Idea
- b. Predicting Outcomes
- c. Drawing Conclusions
- d. Making Inferences
- e. Relating Information
- f. Finding Significant Details
- g. Comparing/Contrasting
- h. Cause/Effect
- i. Classifying
- j. Analogies

The combined results of and adjustments to Part I and Part II will result of the student's assigned Independent Reading Level.

The final part of the reading appraisal consists of 20 or more vocabulary meaning or use items. The results of Part II would determine the initial level of vocabulary items. After this initial assignment the student is given 20 vocabulary words, and if 4 or more are missed then the RPA assigns 20 words at a lower level. If fewer than 4 are missed, then the student is assigned words at a higher level. This will continue until the student misses 4 or more words, and then that level is assigned to the student (See Appendix A).

TExES Exam

The next source of information in this research is the Texas Examinations of Educator Standards, Pedagogy and Professional Responsibilities Test (PPR). Any individual who has completed an approved educator preparation program at a Texas college or university and is seeking teacher certification in Texas must take this exam for certification. The TExES is broken into four domains, with thirteen competencies (Hall, McCall, and Burkhardt, 2004).

Domain I: Designing Instruction and Assessment to Promote Student Learning (includes Competencies 001 – 004). The focuses of this domain is the teacher's ability to create appropriate instructional methods as well as the ability to implement effective assessment procedures in order to impact students' learning.

Competency 001 – This competency focuses on the teacher's ability to understand student growth and development and is effective in planning instruction and assessment of the instruction.

Competency 002 – This competency focuses on the teachers' understanding of how to design a lesson with assessments for all students being taught, taking into consideration the different ethnicity, learning styles and motivations to provide effective teaching.

Competency 003 – The competency focuses on the teacher's understanding of the Texas Essential Knowledge and Skills (TEKS) and how to follow these to plan instruction with appropriate goals and objectives.

Competency 004 – This competency focuses on the teacher’s uses of resources to engage students in effective learning and ability to apply effective assessment in order to plan instructional planning.

Domain II: Creating a Positive, Productive Classroom Environment (includes Competencies 005 and 006). This domain focuses on the teacher’s ability to create a positive classroom environment with respect and rapport that fosters learning, equity, and excellence.

Competency 005 – This competency focuses on the teacher’s ability to use age-appropriate strategies and to actively involve children in learning. This competency also focuses on the teacher’s understanding of teaching with diversity in a safe, supportive, and collaborative environment while demonstrating an enthusiasm for learning.

Competency 006 – This competency focuses on the teacher’s strategies for creating an organized and productive learning environment and managing student behavior that reinforces appropriate behavior for each developmental level.

Domain III: Implementing Effective, Responsive Instruction and Assessment (includes Competencies 007 – 010). This domain focuses on the teacher’s ability to effectively communicate with students in order to engage students in learning, utilize technology to enhance learning, and provide timely and meaningful feedback.

Competency 007 – This competency focuses on the teacher’s understanding of clear and accurate communication with both the spoken as well as the written

language that is appropriate for a student's age, interest, and background. It also stresses the importance of appropriate questioning leading to student discussions.

Competency 008 – This competency focuses on the teacher's ability to provide instructional activities and assignments that engages the students in the learning process.

Competency 009 – This competency focuses on the teacher's ability to use appropriate materials, resources, and technologies that are appropriate for students in various learning environments.

Competency 010 – This competency focuses on the teacher's ability to provide appropriate feedback in a timely and constructive manner to guide each student's learning. It emphasizes the teacher's flexibility and responsiveness to enhance student learning.

Domain IV: Fulfilling Professional Roles and Responsibilities (includes Competencies 011 – 013). This domain focuses on the teacher's understanding of the family involvement in students' education as well as professional development and knowledge of legal and ethical requirements in Texas.

Competency 011 – This competency focuses on the teacher's understanding of and ability to involve family in a student's learning by demonstrating sensitivity to diverse characteristics, backgrounds, and needs. It includes working and communicating with families through teacher-parent conferences, progress reports, and engaging families in the instructional program.

Competency 012 – This competency focuses on the teacher’s ability and understanding to interact with other educators and to contribute to the school and district. It emphasizes the importance of professional development to enhance content knowledge and pedagogical skills.

Competency 013 – This competency focuses on the teacher’s understanding of legal and ethical requirements of Texas education and ability to use this knowledge to guide behavior in educational-related situations. It emphasizes the importance of confidentiality, maintaining accurate records, advocating for students and the profession, and adhering to state and district mandated assessments (Hall et al., 2004).

Summary

Testing of teachers is not going to go away and realistically if teachers want to be perceived as professionals, then testing is an accepted measurement of competency by the public. However, research has shown that variables other than content knowledge are needed to be successful on the TExES exam. These variables need to be identified in order for institutions to better prepare their students for the examination. Reading has been identified as a variable, and the instruments used in this research provide additional information about reading ability and the relationship to the TExES exam. The information gathered from the instruments used in this study provides tools to evaluate demographic, academic, reading abilities and self-perception of pre-service Agricultural Science teachers.

CHAPTER III

METHODOLOGY

Purpose of the Study

The objective of this descriptive correlational study was to identify factors that may be related to performance of prospective teachers of agricultural science on the TExES. The purposes of this study were to 1) identify demographic characteristics of pre-service agricultural science teachers, 2) describe academic performance and reading abilities of pre-service agricultural science students, 3) describe relationships among demographics, academic performance, reading abilities, and perceptions about their reading, 4) determine if differences exist between students who chose to take the TExES versus those who chose not to take the TExES test, 5) identify relationships between students' reading abilities and their performance on TExES, and 6) explore relationships between performance on the TExES and rival variables (predictors of TExES performance in addition to reading ability).

Before this study was conducted, a proposal was submitted to the Institutional Review Board (IRB) Compliance Office for review and approval for research using human subjects. This procedure assures that there was no potential of harm to participants by participating in this research. After approval from Texas A&M University a copy was sent to Texas Tech University.

Population and Sample

Texas has one of the largest enrollments of students in Agricultural Sciences and FFA in the United States. There are 975 high schools with Agricultural Science programs, and there are over 1,560 full-time Agricultural Science teachers in Texas (G. Young personal communication, June 9, 2006). Each semester students complete their studies in teacher certification programs at 11 universities in Texas. While many enter into the teaching field, many choose to continue their education or enter alternative employment. The target population of this study consisted of pre-service Agricultural Science students from six Texas Universities; Texas A&M, Texas Tech, Tarleton, Sam Houston, West Texas A&M and Sul Ross State Universities, with teacher certification programs in Agricultural Science. The participants were limited to students completing their student teaching semester prior to leaving the program. The participants in the study completed an on-line computerized placement reading appraisal and completed a questionnaire designed by the researcher. The participants also took the secondary TExES professional development test for teacher certification. Over three semesters 116 students participated in all levels of the research.

Instrumentation

Survey Instrument

The survey instrument designed by the researcher was intended to collect demographic, academic and reading perception information about the participants. Demographic information such as age, ethnicity and gender were collected. Academic questions provide grade point average (GPA) and information whether participants had

taken a TExES review course and whether they had been diagnosed with a reading disability. The survey instrument also asked questions about the participants' self-perceptions about reading, such as if they like to read or if they thought they were good readers. A copy of the survey instrument can be found in Appendix B.

The second instrument was a computerized reading appraisal or Reading Placement Assessment (RPA) provided by Taylor Associates Communications and Reading Plus. This on-line instrument provided the instructional reading level of the participant including reading rate, reading level, and vocabulary level.

The third instrument used was the secondary TExES professional development exam. Scores from this instrument were operationalized simply as pass/fail. The purpose of this examination is to ensure that entry-level educators possess the needed content and professional knowledge. The instrument was designed by numerous committees consisting of experts from educational areas, classroom teachers and faculty from educator-preparation programs to ensure that the tests would be for the Texas educational context, standards and be appropriate for assessing the knowledge and skills required for beginning teachers in Texas (National Evaluation Systems, 2004).

Data Collection

After pre-service Agricultural Science students completed their student teaching, they were asked to participate in the study as part of their exit procedures. They completed the survey instrument (Appendix B) prior to taking the reading placement appraisal. Immediately after completing the questionnaire, they were given an explanation of how to operate the computer program and then began the reading

appraisal which was completed in an average of 10 minutes. If requested, the students were given the results of their appraisals, and their scores were explained to them.

Data Analysis

The data collected were entered in to a Microsoft Excel spreadsheet. Individuals were assigned a number so that their information would remain confidential. Answers to most of the questions on the first instrument were entered as a dichotomy. Test results from the TExES exam were also entered as a dichotomy with 1 for pass and 0 for fail. Another question asked subjects whether they took the TExES; this variable was also scored as a dichotomy of 1= yes and 0= no. Results for the Reading Placement Appraisal were entered with actual, grade-level equivalent reading comprehension levels for reading level and vocabulary levels. Reading rate was entered as number of words per minute. Statistical analyses were conducted using SPSS for Windows, Version 13. Descriptive analyses were employed to develop profiles of the subjects in the research. Additionally, Pearson Product Moment, Point biserial, and Phi coefficients were used to determine bivariate correlations.

Descriptive statistics were calculated, including frequencies and means and cross tabulations as appropriate. Inferential statistics used included correlation techniques to examine relationships between pairs of variables among demographics, between demographics and educational variables, among educational variables, and between perceptions. The alpha level was established a $P = .05$ to interpret the magnitude of the bivariate correlations. The magnitude of the correlations is discussed using terminology presented by Davis (1971). Correlations between .01 and .09 are negligible, correlations

between .10 and .29 are low, correlations between .30 and .49 are moderate, correlations between .50 and .69 are substantial, correlations between .70 and .99 are very high, and a correlation of 1.0 is perfect.

Described were the following sets of variables:

Demographics

Age

Gender

Ethnicity (majority/minority)

Educational Data

Self reported Overall GPA

Reading Level (grade equivalent)

Vocabulary (grade equivalent)

Reading Rate (words per minute)

Reading discrepancy (calculated as absolute value of reading level – vocabulary level; scored as a dichotomy with difference of two or more coded as 1 and less than two coded as 0)

Participation in TExES (yes = 1, no = 0)

TExES performance (pass = 1, fail = 0)

Do you have a reading disability? (yes = 1, no = 0)

Perceptions

Are you a good reader? (yes = 1, no = 0)

Do you like to read? (yes = 1, no = 0)

CHAPTER IV

FINDINGS AND DISCUSSION

The objective of this study was to identify factors that may be related to performance of prospective teachers of agricultural science on the TExES. The purposes of this study were to 1) identify demographic characteristics of pre-service agricultural science teachers 2) describe academic performance and reading abilities of pre-service Agricultural Science students 3) describe relationships among demographics, academic performance, reading abilities, and perceptions about their reading 4) determine if differences exist between students who chose to take the TExES versus those who chose not to take the TExES test 5) identify relationships between students' reading ability and performance on TExES and 6) explore relationships between performance on the TExES and rival variables (predictors of TExES performance in addition to reading ability).

Personal and Situational Characteristics of Survey Participants

Demographic Characteristics

There were 132 students who participated in the study over three semesters with 116 completing all levels of the study. Sixteen did not take the TExES exam, and of the 100 who took the exam 85% passed the TExES exam. There were 72 males and 44 females who participated in the study. All of the females took the test, with 39 passing the exam and 5 failing. Of the 72 males, 16 chose not to take the exam with the remaining 42 passing and 14 failing.

The male/female groups were then recoded into reported ethnic backgrounds. Of these 116 participants 109 were Anglo and 7 were minority. The choices on the survey were Anglo, Hispanic, or other. Only one student listed ethnicity as other, so the groups were recoded into Anglo or minority. These data are summarized in Table 1.

Table 1
Demographic Characteristics - Ethnicity

<i>Ethnicity</i>	<i>f</i>	<i>%</i>
Male		
Anglo	69	96%
Minority ^a	3	4%
Female		
Anglo	40	91%
Minority ^a	4	9%

^a Of the minorities, 6 were Hispanic, 1 was other

The two groups of male/female were evaluated into further demographic information as to age. While the age ranged from 20 to 34 the average age of all of the participants was 23 (SD=2.36). When examined individually 23 was the average for both gender groups. These data are summarized in Table 2.

Table 2

Demographic Characteristics - Age

<i>Age</i> ^a	<i>f</i>	<i>%</i>
Male ^b		
20 – 21	7	10%
22 – 23	48	67%
24 – 25	11	15%
26>	6	8%
Female ^c		
20 – 21	10	23%
22 – 23	26	59%
23 – 24	3	7%
26>	5	11%

^a Overall (M=23, SD=2.36)

^b Males (M=23, SD=2.43)

^c Females (M=23, SD=2.36)

Academic Characteristics

On a 4-point scale the overall self-reported average grade point average (GPA) was 3.18 (SD=.406). The average GPA for males was 3.12 (SD= .41) while the overall GPA for females was 3.28 (SD=.39). These data are summarized in Table 3.

Table 3

Academic Characteristics - GPA

<i>GPA</i> ^b	<i>f</i> ^a	%
Male ^c		
2.0 – 2.49	0	0%
2.5 – 2.99	19	29%
3.0 – 3.49	35	52%
3.5 – 4.00	13	19%
Female ^d		
2.0 – 2.49	1	2%
2.5 – 2.99	7	16%
3.0 – 3.49	19	43%
3.5 – 4.00	17	39%

^a Frequencies totaling less than 116 result from missing data.

^b Overall (M=3.18, SD=.41)

^c Males (M=3.12, SD=.41)

^d Females (M=3.28, SD=.39)

Of the 116 participants 14 had been diagnosed with a reading disability with the males having a lower percentage than the females. These data are summarized in Table 4.

Table 4
Academic Characteristics - Reading Disability

<i>Reading Disability</i>	<i>f</i>	<i>%</i>
Male		
Yes	7	10%
No	65	90%
Female		
Yes	7	16%
No	37	84%

Almost one-third (32 of 116) of all the subjects had taken a TExES review course with both groups equally having almost a third of their group participates in a TExES review course. These data are summarized in Table 5.

Table 5

Academic Characteristics – TExES Review Course

<i>Review course</i>	<i>f</i>	<i>%</i>
Male		
Yes	25	35%
No	47	65%
Female		
Yes	12	27%
No	32	73%

Reading Abilities

The overall reading level was 9.5 (SD=2.07). The reading level for males was 9.5 (SD=1.99) while the average reading level for females was 8.5 (SD=2.22). These data are summarized in Table 6.

Table 6

Reading Ability - Reading Level (Grade Equivalent)

<i>Reading Level^a</i>	<i>f</i>	<i>%</i>
Male ^b		
5.0 – 6.5	13	18%
7.0 – 8.5	14	19%
9.0 – 10.5	33	46%
11.0 – 12.5	12	17%
Female ^c		
5.0 – 6.5	11	25%
7.0 – 8.5	8	18%
9.0 – 10.5	17	39%
11.0 – 12.5	8	18%

^a Overall (M=9.5, SD=2.01)

^b Males (M=9.5, SD=1.99)

^c Females (M=8.5, SD=2.23)

The overall vocabulary level was on ninth-grade reading level (SD=2.01). The males also averaged ninth-grade vocabulary level (SD=1.97) and the females were on an eighth-grade vocabulary level (SD=2.01). These data are summarized in Table 7.

Table 7

Reading Ability – Vocabulary (Grade Equivalent)

<i>Vocabulary (Grade Level)^a</i>	<i>f</i>	<i>%</i>
Male ^b		
5 – 6	6	8%
7 – 8	21	29%
9 – 10	22	31%
11 – 12	23	32%
Female ^c		
5 – 6	8	18%
7 – 8	27	61%
9 – 10	7	16%
11 – 12	2	5%

^a Overall (M=9, SD=2.02)

^b Males (M=9, SD=1.97)

^c Females (M=8, SD=2.01)

The average reading rate for all of the participants was 160 (SD=62.35) words per minute. The males' average reading rate was 167 (SD=61.72) words per minute, and the females were reading 154 (SD=63.19) words per minute. These data are summarized in Table 8.

Table 8

Reading Ability - Reading Rate (Words per Minute)

<i>Reading Rate</i> ^a	<i>f</i>	<i>%</i>
Male ^b		
0 – 99	6	8%
100 – 199	49	68%
200 – 299	13	18%
300 – 399	4	6%
Female ^c		
0 – 99	8	18%
100 – 199	27	61%
200 – 299	7	16%
300 – 399	2	5%

^a Overall (M=160, SD=62.35)

^b Males (M=167, SD=62.72)

^c Females (M=154, SD=63.19)

Self Perception

When asked if they liked to read, 41% (48 of 116) replied positively (M=116, SD=.50) When the two groups were examined, one-third of the males reported liking to read while one half of the females reported liking to read. These data are summarized in Table 9.

Table 9

Self Perceptions - Like to Read

<i>Like to read</i>	<i>f</i>	<i>%</i>
Male		
Yes	24	33%
No	48	67%
Female		
Yes	24	55%
No	20	45%

The participants were asked if they felt that they were good readers and 65% (76 of 116) replied yes. More males ($M=72$, $SD=.47$) felt that they were good readers than the females ($M=44$, $SD=.49$). These data are summarized in Table 10.

Table 10
Self Perceptions - Good Reader

<i>Good readers</i>	<i>f</i>	<i>%</i>
Male		
Yes	48	67%
No	24	33%
Female		
Yes	28	64%
No	16	36%

Students Not Taking TExES

Relationships were examined between students who chose to not take the TExES exam and their counterparts. There were 16 students who chose to not take the TExES exam.

Demographic Characteristics

All of those who did not take the test were Anglo males and were an average of 23 years old. These data are summarized in Table 11.

Table 11

Participants Not Taking TExES – Demographic Characteristics

<i>Demographic</i>	<i>Mean/Mode</i>	<i>f</i>	<i>%</i>
Age	23	16	100%
Gender	Male	16	100%
Ethnicity	Anglo	16	100%

Academic Characteristics

Overall, the Anglo males who chose to not take the TExES had lower GPA's than those who choose to take the TExES. The participants who did not take TExES also had a large majority of participants who did not take a TExES prep course. These data are summarized in Table 12.

Table 12

Participants Not Taking TExES- Academic Characteristics

<i>Academic</i>	<i>Mean/Mode</i>	<i>f^a</i>	<i>%</i>
GPA ^b	2.0 – 2.49	0	0%
	2.5 – 2.99	5	31%
	3.0 – 3.49	7	44%
	3.5 – 4.00	2	13%
Prep Course	Yes	2	13%
	No	14	88%

^a Frequencies totaling less than 16 result from missing data.

^b GPA (M=3.00, SD=.33)

Reading Abilities

The participants who did not take the TExES had lower reading levels (M=8.5, SD=1.79) than the males who did take the test (M=9.0, SD=1.99). The scores were also lower than those of the females who took the test (M=9.0, SD=2.22). Vocabulary levels were equal between those who did not take the TExES and those who did. The male

students who did not take the TExES had a lower reading (M=149, SD=50.69) rate than those who did take the test (M=167, SD=61.73). These data are summarized in Table 13.

Table 13

Participants Not Taking TExES- Reading Ability

<i>Reading Ability</i>	<i>Mean/Mode</i>	<i>f</i>	<i>%</i>
Reading Level	8.5	16	100%
Vocabulary	9.0	16	100%
Reading Rate	149	16	100%

^a Reading Level (M=8.5, SD=1.79)

^b Vocabulary (M=9.0, SD=1.97)

^c Reading Rate (M=149, SD=50.69)

Self Perception

The sixty-nine percent of students who chose to not take the TExES indicated that they did not like to read. This is in comparison to forty percent of the students that did take the TExES. These data are summarized in Table 14.

Table 14

Participants Not Taking TExES - Perceptions - Like to Read

<i>Like to Read</i>	<i>f</i>	<i>%</i>
Yes	5	31%
No	11	69%

Those who did not take the TExES did not feel that they were good readers at a higher rate than those who did take the test. These data are summarized in Table 15.

Table 15

Participants Not Taking TExES - Perceptions – Good Readers

<i>Good Readers</i>	<i>f</i>	<i>%</i>
Yes	10	63%
No	6	38%

Students Failing TExES

Relationships were examined between students who failed the TExES exam and their counterparts. Sixteen of the participants chose to not take the TExES.

Demographic Characteristics

Out of the 100 who took the exam a total of 20 students failed. The majority of students who failed were male and 23 years old ($M=23$, $SD=2.24$). The females had 30% failing rate and were also 23 years old ($M=23$, $SD=2.42$). These data are summarized in Table 16.

Table 16

Participants Failing TExES – Age and Gender

<i>Gender</i>	<i>Age^a</i>		<i>f</i>	<i>%</i>
	Mean	S.D.		
Male	23	2.24	14	70%
Female	23	2.42	6	30%

^a Overall (M=23, SD=2.42)

Relationships between ethnicities between students who failed the TExES were examined. Males had the greatest percentage of failure on the TExES. These data are summarized in Table 17.

Table 17

Participants Failing TExES - Ethnicity

<i>Ethnicity</i>	<i>f</i>	<i>%</i>
Male		
Anglo	13	65%
Minority ^a	1	5%
Female		
Anglo	6	25%
Minority ^a	0	5%

^a Of the minorities, the one failing was Hispanic.

Academic Characteristics

Overall the students failing the TExES had a lower GPA than their passing counterparts. These data are summarized in Table 18.

Table 18

Participants Failing TExES – Overall GPA

<i>Overall GPA^a</i>	<i>f</i>	<i>GPA</i>	
		<i>MEAN</i>	<i>S.D.</i>
Male ^b Failing			
Anglo	13	3.00	.41
Minority	1	2.60	0
Males Passing			
Anglo	53	3.18	.40
Minority	2	2.89	.47
Female ^c Failing			
Anglo	6	3.02	.50
Minority	0	--	--
Female Passing			
Anglo	35	3.29	.40
Minority	3	3.43	.49

^a Overall GPA (M=3.18, SD=.43)

^b Male GPA (M=3.04, SD=.41)

^c Female GPA (M=3.12, SD=.50)

The participants who failed TExES also had a large majority of participants who did not take a TExES prep course. These data are summarized in Table 19.

Table 19

Participants Failing TExES – Prep Course

<i>Took Prep Course</i>	<i>f</i>	<i>%</i>
Male		
Yes	5	36%
No	9	64%
Female		
Yes	6	100%
No	0	0%

Reading Abilities

When examining the reading levels of the students who failed the TExES, it was found that both the males and females had lower reading rates than those who passed. The females read at a lower level than the males. These data are summarized in Table 20.

Table 20

Participants Passing or Failing TExES- Reading Level (Grade Level)

<i>Pass TExES? ^a</i>	<i>f</i>	<i>%</i>	<i>Reading Level</i>
Male ^b			
Yes	42	75%	10.5
No	14	25%	8.5
Female ^c			
Yes	38	86%	9.5
No	6	14%	7.5

^a Overall (M=8.5, SD=2.35)

^b Male (M=8.5, SD=2.35)

^c Female (M=7.5, SD=2.25)

When the vocabulary levels were examined, it was found that the vocabulary levels among the males were equal for both those who passed the TExES and those who failed. However, the vocabulary level for the females failing the TExES was lower than for those who passed. These data are summarized in Table 21.

Table 21

Participants Passing or Failing TExES- Vocabulary (Grade Level)

<i>Pass TExES? ^a</i>	<i>f</i>	<i>%</i>	<i>Vocabulary Level</i>
Male ^b			
Yes	42	75%	9
No	14	25%	8
Female ^c			
Yes	38	86%	9
No	6	14%	8

^a Overall (M=8, SD=1.98)

^b Male (M=9, SD=2.15)

^c Female (M=8, SD=1.63)

When reading rates were examined, it was found that the reading rates for students failing were lower for both male and females than rates for those who passed.

These data are summarized in Table 22.

Table 22

Participants Passing or Failing TExES- Reading Rate (Words per Minute)

<i>Passing TExES^a</i>	<i>f</i>	<i>%</i>	<i>Reading Rate</i>
Male ^b			
Yes	42	75%	178
No	14	25%	157
Female ^c			
Yes	38	86%	161
No	10	14%	126

^a Overall (M=147, SD=49.00)

^b Male (M=157, SD=40.55)

^c Female (M=126, SD=63.62)

Self Perceptions of Reading Affinity and Efficacy

It was interesting that all of the male students who failed the TExES stated that they did not like to read. The females who failed also had a larger percentage of those responding that they did not like to read than those who did like to read. These data are summarized in Table 23.

Table 23

Participants Failing TExES - Perceptions - Like to Read

<i>Like to Read?</i>	<i>f</i>	<i>%</i>
Male		
Yes	0	0%
No	14	100%
Female		
Yes	2	33%
No	4	67%

Another interesting observation was that, overall, 65% (13 of 20) of the students who failed the TExES stated that they did not think that they were good readers. This is summarized in Table 24.

Table 24

Participants Failing TExES - Perceptions – Good Readers

<i>Good Readers</i>	<i>f</i>	<i>%</i>
Male		
Yes	5	36%
No	9	64%
Female		
Yes	2	33%
No	4	67%

Correlations among Demographic Variables

Demographic variables were evaluated for relationships using the Pearson correlation. Relationships examined included those between gender and age and those between whether a person passed or did not pass the TExES. Gender ($r=.098$, $p=.171$) and age ($r=.063$, $p=.449$) were not significantly related to the successful passing of the TExES. However, the descriptive report indicates some interesting trends. Overall 89% of the females passed the TExES at a higher rate than the males with 75% passing. It was of special interest that 100% ($n=4$) of the minority females passed the TExES. However, the minority males had a 66% (2 of 3) pass rate on the TExES.

Correlations using Academic Variables

Relationships were examined between the academic variables and passing the TExES. There was a positive low correlation between GPA and passing the TExES, ($r=.16$ and $p=.06$). Overall, the females had a higher GPA than the males. Once again of

special interest was that the minority females had the highest GPAs overall with 100% passing TExES, and the minority males had the lowest GPAs. The Anglo females had higher GPAs than their male counterparts and also passed the TExES at a higher rate.

Correlations using Reading Variables

Relationships between reading levels and TExES performance were examined using Pearson Correlation. The grade-level equivalent of reading level was examined separately from reading rate and vocabulary levels.

The reading level was found to have a positive moderate correlation with pass rates on the TExES exam ($r=.31$ and $p<.01$). As the grade level of reading increased, the pass rate on the TExES increased.

Vocabulary levels were found to have a low positive correlation with performance on the TExES ($r= .24$ and $p< .01$). A visual inspection of the data revealed that when a discrepancy between the reading level and vocabulary levels of two grades or more was examined, it was found to have a positive correlation with passing the TExES ($r=.18$ and $p<.05$). When a grade-level reading score and a vocabulary level were at least two grade levels apart, a significant increase in failure on the TExES was observed.

Of further interest was that reading rate also had a low positive correlation with passing the TExES ($r=.18$ and $p<.05$). In other words, the faster a student read, the higher the passing rate on the TExES.

The correlations measured between reading variables is shown in Table 25.

Table 25

Correlations-Between Reading Variables, GPA, and TExES Results

	<i>Reading Level</i>	<i>Reading Rate</i>	<i>Vocabulary</i>	<i>GPA</i>	<i>Reading Discrepancy</i>	<i>TExES Result</i>
Reading Level	---	.07	.80**	.07	.29**	.31**
Reading Rate	.07	---	.01	.12	.16	.18*
Vocabulary	.80**	.01	---	.04	.005	.24**
GPA	.07	.12	.12	---	.18	.16
Reading Discrepancy	.29**	.16	.19*	.14	---	.18*
TExES Results	.31**	.18*	.24**	.16	.18*	---

* $p < .05$ ** $p < .01$ **Correlations Using Self Perception Variables**

Participants were asked if they liked to read. This variable was examined for relationships with passing the TExES. It was found to have a positive moderate correlation with passing the TExES exam ($r=.30$ and $p<.05$).

Participants were also asked if they felt that they were good readers. The positive responses were also found to have a positive correlation with passing the TExES exam ($r=.31$ and $p<.05$). These correlations are shown in Table 26.

Table 26

Correlations Perceptions and TExES Results

	<i>Good Reader</i>	<i>Liked Reading</i>	<i>TExES Results</i>
Good Reader	---	.34**	.31**
Like Reading	.34*	---	.30**
TExES Results	.31**	.30**	---

* $p < .05$ ** $p < .01$ **Summary**

There were 116 university students who participated in this study. Descriptive statistics describe the pre-service Agricultural Science participants. In addition, relationships between variables of academic performance, reading abilities and perceptions about reading and the TExES results were examined. Data were examined to see if correlations existed between the variables and successfully passing the TExES exam.

There were more males than females who participated in the study. The participants were given the choices of Anglo, Hispanic, or other, but there were six Hispanic and only one participant who chose *other*, so the variables were recoded to represent Anglo and minority. The average age for all of the participants was 23 years. There were no significant differences found among the demographic variables and TExES results; however, there were positive correlations found for gender and performance on the TExES. All of the sixteen participants who chose to not take the

TE_xES were male. All of the minorities and all of the females chose to attempt the TE_xES.

The overall GPA of the participants was 3.18. This research did not show GPA to have a significant correlation with TE_xES performance; however, there was a positive correlation at all levels. The males had a lower GPA than did the females, and the students who chose not to take the TE_xES had lower GPAs than those who did take the exam. When examining the students who failed the TE_xES, it was found that those students also had lower GPAs than their passing counterparts.

Out of the 14 students who had been diagnosed with a reading disability, 5 failed the TE_xES. Thirty-eight took a TE_xES preparation course 6 of those failed the TE_xES, and 2 choose not to take the exam. There was not a significant difference found among those taking a prep course or those having a reading disability.

The overall grade-equivalent reading level of all the participants was 9.5. The reading level was found to have a significant correlation with passing the TE_xES exam. The female students who failed the exam were found to have an average reading level of 7.5, which was lower than the males who had an average reading level of 8.5. There was also a significant correlation found with the vocabulary levels. All of the participants had an overall vocabulary level of 9. The reading rates also showed a significant correlation with passing the TE_xES. The average reading rate for all the participants was 170 words per minute with the males who failed having a reading level of 157 and the females 140 words per minute.

Self perception of reading ability had significant correlations with passing the TExES. Students failing the TExES did not like to read, and they did not feel they were good readers.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

Prior to teachers being tested for certification, they received their certification after completing an accredited teaching program and applying to the state agency. Texas along with other states followed this method. However, in 1980 a government report on the state of education in the nation, found that the academic levels of public school children had dropped. This report called *A Nation at Risk* created doubt in the public about the qualifications of teachers (ETS, 1990). In a movement to strengthen the professionalism of the teaching profession, Texas created the Texas Examination of Current Administrators and Teachers (TeCAT) that teachers had to pass in order to maintain their certification (Shepard, 1987). This led to the testing of pre-certified teachers before they could receive teacher certification or the Examination for Certification of Educators in Texas (ExCET). In order for universities to maintain their accreditation, they needed for 70% of their students to pass the ExCET on the first attempt (TEA, 2001).

Researchers began to examine ways to increase the pass rate on the ExCET. They found that pedagogy and subject matter knowledge was not enough to be successful on the exam. Kinnison and Nolan (2001) found positive correlations of grades for English, math, general education, and professional course work, and TASP scores with the Professional Development test of the ExCET.

Simonsson, et al. (2000) and Chambers, et al. (1999) found significant correlations of TASP reading scores, ACT scores, and ExCET practice scores to success scores on ExCET. They noted the importance of developing reading skills at the district level as well as ExCET practice sessions.

Bocclair (1980) examined reading ability, ACT scores, and GPA and found positive correlations with National Teachers Examination (NTE) scores.

The objective of this study was to examine measured reading variables and self perception of reading of pre-service agricultural science teachers with the TExES exam. Using a computerized reading appraisal which generated independent grade equivalent reading and vocabulary levels the results were examined for correlations with the students' scores on the TExES exam. Questions indicating self efficacy of reading abilities were also examined. The results of this study indicate that there was a significant correlation with measured reading ability and self efficacy with passing the TExES exam.

Conclusions

The first objective of this study was to describe demographic characteristics of pre-service Agricultural Science teachers. Information such as age, gender and ethnicity was gathered. The mean age of the sample was 23 years with 62% of them being male and 38% female. Furthermore, it was found that 4% of the males were minority while 9% of the females were minority.

The second objective of the study was to describe academic performance and reading abilities of pre-service Agricultural Science students. The mean GPA for all

participants was 3.18 with the males having a mean GPA of 3.12 and females a mean of 3.28. It was noted of special interest that the female minorities had the highest mean GPA of 3.47 and the minority males had the lowest mean GPA 2.75.

The third objective of the study was to describe relationships among demographics, academic performance, reading abilities, and perceptions about their reading. Overall the participants were on ninth grade reading and vocabulary levels and were reading 160 words per minute. When asked if they were good readers it was found that males and females were equal in reporting that they felt that they were good readers. However, females had a higher percentage than males when asked if they liked to read.

The fourth objective of the research was to determine if differences exist between students who chose to take the TExES and those who chose not to take the TExES test. Sixteen students chose not to take the TExES exam even after completing all of the academic requirements for teacher certification. It was found that these students were Anglo males with a lower GPA and did not like to read. While they had a higher reading level than those who took the TExES, they had lower vocabulary levels and reading rates.

The fifth objective of the research was to identify relationships between students reading ability and performance on the TExES. Academic performance, reading abilities and perceptions about reading were examined for relationships. While GPA was positively correlated with TExES success a significant correlation was not observed. However, all of the reading abilities measurements were statistically significantly related to performance on the TExES exam. Grade equivalent measurements of reading and

vocabulary levels and reading rates were found to have a positive correlation with performance on the TExES exam.

It was also found that there was a significant correlation when students reading levels and vocabulary levels were two grade levels apart. That is students with a discrepancy tend to perform at a lower level on the TExES. After teaching developmental reading courses for 12 years, the researcher noted that when students were found to have a discrepancy between reading levels and vocabulary levels, they tended to have difficulty improving their reading ability. This discrepancy in reading performance (grade level versus vocabulary) predicted a problem with the TExES.

Implications

The results of this study imply that students who fail the TExES have lower grade level equivalent reading skills and that self-efficacy of reading ability was a good predictor of performance on the TExES exam. After examining the results one could build a profile of a typical student who would pass the TExES. That student would be most likely be a female with reading and vocabulary levels on the 10th grade equivalent level or higher. She would be reading at least 170 words per minute and would like to read. She would also feel that she was a good reader and have a GPA of at least 3.20.

Conversely, the student who would be at the greater risk of failing would be male, with reading and vocabulary levels below the 10th grade equivalent level. He would be reading less than 170 words per minute, would not like to read nor feel that he was a good reader. The GPA would be lower than 3.12.

It was perplexing that a student would complete the teacher certification program and student teaching yet not take the TExES exam. A profile of this student would be a Anglo male who does not like to read and does not feel that he is a good reader. He would be a slow reader and have reading abilities below 10th grade level.

Recommendations

The results suggest that early intervention to improve reading ability might increase pass rates on the TExES exam. A student identified with reading abilities below 10th grade level could be identified and placed in classes for remediation early in his or her college career allowing the student to develop better reading skills prior to entering the teacher education program. Currently most universities place into remedial reading classes students who have failed the TASP test. If all students, especially education students, were tested and offered developmental reading courses early in their college career then it would be assumed that they would be better preparation to take the TExES exam on schedule. Most universities only offer TExES remediation to education students after they have failed the initial exam.

If students were not struggling to read and were taught to read efficiently and quickly an increase in self efficacy would occur. Most people do not like to read because it is labor intensive. If reading programs were developed that not only developed skills but were based in a literature rich environment perhaps there would be a change in students' perception of reading.

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APPENDIX A

READING PLACEMENT APPRAISAL

Reading Placement Appraisal

Literal Understanding

	<i>Reading Level</i>	<i>Comp%</i>	<i>Rate</i>
	7.5	100	145
	8.5	100	133
	9.5	90	127
	10.5	70	122
	11.5	60	90
Highest Level with 80% Comprehension	9.5		

Comprehension Level

	<i>Reading Level</i>	<i>Comp%</i>	<i>Rate</i>
	9.5	80	137
Assigned Reading Level	9.5		

<i>Skill</i>	<i>Correct</i>	<i>Incorrect</i>
Literal Recall	3	0
Reasoning/Analogies	0	2
Drawing Conclusions	1	1
Comparison/Contrast	1	1
Sequence	0	1
Inference	2	0
Fact/Opinion	1	0
Author's Purpose/Persuasion	0	1
Cause/Effect	2	0
Main Idea/Supporting Detail	1	0

Vocabulary Level

Initial Level: 8.0
 Final Level: 9.0
 Items Correct 10/14

End of CPA Report

APPENDIX B
QUESTIONNAIRE FOR READING APPRAISAL

Questionnaire for Reading Appraisal

Name: _____ Date: _____

Classification: _____ Student I.D. # _____

Age: _____ Ethnicity: _____

Overall GPA: _____ TASP Reading Score _____

Major: _____ Date of Expected Graduation: _____

If you have not taken the TExES Professional Exam, when do you expect to do so?

Please circle only one answer

Do you consider yourself a good reader? Yes No

Do you like to read? Yes No

Have you ever been diagnosed with a reading disability? Yes No

Have you ever taken a developmental reading course? Yes No

Have you taken any TExES test? Yes No

If yes, did you pass? Yes No

Have you taken the Professional Development TExES test? Yes No

If yes did you pass? Yes No

Have you taken a TExES Prep course or review? Yes No

If yes please explain:

After taking the Computerized Reading Appraisal please answer the following questions by circling the answer.

Did you find the appraisal hard? Yes No

Do you think it was an accurate measurement of your reading ability? Yes No

Have you ever been tested with a similar test? Yes No

If yes, were the results similar? Yes No

As a teacher, do you think that the appraisal would be useful to you? Yes No

Do you have any questions or comments that you would like to make about the reading appraisal or the research? If so, please use the remainder of the page to make any comments that you would like.

APPENDIX C

CONSENT FORM

AN EXAMINATION OF READING VARIABLES THAT PREDICT SUCCESSFUL SCORES ON THE TExES EXAM

I have been asked to participate in a research study examining reading variables that predict successful scores on the TExES Exam. I was selected to be a possible participant because I am an Education student who will be taking the TExES Professional Development exam. A total of 215 people have been asked to participate in this study. The purpose of this study is to exam reading and vocabulary levels with TExES scores to find any correlations.

If I agree to be in this study, I will be asked to take a computerized reading appraisal that indicates reading levels, reading rate and vocabulary levels which will be compared to my TExES score. This study will only take approximately thirty minutes and will be done only once. The risks that are associated with this study are non existent. The benefits of participation are that I will receive a copy of the appraisal results for my own information and perusal. I will receive no monetary compensation for participation.

This study is confidential and results of the actual appraisal will be locked in a file with only the examiner seeing the results and the names of the participants will immediately be transformed into numerical data to further maintain confidentiality. The records of this study will be kept private. No identifiers linking me to the study will be included in any sort of report that might be published. Research records will be stored securely and only the researcher, Carol Woodward, will have access to the records. My decision whether or not to participate will not affect my current or future relations with Texas A&M University, Texas Tech University, Sul Ross State University or any other University. If I decide to participate, I am free to refuse to answer any of the questions that may make me uncomfortable. I can withdraw at any time with out my relations with the university, job, benefits, etc., being affected. I can contact Carol Woodward at P.O. Box 1327, Alpine, Texas, 79831 at (432) 837-8371 (woodward@sulross.edu) or Dr. James Smith, The Department of Agricultural Education and Communications, Box 42131, Lubbock, Texas 79409-2131 at (806) 742-2816 (james.h.smith@ttu.edu) or Dr. Gary Briers Department of Agriculture Education, 107 Scoates Hall, Texas A&M University, College Station, Texas 77843-2116, at (979) 862-3000 (g-briers@tamu.edu) with any questions about this study.

This research study has been reviewed by the Institutional Review Board-Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, I can contact the Institutional Review Board through Dr. Michael W. Buckley, Director of Research Compliance, Office of Vice President for Research at (979) 845-8585 (mwbuckley@tamu.edu).

I have read the above information. I have asked questions and have received answers to my satisfaction. I have been given a copy of this consent document for my records. By signing this document, I consent to participate in the study.

Signature: _____

Date: _____

Signature of Investigator: _____

Date: _____

VITA

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Academic History

Doctor of Education, Agricultural Education Texas A&M and Texas Tech Universities Emphasis: Teacher Ed. & Reading	2007
Master of Science, Reproductive Physiology Sul Ross State University	2000
Master of Education, Reading Specialist Sul Ross State University	1991
Bachelor of Science, Agricultural Education Texas A&M University	1978

Professional Experience

Lecturer Department of Agricultural and Natural Resource Science & Department of Education Sul Ross State University	1990-2006
Purchasing Agent Production Operators, Fort Stockton	1983-1985
Vocational Science Instructor Terry High School, Fort Bend School District	1979-1981
Vocational Science Instructor Hearne Jr. High, Hearne School District	1978-1979