

The Relationship Between English End of Course Tests and ACT Scores in Upper East

Tennessee

by

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Abstract

High school students lack the reading skills needed for college and career. This has been a trend at the national level for more than a decade, and it proves to be a trend in Tennessee as well. ACT and Tennessee EOC scores indicate students are failing to reach college and career readiness benchmarks even though both tests are founded in standards with “College and Career Ready” goals. The ACT reported text complexity as the most significant indicator of college and career readiness. Other studies indicate that higher level reading skills play a significant role in understanding texts across disciplines. Additionally, researchers suggest skills used in reading closely reflect skills used for writing. Therefore, this study examined the relationship between English 9 and 10 EOC scores with composite, reading, English, and science ACT scores. This study also examined the relationship between the English EOC writing categories with composite, reading, English, and science ACT scores. It was found that English 10 EOC scores were the strongest predictor of composite, reading, English, and science ACT scores. It was also found that the English 10 Language writing category was the strongest predictor of composite, reading, English, and science ACT scores. It is recommended for future research to examine English EOC scores to math ACT scores, English EOC scores to other subject area EOC scores. It is also recommended for future research to examine the relationship between EOC and ACT scores while addressing student household income. Additionally, it is recommended that educators model reading skills needed in comprehending more complex texts. As educators focus more on language and reading skills in the classroom, the hope is to better prepare students for reading beyond high school, and in turn, increase adult literacy across the country.

Committee Signature Page

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CHAPTER 1

Introduction

This study examines the relationship between English End of Course (EOC) tests and American College Testing (ACT) scores in Upper East Tennessee. The ACT has become a defining factor of whether a student is ready for college and career after high school (Rury, 2010). However, ACT records show trends indicating students are not prepared. These results are primarily found in student English ACT scores as students are consistently not reaching college and career ready benchmarks (ACT, 2006, 2018a). In Tennessee, ACT standards are embedded into the Tennessee State Standards, indicating teachers are expected to prepare students for both ACT and EOC testing (TN Department of Education, July 2018). Despite the emphasis on ACT readiness, ACT English scores are not improving and, therefore, students may have difficulty with the type of reading skills required for college (ACT, 2006, 2018a).

Background of the Study

How to effectively prepare students for post-secondary experiences has been a focal point for years. In 1965, President Lyndon B. Johnson presented the Elementary and Secondary Education Act (ESEA) which provided that all students be granted the same opportunities and funding for the best education regardless of race or income. In 2001, President George W. Bush reauthorized Johnson's infamous act. With the No Child Left Behind Act (NCLB), President Bush mandated that all states adopt high-quality state standards. Along with the standards, states were required to also provide assessments that adequately measured those standards. Therefore, the importance of standards aligning with assessments became critical. Not only are students being assessed on standards throughout the course of the school year, but NCLB specifically required annual testing of state standards (Clough & Montgomery, 2015).

In addition to mastery of state standards, one main objective of educators is to prepare students for college and career. A crucial assessment for college readiness used across the United States today began with the American College Test program 60 years ago. The ACT quickly grew into a leading form of assessment used by collegiate institutions across the nation. As college enrollment increased due to large numbers of baby boomers, colleges not only used the ACT to narrow down applicants, but they utilized the data in providing financial aid to their incoming classes (Rury, 2010). The ACT has remained a constant in college preparation. In 2012, states began refocusing their state standards in hopes of better preparing students for college and career (Clough & Montgomery, 2015). It was during this time that ACT reached out to these states to be their official form of assessment. Clough and Montgomery (2015) state that the ACT tests “are explicitly designed and have been empirically validated to assess student progress toward college and career readiness”; therefore, as states began to restructure their college and career readiness standards, they also began to partner with ACT (Clough & Montgomery, 2015, p. 2).

Tennessee is one state that adopted college and career readiness standards. In hopes of assessing those standards and measuring their students’ ability for college and career opportunities after high school, Tennessee mandates their students be assessed in two ways: EOC and ACT. At the high school level, EOCs are administered for English, mathematics, science, and social studies at every grade level. EOCs are used to measure how a student has grown from one year to the next and to give a better understanding of how a student is progressing toward college and career readiness. In addition to the EOC, taking the ACT is a requirement to graduate, and high school students complete the test during the spring semester of their junior year. The ACT is not only a measurement of college and career readiness, but it also provides an

overarching look at a student's academic career. ACT measures students in five subject areas: English, reading, writing, math, and science (ACT, 2019; TN Department of Education, July 2018). Although students are assessed using two different measurements, the standards embedded in those assessments are still similar. "ACT standards are encompassed within the Tennessee Academic Standards" which ensures both forms of assessment measure the same outcomes (TN Department of Education, July 2018, p.8).

As states have become more focused on preparing students for life beyond the elementary and secondary classrooms, so have state standards and their assessments. The EOC and ACT both measure specific areas of content as well as skills and knowledge needed in college and career. If the EOC is an annual measurement of state standards, how adequately does the EOC predict a student's ACT score?

Problem Statement

In 2005, ACT scores across the country reflected students had a deficit in reading, and only 51% of test-takers were ready for college-level reading (ACT, 2006). Based on benchmark measurements, ACT reported the biggest differentiating factor on the reading test was text complexity which was rated higher than comprehension level or textual element. The ability to read and understand a complex text proved to be the best indicator of students who were ready for college. Based on the overall results, almost half of those students were not ready (ACT, 2006). Fast forward to 2018, and reading still shows to be a deficit as only 46% of test-takers reached the reading benchmark (ACT, 2018a). Similarly, in Tennessee, only 29% of high school students performed proficient on their English EOC which decreased from 35% the year before (Aldrich, 2018). Over a decade ago, it was reported that students struggled with reading, primarily complex text; yet, the problem still remains at both the state and national level. If the

ACT is in alignment with state standards, and if English EOCs are in alignment with state standards, and teachers are teaching the state standards, then why are ACT reading scores not improving? One possible answer is that too many students lack college readiness in reading according to their ACT performance even though ACT standards are embedded into Tennessee State Standards.

Purpose of the Study

The purpose of this study is to examine the relationship between English EOC tests and the ACT in a high school in Upper East Tennessee. Specifically, this study will examine the relationship between English 9 and 10 EOC scores and composite, reading, English, and science ACT scores and examine which EOC may be the strongest predictor of the ACT. This study will also examine the relationship between the English EOC writing category scores and composite, reading, English, and science ACT scores and examine which EOC writing category may be the strongest predictor of the ACT.

Definitions

The following definitions are provided for clarity and uniformity in understanding some key terms used throughout this study:

American College Testing (ACT): A standardized test that is often a requirement for college admission. The ACT measures student knowledge in English, math, science, and reading. Test-takers are scored on a scale from 1-36 for each subject area and will also receive a composite score of all subjects together (ACT, 2019). The ACT is recommended for students to complete during their junior or senior year. In Tennessee, all students are required to complete the ACT during the spring of their junior year (TN Department of Education, July 2018).

End of Course (EOC): A standardized test given to students in Tennessee annually. EOCs are administered in English, mathematics, science, and social studies classes. EOCs are used to measure annual gains and to provide predictive measures for future testing (TN Department of Education, July 2018).

EOC Writing Categories: Rubric categories used to score student written response on English EOC tests. Students are scored in four areas: Development, focus and organization, language and style, and conventions (TN Department of Education, 2018b).

Elementary and Secondary Education Act (ESEA): Instituted in 1965, President Lyndon B. Johnson mandated that all students be granted the same opportunities and funding for the best education regardless of race or income (Clough & Montgomery, 2015).

Every Student Succeeds Act (ESSA): Instituted in 2015, President Barack Obama updated the NCLB. The purpose “is to provide all children significant opportunity to receive a fair, equitable, and high-quality education, and to close educational achievement gaps” (Every Student Succeeds Act, n.d.).

No Child Left Behind Act (NCLB): Instituted in 2001 as a reauthorization of the ESEA, President George W. Bush mandated that all states adopt high-quality state standards along with annual testing that assessed those standards (Clough & Montgomery, 2015).

Assumptions

In this study, it is assumed that test results are a reliable indicator of student performance. It is also assumed that the teachers at the participating school taught all state standards within the given school years. Since ACT standards are embedded into Tennessee state standards and EOC tests are determined by the same Tennessee state standards (TN Department of Education, July 2018), it becomes even more imperative for teachers to address each standard in a given class.

Additionally, student growth scores on EOC tests become a percentage of teachers' final evaluation scores (TN Department of Education, 2019).

It is assumed that students were either not affected or equally affected by any environmental factors during the time of testing. These factors may include weather, temperature of room, seating arrangement, and/or proctor(s) present in the testing room. Since such factors may lead to distraction from testing, it must be assumed that all students were either not affected or were equally affected by the environment. The study assumes that EOC tests are truly aligned with the concepts measured in the ACT.

Scope and Delimitations

The population of this study came from a high school in a selected district in Upper East Tennessee. The high school in this selected district is composed of 888 total students for the 2019-2020 school year. The school diversity rate is 3%, and the student:teacher ratio is 15:1 ("Public School Review", 2019). The sample consisted of the 217 students who graduated in 2020. This study examined English EOC scores at the 9th and 10th grade levels as well as ACT composite scores, reading subscores, English subscores, and science subscores.

The selected participating high school was identified as a Title I school during a portion of the participating students' tenure. Title I determines that at least 40% of students at a given school receive free and reduced meals (U.S. Department of Education, 2018). Since the participating school was identified as Title I, this study may be generalizable to other schools with students from low socioeconomic backgrounds.

Limitations

It is important to note the limitations of this study. First, this study did not take external factors into consideration such as students who participated in ACT preparatory courses that may

have aided in ACT achievement. This study also did not take into consideration the different teaching styles of the English teachers throughout the course of students' academic careers. This study did not factor in students' attendance, race, age, or gender. No efforts were made within the scope of this study to validate the data beyond what was reported by the participating school. This study was conducted in a single high school in Upper East Tennessee and may not be generalizable to other populations.

Significance of the Study

Tennessee has adopted college and career readiness standards, and those standards are assessed formally in two ways. High school students are required to complete EOCs every year in English, mathematics, science, and social studies; juniors take the ACT as a graduation requirement (TN Department of Education, July 2018). Both forms of assessment measure student content knowledge as well as their preparedness for college and career. Although state standards, classroom curricula, EOC assessments, and ACT assessments should all align, ACT reading scores are consistently low as the majority of students do not meet benchmarks (ACT, 2006, 2018a). For over a decade, ACT test-takers struggle with complex texts, demonstrating students are not equipped to meet the demands of the types of complex text required in college-level courses (ACT, 2006, 2018a). If ACT is the culminating assessment of all state standards, then why is there an ongoing shortage of understanding when it comes to reading? Ideally, examining the relationship between English EOC and ACT scores will help inform this question.

This study is significant because it fills gaps in research that is currently available. Although it is found that both ACT and EOCs contain similar constructs (TN Department of Education, 2018a), a gap is found in just how significant of a relationship there is between the two tests themselves. Additionally, this study goes beyond examining the relationship to

exploring a predictive variable. Currently, Tennessee has not determined which English EOC (9 or 10) is the greatest predictor of ACT scores. Specifically, this study will determine which English EOC (9 or 10) is the strongest predictor of the English, reading, science, and composite ACT scores. Finally, this study is significant because results from this study can impact educators as they reflect on different ways to teach standards in their classroom. Test-makers may also use results from this study to ensure that the EOC and ACT are aligned.

CHAPTER 2

Literature Review

Reports indicate high school students are lacking in the reading and writing skills indicating college and career readiness (ACT, 2006, 2018a; Daggett & Pedinotti, 2014; Graham & Heber, 2010; National Research Council of the National Academies, 2012). As a result of the Common Core State Standards Initiative in 2010, all states have adopted “College and Career Ready” constructs into their teaching standards. Both ACT and Tennessee’s EOC assessments are founded in those same college and career ready standards. However, benchmarks have shown for over a decade that only half of the students are prepared for literacy skills needed after high school (ACT, 2006, 2018a). In a 2010 Texas study, researchers examined how prepared high school students were for college-level reading (Wilkins, Hartman, Howland, & Sharma, 2010). They found that about half of 11th grade students were prepared for reading levels required in the University of Texas system.

Secondary and postsecondary students eventually become working adults whose poor literacy skills limit the types of jobs they are able to perform (Graham & Heber, 2010; National Research Council of the National Academies, 2012). This not only shows that these students are potentially struggling within the high school classroom, but it also indicates that students will continue to struggle as they proceed into their college path or career choice. Adults with low literacy often struggle finding jobs in general. When they do find employment, they often earn lower income than those adults with higher literacy skills (National Research Council of the National Academies, 2012).

Working low-paying or entry-level jobs may result in living in poverty. In 2017, the national poverty rate was 12.3% which was down 0.4% from the previous year. Over the

previous three consecutive years, the national poverty rate has decreased 2.5% overall from 14.8% in 2014 (Fontenot, Semega, & Kollar, 2018; WellfareInfo, 2019). In 2017, a total of 39.7 million people lived in poverty in the United States (Fontenot, Semega, & Kollar, 2018).

Compared to the United States, Tennessee poverty rates prove to remain higher than the national levels (WellfareInfo, 2019). As of 2017, Tennessee had a poverty rate of 16.7%, which suggests that one out of every six residents lives below the poverty line: 1,072,360 people (WellfareInfo, 2019).

Children who are raised in poverty struggle more in school overall than those who are not raised in poverty (Jensen, 2009). Researchers studied children from various socioeconomic backgrounds for 2.5 years to examine linguistic progress (Hart & Risley, 1995). While children were between 7 months and 3 years old, researchers recorded what was said to the child, what the child overheard and observed, and what the child did during a one-hour session each week. Researchers found that children from lower socioeconomic households have far less experiences than those from a higher socioeconomic background. Specifically, children from a welfare household would experience an average of 616 words per hour whereas a child from an average professional household would experience an average of 2,153 words per hour (Hart & Risley, 1995). This study showed that a child's vocabulary and linguistic abilities could be attributed to the amount of words experienced in the household rather than a learning disability (Hart & Risley, 1995). By the time they enter school, they are already fundamentally falling behind (Jensen, 2009; Schoon, Jones, Cheng, & Maughan, 2012). These children may eventually be part of those EOC and ACT test-takers who lack college and career readiness; thus, the cycle continues.

The Introduction of Common Core

In discussing students' preparedness for higher education and the workforce, it becomes necessary to identify the beginning of Common Core. In 2001, President George Bush initiated the No Child Left Behind Act (NCLB) as a way to increase the quality of state education standards (Clough & Montgomery, 2015). Nearly a decade passed when Secretary of Education Arne Duncan felt as though state standards were still not elevated to the quality President Bush had in mind (ASCD, n.d.). In 2010, the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) brought the Common Core State Standard Initiative (CCSSI) as a way to increase the standard of education in the United States (ASCD, n.d.). The Common Core State Standards (CCSS) provided expectations in math and reading designed to better prepare students for college and career (ASCD, n.d.; Graham & Harris, 2015). By June 1, 2010, 43 states adopted CCSS into their education programs (ASCD, n.d.). Though some states dropped CCSS and adopted their own standards, all 50 states have since added the requirement of "College and Career Ready" to their standards (Daggett & Pedinotti, 2014). Additionally, all 50 states now require teachers to introduce students to increasingly more complex texts over their K-12 academic career (Hodgkinson & Small, July 2018).

Overview of Assessment Measures

The implementation of CCSS in the United States has led to a movement of focusing on preparing students for college and career over the past decade (ASCD, n.d.; Graham & Harris, 2015). However, the American College Test (ACT) has assessed students on college and career preparedness for over 60 years (Rury, 2010). With an influx of new college students, postsecondary schools became overwhelmed trying to sift through the pool of applicants. In its earliest existence, ACT was utilized by college institutions to help narrow down the amount of

applicants (Rury, 2010). Like today, colleges required a minimum ACT score before choosing to admit new students. Additionally, ACT scores provided a way to ration out financial aid (Rury, 2010). ACT is a validated assessment for college and career preparedness, so as the nation began adopting standards that focused on college and career readiness, ACT became the official form of assessment for many states (Clough & Montgomery, 2015; Rury, 2010). Along with assessing a student's preparedness for college and career, the ACT also provides a look at the student's overall academic career as it is often not required until the junior year of high school (ACT, 2019).

As the ACT provides insight into the overarching academic skills of a student, Tennessee also requires annual assessments of their students (TN Department of Education, July 2018). The Tennessee Comprehensive Assessment Program (TCAP) has been the state assessment program since 1988 (TN Department of Education, n.d.-c). TNReady is the new state test that is part of TCAP and assesses students in core subjects annually. Tennessee adopted CCSS in 2010 but chose to phase out in 2016 (Balakit, 2016). However, TNReady is still aligned to those same CCSS (Balakit, 2016). Since TNReady is given on an annual basis, it provides snapshots of students' progress every year. Data from TNReady provides a better view of how a student is progressing toward college and career readiness (TN Department of Education, July 2018).

ACT

The ACT has assessed readiness for college and career for over 60 years (Rury, 2010). In fact, the ACT is specifically designed to assess expectations for postsecondary education as well as the college and career expectations of each state, and it has been validated to do so (Clough & Montgomery, 2015). After the CCSSI and states' new-found focus on readiness after high school (ASCD, n.d.; Graham & Harris, 2015) many states adopted ACT as their official assessment

(ACT, 2019). Students learn important information from their ACT scores. They are able to identify their level of preparedness for college or the workplace (TN Department of Education, 2019). Similarly, colleges look at ACT scores to identify the skills a student has prior to entering a postsecondary setting (Clough & Montgomery, 2015; Rury, 2010).

ACT Measurement

The ACT is comprised of four subparts: English, math, science and reading. Test-takers will receive a score from 1-36 in each subpart, and they will also receive a composite score for all subparts combined. Test-takers have the option to take a writing test as well, and they will be scored on a scale from 2-12 (ACT, 2019). In doing so, ACT assesses the breadth of knowledge a student has gained over his/her academic career (ACT, 2019; TN Department of Education, July 2018). The ACT Technical Manual (2019) states the following:

The ACT is based on the philosophy that the tests should measure the academic skills necessary for education after high school and the content of the tests should be related to major curriculum areas. The ACT focuses on the knowledge and skills attained through the cumulative effects of school experience. (p. 11.19)

ACT (2019) studied the relationship between pre-high school achievement and high school achievement with ACT scores. They used ACT Explore to measure students' pre-high school achievement as it is often given prior to 8th grade. ACT QualityCore was used as an end-of-course assessment following core classes in grades 9, 10, and 11. It was found that the end-of-course assessments in English 9, 10, and 11 were all predictors of the ACT English test. In other words, mastery in a high school English class showed to predict mastery of the ACT English test (ACT, 2019). Similar results were found as end-of-course assessments in math courses predicted ACT math scores and end-of-course assessments in science courses predicted ACT science

scores. End-of-course assessments in US History, however, showed to predict performance on the ACT reading test. Through this study, it was found that the ACT is a validated source of measuring student achievement from high school courses (ACT, 2019).

Preparedness for College and Career

Prior to the CCSSI (ASCD, n.d.; Graham & Harris, 2015), ACT benchmarks showed that students were not prepared for college and career (ACT, 2006). ACT benchmarks “are the minimum scores required on each subject test on the ACT... for students to have a high probability of success in credit-bearing, entry-level college courses in that subject area” (Clough & Montgomery, 2015, p. 3). Benchmark scores vary each year and are different with each subtest (TN Department of Education, July 2018). In 2005, high school graduates showed deficits in reading as only 51% reached the reading benchmark at a score of 21 or higher (ACT, 2006). ACT reading benchmarks assess levels of comprehension and textual elements. Comprehension is comprised of both literal and inferential questions. Textual elements are comprised of the following: Main idea or author’s approach; supporting details; sequential, comparative or cause-and-effect relationships; meaning of words; and generalizations and conclusions. Neither comprehension nor textual elements show to predict a student’s preparedness for college and career. However, ACT (2006) found that “performance on complex texts is the clearest differentiator in reading between students who are more likely to be ready for college and those who are less likely to be ready” (p. 6). Text complexity proved to be more of a predictor of students who were prepared for college and career than comprehension or textual elements of a text (ACT, 2006).

The CCSSI (ASCD, n.d.; Graham & Harris, 2015) strived to address those low literacy levels and preparedness for postsecondary education and the workforce. As ACT has been a

leading assessment of college and career readiness, ACT standards are often similar to state standards; specifically, ACT standards are embedded into Tennessee Academic Standards (TN Department of Education, July 2018). In fact, taking the ACT has become a high school requirement in Tennessee. Students must complete the ACT during the spring semester of their junior year (TN Department of Education, July 2018). Even with incorporated ACT standards and a focus on preparing students for college and career, students still show to have a deficit in reading. In 2018, only 46% of ACT test-takers reached reading benchmarks for college and career readiness with a score of 22 or higher, and 60% reached the English benchmark with a score of 18 or higher (ACT, 2018a, 2018b; TN Department of Education, July 2018). Tennessee test-takers showed to perform lower than the national levels as only 38% reached the reading benchmark and only 54% reached the English benchmark (ACT, 2018b). Almost half of Tennessee test-takers at 42% reached none of the four ACT benchmarks which was an increase from previous years (ACT, 2018b).

Tennessee EOC

Since 1988, TCAP has been the program used to assess student academic progress in Tennessee, and TNReady is currently part of that program (TN Department of Education, n.d.-c). TNReady assessments are given in grades 3-11 for subject areas in English language arts, math, science and social studies; grade 2 testing is optional at the district level (TN Department of Education, n.d.-c, July 2018). The TNReady not only assesses students' understanding of the Tennessee Academic Standards, but it also analyzes their progress toward preparedness of college and career by assessing students' critical thinking and problem solving skills (TN Department of Education, July 2018). At the high school level, TNReady assessments are given at the conclusion of each course and are commonly referred to as the end-of-course test (EOC)

(TN Department of Education, n.d.-c). EOCs are given to students as they conclude courses in English 9, English 10, Algebra I, Algebra II, Geometry, Biology, Chemistry, and US History (TN Department of Education, n.d.-c). Additionally, ACT composite scores can be predicted by analyzing a student's performance on his/her historical TCAP achievement (TN Department of Education, July 2018).

English EOC Measurement

Historically, TCAP tested high school students in English 9, English 10, and English 11. In the spring of 2018, Commissioner Candice McQueen announced that the English 11 EOC would be eliminated as a way to reduce testing (TN Department of Education, April 2018). The 2018-2019 school year marked the first year that only English 9 and English 10 students were assessed on the Tennessee Academic standards for English language arts.

English EOC tests are comprised of three subparts that cover both literary and nonfiction texts (TN Department of Education, September 2018). The first subpart asks students to provide a written response to a writing prompt and text set and is scored in four categories: Development, focus and organization, language and style, and conventions (TN Department of Education, December 2018). The additional subparts are comprised of multiple-choice questions (TN Department of Education, September 2018). English EOCs require “students to demonstrate the ability to read closely, analyze text, answer text-dependent questions, provide a written response to a prompt, and demonstrate command of the English language” (TN Department of Education, n.d.-b). Students will receive a score from 1-4, each indicating the level of proficiency they performed on the test: Level 1 indicates Below, Level 2 indicates Approaching, Level 3 indicates On Track, and Level 4 indicates Mastered (TN Department of Education, September 2018). In

2018, only 29% of high school students performed either at Level 3 or 4 on their English EOC which decreased from 35% the year before (Aldrich, 2018).

The Importance of Writing

Writing and reading go hand in hand (Graham & Heber, 2010, December 2011). Strengthening skills in writing can also improve reading skills and visa versa. As students write about a given text or topic they have read, they will begin to improve their comprehension of the text itself. Similar cognitive skills are used for reading and writing; therefore, as students improve their writing skills, their reading skills should also improve (Graham & Hebert, 2010; Fitzgerald & Shanahan, 2000). Graham and Hebert (2010, December 2011) reiterate that reading and writing should not be independent of one another. In fact, the two practices should always be taught alongside one another. This allows students to strengthen both reading and writing simultaneously. They have found that the following writing skills used together help improve students' reading ability: Spelling instruction, writing sentences, writing paragraphs, focusing on structure, and focusing on the composition process as a whole. They also found results as students increased the time and amount of writing as well. As students spent time crafting these writing skills, the researchers found that students showed more gains in overall comprehension of the text than those who solely used more traditional reading instruction such as rereading and discussing the text (Graham & Heber, 2010).

The quality of the writing task itself plays a vital role as students sharpen their writing skills (Matsumara, Correnti, & Wang, 2015). Cognitive skills such as problem solving, critical thinking, and reasoning are needed in order to understand what is being asked of a quality writing task as well as how the stimuli should be used to answer the writing prompt (Daggett & Pedinotti, 2014; Matsumara, Correnti, & Wang, 2015; National Research Council of the National

Academies, 2012). Studies show that quality writing tasks require such cognitive demands that will actually help students develop reading skills as a whole (Carbonaro & Gamoran, 2002; Correnti, Matsumura, Hamilton, & Wang, 2012; Graham & Hebert, 2010; Matsumara, Correnti, & Wang, 2015; Matsumura, Garnier, Pascal, & Valdés, 2002; Matsumura, Garnier, Slater, & Boston, 2008; Newmann, Bryk, & Nagaoka, 2001). In fact, high school students who engaged in such analytical writing tasks showed growth on their state reading assessments (Carbonaro & Gamora, 2002). Similarly, engaging in high-quality writing tasks also improves students' writing overall (Boscolo & Carotti, 2003; Crosson, Matsumura, Correnti, & Arlotta-Guerrero, 2012; Matsumara, Correnti, & Wang, 2015; Matsumura, Patthey-Chavez, Valdéz, & Garnier, 2002).

The Importance of Reading

Students of any age must develop their reading skills. This development requires specific instruction that focuses on different components used throughout the reading process (National Research Council of the National Academies, 2012). Teachers have significantly decreased the difficulty of texts they use in the classroom over the past 50 years (Hodgkinson & Small, July 2018). Unfortunately, state standards and curricula have failed to always address those issues. Although texts used in postsecondary schools and the workforce are of a higher complexity, state education departments are not enforcing the need of teaching more complex texts in K-12 classrooms (Hodgkinson & Small, July 2018). As a result, college students are not as successful (Adams, 2009; Hodgkinson & Small, July 2018; Wirt et al., 2004), and adult literacy is declining (Hodgkinson & Small, July 2018; Kutner et al., 2007).

What Makes a Complex Text?

Text complexity is the level at which a text is challenging to a reader (Hodgkinson & Small, July 2018; Lapp, Moss, & Grant, 2015). Researchers believe that text complexity is

comprised of three major components: Quantitative, qualitative, and reader and task considerations (Fisher & Frey 2001, 2013, 2014a, 2014b, February 2015, May 2015; Fisher, Frey, & Lapp, 2012; Hodgkinson & Small, July 2018).

An initial step in assessing the level of text complexity is to look at the quantifiable variables within the text (Fisher & Frey, 2014a). Originally, the complexity of a text was determined by addressing specific variables such as sentence length, ratio of difficult words, percentage of personal pronouns, percentage of unique words, and percentage of prepositional phrases (Gray & Leary, 1935). Since then, various tools that assess complexity using quantitative variables have been created. One of the most widely used tools is the Lexile® Framework (Fisher & Frey, 2014a; Fisher, Frey, & Lapp, 2012). The Lexile® Framework is often used to identify the complexity of a text. The software program analyzes a text's semantic and syntactic characteristics and designates a Lexile level of measurement to that text (Stenner, Sanford-Moore, & Williamson, 2012). Identifying a text's Lexile level is one way to identify the quantitative measure of a text.

However, Fisher and Frey (2014a) claim that readers must also look at more qualitative measures as well. Quantitative measures provide more objective data where qualitative measures take more time to assess the subjective data. Qualitative measures can be narrowed into four categories: Levels of meaning and purpose, structure, language conventionality and clarity, and knowledge demands (Fisher & Frey, 2014a; Fisher, Frey, & Lapp, 2012). Fisher and Frey (2014a) state that assigning a text to a student solely based on a quantifiable measure is not good enough. In assessing qualitative measures, the teacher is also assessing the reader himself. For example, it is important for the teacher to identify needed background knowledge of the reader.

If a reader does not have the needed background knowledge to understand the text proficiently, that given text will be considered more complex for that reader (Fisher & Frey, 2014a).

Qualitative and quantitative measures are not the only factors that determine the complexity of a text (Hodgkinson & Small, July 2018). The third component focuses on the reader himself and the task that has been assigned to him. The reader and task considerations identify variables such as reader interest, motivation, prior knowledge, and prior experience. A reader may choose a particular text based solely on interest level even though it may be a more challenging text due to its quantitative or qualitative measures. Similarly, a reader may choose not to read a particular text based on lack of interest level rather than quantitative or qualitative measures. These factors play a role in how complex a text is perceived by the reader (Armbruster et al., 2001; Fisher & Frey, 2014a; Fisher, Frey, & Lapp, 2012; Fountas & Pinnell, 1996; Hodgkinson & Small, July 2018; Rosenblatt, 1994; Routman, 2003; Shanahan, 2014). Reading tasks can also play a role in whether a text is perceived complex (Hodgkinson & Small, July 2018). More challenging or demanding tasks assigned by a teacher, the level of support offered by a teacher, or the prior knowledge a reader must have to complete the task itself may all influence how a text is perceived by the reader (Armbruster et al., 2001; Fisher & Frey, 2014a; Hodgkinson & Small, July 2018).

Learning to Read a Complex Text

As teachers begin to implement more complex texts in their classrooms, they will need to revise what and how they model reading to their students (Fisher & Frey, May 2015). Fisher and Frey (May 2015) showed eight middle school teachers how to model reading complex texts. As they followed and supported these teachers throughout the school year, they found that the 446 students showed significant gains when their teacher spent time modeling their thinking process

as they read a complex text. Fisher and Frey (May 2015) suggest that teachers model four particular components: Factors of complexity, disciplinary thinking, word solving, and comprehension.

With so much discussion surrounding the importance of complex texts, many teachers question how they should support their students as complexity increases over their lifetime (Fisher & Frey, May 2015). One strategy is close reading. While close reading, students may only focus on a smaller passage from the whole text (Fisher & Frey, May 2015). Brown and Kappes (2012) explain that close reading is when readers are able to investigate smaller passages of text. Readers will investigate the text multiple times, each time focusing on a different literary area such as theme, symbolism, author's point of view, writing structure, etc. As readers practice close reading of a text, they have the opportunity to investigate ideas on multiple levels. For example, if reading a literary text, readers not only understand the surface-level plot structure as characters journey to overcome an obstacle. Rather, close reading allows readers to explore deeper ideas such as character development, the author's writing style, and the impact of figurative language. Once in college, students will be expected to read for these deeper levels of meaning (Fisher & Frey, February 2015).

Close reading shows to be a valuable skill worth learning in the classroom (Fisher & Frey, February 2015). In a 2014 study, 100 middle school students participated in an after-school program that focused on close reading (Fisher & Frey, 2014b). These students outperformed a group of 300 students who did not participate in a close reading program on their state assessment (Fisher & Frey, 2014b). Additionally, younger students showed gains even when they had not yet mastered the basic vocabulary and fluency skills (Williams et al., 2014).

Reading and the ACT

Rasinski, Nageldinger, Yildirim, and Nichols (2016) assessed the correlation between reading fluency, automaticity, and ACT scores. The study included 81 participants who were already enrolled in a college university, 80 of whom were females. Since the participants had already been accepted to a college, it was acknowledged that all participants earned an ACT score of 21 or higher. Though researchers agreed that their participant pool was skewed, they still found statistically significant data. They found a moderate relationship between reading automaticity and both ACT reading and composite scores. The findings indicate that students with higher automaticity tend to receive higher ACT composite and reading scores. Researchers suggest “that an automaticity score of 166.50 [words correct per minute] on college-level narrative texts is associated with an ACT reading subtest score of 25 for college freshmen” (Rasinski, Nageldinger, Yildirim, & Nichols, 2016, p. 5).

Complex texts are not only found in the reading subtest of the ACT. In fact, all questions on the science subtest are related to a reading passage or other stimulus material (ACT, 2019). The ACT science test includes six passages and 40 questions that assess “interpretation, analysis, evaluation, reasoning, and problem-solving” (ACT, 2019, p. 3.12). These same reading skills can be taught, learned, and developed through texts that cover a multitude of disciplines (Shanahan, Fisher, & Frey, March 2012). Other reading skills used to read complex text such as vocabulary, sentence structure, text organization, and background knowledge can be used to better understand texts across multiple content areas as well (Shanahan, Fisher, & Frey, March 2012).

Shanahan and Shanahan (Spring 2008) proposed that disciplinary literacy requires an increased specialization of literacy development. They created a three-tiered pyramid with basic literacy at the base which includes basic literacy skills such as decoding and recognizing high-

frequency words. Intermediate literacy lies in the middle of the pyramid and includes skills such as basic reading fluency and comprehension. Finally, disciplinary literacy falls at the top of the pyramid and includes specialized skills needed to understand texts found in specific areas of discipline such as science (Shanahan & Shanahan, Spring 2008). As readers work their way up this literacy pyramid, they begin to focus and advance their literacy skills (Grant, Fisher, & Lapp, 2015). Readers engaging in science texts learn to interpret graphics, and often read text and charts interchangeably. As they read, they identify patterns in organization and text structure, which are advanced skills from basic fluency and decoding (Grant, Fisher, & Lapp, 2015).

Reading Expectations Beyond High School

Students are not prepared to meet the reading expectations after they leave the high school classroom (Daggett & Pedinotti, 2014; National Research Council of the National Academies, 2012). Colleges are providing an increased number of remedial English courses to support students in their low levels of reading and writing (Daggett & Pedinotti, 2014).

Businesses are growing more frustrated as young employees lack the skills needed to perform their jobs, specifically when it comes to literacy skills. High school educators have tried to close this gap by having their students read more literary, prose-type of texts. However, this becomes part of the problem. In a business, employees read more technical writing rather than literary writing. It is suggested that secondary school educators begin to implement more non-fiction, technical, quantitative texts to their prose-heavy curricula (Daggett & Pedinotti, 2014).

As all 50 states have adopted college and career ready standards, they have also shifted their reading and writing standards to focus more on these postsecondary needs (Daggett & Pedinotti, 2014). In past years, secondary educators would focus on preparing students for either postsecondary schooling or going into the workforce. Reading, writing, and math abilities would

be enforced for those students planning on attending college while students who planned to enter the workforce would spend their time learning basic trades such as machinery or woodworking. As more and more states began to implement CCSS, educators began to focus more on preparing students for both college and career (Daggett & Pedinotti, 2014). Now, rather than focusing on a particular ability, teachers implement more skills-based learning in the classroom. Students master skills such as problem solving and critical thinking, skills that will be important in both college and career (Daggett & Pedinotti, 2014; Matsumara, Correnti, & Wang, 2015; National Research Council of the National Academies, 2012).

In 2014, MetaMetrics, Inc. realigned its Lexile level grade bands to match those with state standards, focusing on preparing students for college and career by the time of completing high school (Daggett & Pedinotti, 2014; MetaMetrics, Inc., 2015). Students in 11th grade and beyond should be reading texts in the 1185L-1385L range. One reason that students may be unprepared for college and career reading expectations lies in the reading material itself. Reading expectations for college and career are vastly higher than in high school. College-level textbooks as well as texts expected to be read in the workforce are found to be of higher complexity than textbooks read in high school. Solely identifying the quantitative measures of texts, it is found that Lexile levels of high school reading material are much lower than material expected to be read postsecondary. For example, only 25% of high school literature is written above the 960L, and 25% of high school textbooks are written above 1140L (Daggett & Pedinotti, 2014). Recall that the goal for college and career readiness begins at 1185L, at least 45L higher than the most complex texts read in high school. In comparing high school texts with postsecondary texts as a whole, it is seen that reading materials used in secondary schools are not allowing students the

necessary reading options to be best prepared for life beyond high school (Daggett & Pedinotti, 2014).

Digital text is a growing expectation in today's workforce (National Research Council of the National Academies, 2012). With social media platforms such as Facebook, Instagram and Twitter, with the rise of blogging, and with digital reports, spreadsheets, presentations, and e-mails, employees are now expected to use their literacy skills more often in many job placements. Not only are reading and writing necessary in a job, but cognitive skills used in literacy such as problem solving and critical thinking are also often sought after by employers (Daggett & Pedinotti, 2014; Matsumara, Correnti, & Wang, 2015; National Research Council of the National Academies, 2012).

Summary and Conclusion

High school students show a lack in reading and writing skills which leads to being unprepared for college and career (ACT, 2006, 2018; Daggett & Pedinotti, 2014; Graham & Hebert, 2010; National Research Council of the National Academies, 2012). As these students enter adulthood, it is found that 90 million adults lack literacy skills needed to be efficient in the workplace (National Research Council of the National Academies, 2012). In 2010, CCSS initiated a movement to better prepare students in reading and math as they leave the secondary education system (ASCD, n.d.; Graham & Harris, 2015). This movement led to every state in the nation adopting "College and Career Ready" to their state standards as they also saw a need for improvement (Daggett & Pedinotti, 2014). Incidentally, common student assessments such as ACT and TCAP became the norm for assessing students' preparedness for college and career (ACT, 2019; Clough & Montgomery, 2015; TN Department of Education, July 2018).

As states began to focus more on literacy, expectations for student writing and reading drastically increased as educators became more intent on preparing students for college and career (National Research Council of the National Academies, 2012). Studies show that reading and writing work together - as students' performance increase in one field, it will also increase in the other (Fisher & Frey, 2013; Graham & Heber, 2010, December 2011). Reading more complex texts proves to help prepare students for reading expectations beyond secondary education (Daggett & Pedinotti, 2014; MetaMetrics, Inc., 2015), and ACT has incorporated this theory as a way to assess students' preparedness (ACT, 2019).

This study examines the relationship between English EOC scores and ACT scores from a single class of students. Though English EOCs predict a student's ACT composite score (TN Department of Education, July 2018), we do not know which of any single English EOC is the strongest predictor of the student's ACT English, reading, and composite scores individually.

CHAPTER 3

Research Method

The purpose of this quantitative study was to identify the relationship between English End of Course (EOC) exams and ACT scores. A secondary purpose was to identify if either of the English EOC exams predicted ACT scores. A third purpose was to identify if any of the individual writing categories of the English EOC exams predicted ACT scores. The purpose of this chapter is to introduce the research methodology used in this predictive correlational study. In addition to the overall methodology procedure, this chapter will also discuss research questions, hypotheses, population, sample, data analysis plan, and ethical procedures so that this study may be replicated by other researchers at any time.

Methodology

Research Question(s) and Hypotheses

This study examined the predictive correlation between English EOC scores and ACT scores. The independent variables were English EOC scores (English 9 and English 10), and the dependent variables were ACT scores (English subscore, reading subscore, science subscore, and composite score). The goal of the study was to determine the presence of a relationship between the two variables, and if so, which EOC test was the strongest predictor of ACT scores. The following are the research questions that guided the study:

RQ1: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT composite scores; and if so, which EOC score acts as the strongest predictor?

RQ2: Is there a significant relationship between students' English 9 and 10 EOC

scores and their ACT reading scores; and if so, which EOC score acts as the strongest predictor?

RQ3: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT English scores; and if so, which EOC score acts as the strongest predictor?

RQ4: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT science scores; and if so, which EOC score acts as the strongest predictor?

RQ5: Is there a significant relationship between students' EOC individual writing categories and their ACT composite score; and if so, which writing category acts as the strongest predictor?

RQ6: Is there a significant relationship between students' EOC individual writing categories and their ACT reading score; and if so, which writing category acts as the strongest predictor?

RQ7: Is there a significant relationship between students' EOC individual writing categories and their ACT English score; and if so, which writing category acts as the strongest predictor?

RQ8: Is there a significant relationship between students' EOC individual writing categories and their ACT science score; and if so, which writing category acts as the strongest predictor?

The independent variable, the English EOC test, is comprised of three subparts that include both literary and nonfiction texts (TN Department of Education, September 2018). Subpart one contains one passage set that could include multiple passages. It also contains three

to five passage-based multiple choice questions and one writing prompt. The written response to the writing prompt is scored using a four-part rubric. The rubric assesses the written response in four categories: Development, Focus and Organization, Language, and Conventions. Students receive a score of 1-4 for each writing category (TN Department of Education, December 2018).

Subpart two contains two passage sets with six to 11 multiple choice or multiple select questions per passage set. Subpart three contains three passage sets, six to 11 items per passage set, and eight to 16 editing items. School districts determine their testing schedule within the state testing window. Students will receive a final score from 1-4, each indicating the level of proficiency they performed on the test: Level 1 indicates Below, Level 2 indicates Approaching, Level 3 indicates On Track, and Level 4 indicates Mastered (TN Department of Education, September 2018).

The dependent variable, the ACT, is comprised of four subparts: English, math, science and reading. Test-takers will receive a score from 1-36 on each subpart, and they will also receive a composite score which is an average of all four subparts. Test-takers also have the option to complete an additional writing subpart. Writing subparts are scored on a scale from 2-12 (ACT, 2019).

Data Collection

The population in this study consisted of high school students in a selected school district in upper East Tennessee. The selected high school was composed of 888 total students for the 2019-2020 school year. The school diversity rate was 3%, and the student:teacher ratio was 15:1 (“Public School Review”, 2019). The sample for this study consisted of the 217 graduates from the class of 2020.

The selected participating high school was identified as a Title I school during a portion of the participating students' tenure. Title I determines that at least 40% of students at a given school are part of low-income families (U.S. Department of Education, 2018). Since the participating school was identified as Title I, this study may be generalizable to other schools with students from low-income families.

The EOC test served as one of the instruments used to gather the data. EOC scores for English 9 and 10 were identified on a scale from 1 to 4 based on a scale score: 1 indicates Below (scale score of 200-306), 2 indicates Approaching (scale score of 307-332), 3 indicates On Track (scale score of 333-346), and 4 indicates Mastered (scale score of 347-450) (TN Department of Education, September 2018). Based on the reported scale scores, an average percentage was calculated and used for this study. The writing subtest of the English EOC test was identified on a scale from 1 to 4 based on the four writing categories: Development, Focus and Organization, Language, and Conventions (Appendix A) (TN Department of Education, December 2018). The Focus and Organization Category assesses students' ability to respond to the prompt in a focused manner as well as the organization of their response. The Development Category assesses students' ability to use textual evidence to further develop and support their response to the prompt. The Language Category assesses students' ability to incorporate domain-specific vocabulary, varied syntax, transition words, and objectivity. The Conventions Category assesses if students demonstrate a clear understanding of English grammar through their writing (TN Department of Education, May 2017). See Appendix A for a list of level 4 criteria.

English EOC scores from 2016-2018 were used in this study. During those years, the TNReady tests across Tennessee were administered in different ways (Burke, April 17, 2018; Farmer, February 17, 2016; Farmer, April 27, 2016; Farmer, July 6, 2016). Historically, students

completed paper-based EOC tests in Tennessee. In 2015, the Tennessee TNReady tests were scheduled to be computer-based for the first time (Farmer, February 17, 2016). As students began their tests, the new online testing platform failed. The new testing vendor also failed to send secondary paper-based tests in a timely manner. In the spring of 2016, TNReady tests were optional, and individual districts would decide whether to test their students (Farmer, April 27, 2016). As Tennessee switched to a different testing vendor for the 2016-2017 school year, each district was given the option to test via computer or paper (Farmer, July 6, 2016). This same year, it was reported nearly 10,000 tests were scored incorrectly (Burke, April 17, 2018). In the spring of 2018, it was reported the new online testing platform was deliberately attacked, though none of students' data was compromised (Burke, April 17, 2018).

Despite the issues with delivery, EOC tests have been found reliable (TN Department of Education, December 2018). Reliability as measured by Cronbach's alpha, for English 9 and 10 tests is 0.88 and 0.89 respectively. Overall, English EOC tests also shown to be accurate and consistent. Accuracy rates run from 0.80 to 0.82 and consistency rates run from 0.73 to 0.76 for English 9 and 10 tests (TN Department of Education, December 2018). The validity coefficient of English EOC tests is calculated through reporting categories: Reading literature, reading information text, language, writing, writing development, writing focus and organization, and conventions. Validity for English 9 EOC tests runs from 0.78 to 0.87 among the reporting categories. Validity for English 10 EOC tests runs from 0.76 to 0.88. (TN Department of Education, December 2018).

The ACT served as a second instrument. ACT scores for the English, reading, and science subparts were identified on a scale from 1 to 36 (ACT, 2019). Composite scores, which indicate the average of all four subparts, were also identified on a scale from 1 to 36. ACT is

administered at high schools and national testing centers. ACT may be administered on paper or computer, though only 10% of tests are administered online (ACT, 2019). Reliability and validity has been demonstrated with ACT scores. Reliability as measured by Cronbach's alpha, for ACT English subpart, reading subpart, science subpart, and composite scores are 0.92, 0.87, 0.85, and 0.97 respectively (ACT, 2019). Validity for the English subpart is at 0.56; validity for the reading subpart is at 0.44; validity for the science subpart is at 0.49; validity for the composite is at 0.61 (ACT, 2019).

Data Analysis Plan

Upon approval from Milligan College's Institutional Review Board (IRB), a consent form outlining the study was sent to the superintendent of the selected school district (Appendix B). Upon approval from the superintendent, a second consent form was sent to the principal of the participating school (Appendix C). At this time, the administrator who oversees testing collected English 9 and English 10 EOC scores of students from the graduating class of 2020. ACT scores from the same group of students were identified from student transcripts provided by a guidance counselor.

Students' names, EOC scores, and ACT scores were combined into one spreadsheet located on a secure, private drive. Using a random sequence generator from Random.org, each student was deidentified with a random number, and student names were deleted from the spreadsheet. All deidentified data were copied into a new spreadsheet, and the original spreadsheet was permanently deleted to avoid the risk of identifying previous changes made to the document. Then, data were exported into the Statistical Package for Social Science (SPSS) for analysis. The data used consisted of EOC scale scores (200-450), EOC writing category levels (1-4), and ACT scores (1-36). The student EOC score report did not clearly identify how

many points a student earned in the Conventions Category solely based on their writing sample, so the Conventions writing category was omitted. The additional three writing categories, Development, Focus and Organization, and Language, were used. To create cohesion among the data, all original test scores were converted to percentages and were used throughout testing in this study. A multiple regression analysis was used to examine the predictive validity of English 9 and 10 EOC scores to ACT composite, reading, English, and science scores, respectively. A multiple regression analysis was also used to examine how accurately the English EOC writing categories predicted ACT composite, reading, English, and science scores respectively.

Ethical considerations were taken to protect the participants and data of this study. Upon receiving data from the participating school, all information was secured in a private drive file. All participants were immediately deidentified to insure confidentiality and potential bias of the researcher. Once the data were deidentified, the information was copied into a new file to eliminate the risk of accessing historical changes. The original file was destroyed. The new file was secured in a private drive where it will remain for five years before being destroyed. No one will have access to this drive other than this researcher.

Summary

The purpose of this chapter was to discuss the methodology of this study. This predictive correlational study examined the relationship between English 9 and 10 EOCs and English, reading, science, and composite scores of the ACT. The following research questions influenced the design of this quantitative study:

RQ1: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT composite scores; and if so, which EOC score acts as the strongest predictor?

- RQ2: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT reading scores; and if so, which EOC score acts as the strongest predictor?
- RQ3: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT English scores; and if so, which EOC score acts as the strongest predictor?
- RQ4: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT science scores; and if so, which EOC score acts as the strongest predictor?
- RQ5: Is there a significant relationship between students' EOC individual writing categories and their ACT composite score; and if so, which writing category acts as the strongest predictor?
- RQ6: Is there a significant relationship between students' EOC individual writing categories and their ACT reading score; and if so, which writing category acts as the strongest predictor?
- RQ7: Is there a significant relationship between students' EOC individual writing categories and their ACT English score; and if so, which writing category acts as the strongest predictor?
- RQ8: Is there a significant relationship between students' EOC individual writing categories and their ACT science score; and if so, which writing category acts as the strongest predictor? T science scores; and if so, which EOC score acts as the strongest predictor?

This chapter discussed the validity and reliability of the measurement tools. Additionally, this chapter discussed procedures for data collection, screening, and analysis. Finally, this chapter discussed ethical considerations taken throughout the study. The purpose of Chapter 4 is to report the analyzed data and how the analysis process followed the steps outlined in Chapter 3.

CHAPTER 4

Results

The purpose of this quantitative study was to identify the relationship between English 9 and 10 EOC scores and composite, reading, English, and science ACT scores. This study also examined if either the English 9 EOC or English 10 EOC predicted ACT scores. Additionally, this study examined if any of the English EOC writing category scores predicted ACT scores. The purpose of this chapter is to share the results found from the analyzed data that answered the following research questions:

- RQ1: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT composite scores; and if so, which EOC score acts as the strongest predictor?
- RQ2: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT reading scores; and if so, which EOC score acts as the strongest predictor?
- RQ3: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT English scores; and if so, which EOC score acts as the strongest predictor?
- RQ4: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT science scores; and if so, which EOC score acts as the strongest predictor?
- RQ5: Is there a significant relationship between students' EOC individual writing categories and their ACT composite score; and if so, which writing category acts as the strongest predictor?

RQ6: Is there a significant relationship between students' EOC individual writing categories and their ACT reading score; and if so, which writing category acts as the strongest predictor?

RQ7: Is there a significant relationship between students' EOC individual writing categories and their ACT English score; and if so, which writing category acts as the strongest predictor?

RQ8: Is there a significant relationship between students' EOC individual writing categories and their ACT science score; and if so, which writing category acts as the strongest predictor?

Demographic Data

The population of this study was from a selected high school in Upper East Tennessee. The high school was composed of 888 students during the 2019-2020 school year. The school diversity rate was 3%, and the student:teacher ratio was 15:1 ("Public School Review", 2019). The selected high school qualified as Title I during the time of the participating students' tenure. Title I indicates that at least 40% of students are part of low-income families (U.S. Department of Education, 2018). The sample for this study consisted of the 217 students who were part of the class of 2020.

Findings

Research Question 1

RQ1: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT composite scores; and if so, which EOC score acts as the strongest predictor?

H₀1: There is no relationship between students' English 9 and 10 EOC scores and their ACT composite scores.

A multiple regression analysis was conducted to determine if there was a relationship between English 9 and 10 EOC scores and ACT composite scores, and if so, which EOC score acted as the strongest predictor of the ACT composite score. A significant regression equation was found [$F(2, 156) = 196.710, p = .001$] with R^2 of .712. This suggests that 71% of the variance of ACT composite scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT composite scores. Beta scores and significance levels are listed in the table below. English 10 EOC scores were the only significant predictor of ACT composite scores. The Null Hypothesis was rejected. Students who scored higher on their English 10 EOC tended to have higher ACT composite scores. The results are displayed in Table 1.

Table 1

Coefficients for English 9 and English 10 EOC Scores

Variables	B	Beta	t	Significance
English 9 EOC	.017	.087	1.825	.070
English 10 EOC	.361	.803	16.778	.001*

Note. *indicates significance at $p < .05$.

Research Question 2

RQ2: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT reading scores; and if so, which EOC score acts as the strongest predictor?

H₂: There is no relationship between students' English 9 and 10 EOC scores and their ACT reading scores.

A multiple regression analysis was conducted to determine if there was a relationship between English 9 and 10 EOC scores and ACT reading scores, and if so, which EOC score acted as the strongest predictor of the ACT reading score. A significant regression equation was found [$F(2, 156) = 151.065, p = .001$] with R^2 of .659. This suggests that 66% of the variance of ACT reading scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT reading scores. Beta scores and significance levels are listed in the table below. English 9 EOC scores and English 10 EOC scores are both significant predictors of the ACT reading scores with English 10 EOC scores being the stronger predictor. The Null Hypothesis was rejected. Student performance on the English 9 and 10 EOCs both showed a positive relationship with ACT reading scores with English 10 scores being the stronger predictor. The results are displayed in Table 2.

Table 2

Coefficients for English 9 and English 10 EOC Scores

Variables	B	Beta	t	Significance
English 9 EOC	.026	.104	1.884	.048*
English 10 EOC	.449	.759	14.488	.001*

Note. *indicates significance at $p < .05$.

Research Question 3

RQ3: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT English scores; and if so, which EOC score acts as the strongest predictor?

H₀3: There is no relationship between students' English 9 and 10 EOC scores and their ACT English scores.

A multiple regression analysis was conducted to determine if there was a relationship between English 9 and 10 EOC scores and ACT English scores, and if so, which EOC score acted as the strongest predictor of the ACT English score. A significant regression equation was found [$F(2, 156) = 152.825, p = .001$] with R^2 of .662. This suggests that 66% of the variance of ACT English scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT English scores. Beta scores and significance levels are listed in the table below. English 10 EOC scores were the only significant predictor of ACT English scores. The Null Hypothesis was rejected. Students who scored higher on their English 10 EOC tended to have higher ACT English scores. The results are displayed in Table 3.

Table 3

Coefficients for English 9 and English 10 EOC Scores

Variables	B	Beta	t	Significance
English 9 EOC	.019	.084	1.599	.112
English 10 EOC	.419	.772	14.793	.001*

Note. *indicates significance at $p < .05$.

Research Question 4

RQ4: Is there a significant relationship between students' English 9 and 10 EOC scores and their ACT science scores; and if so, which EOC score acts as the strongest predictor?

H₀4: There is no relationship between students' English 9 and 10 EOC scores and their ACT science scores.

A multiple regression analysis was conducted to determine if there was a relationship between English 9 and 10 EOC scores and ACT science scores, and if so, which EOC score acted as the strongest predictor of the ACT science score. A significant regression equation was found [$F(2, 156) = 106.236, p = .001$] with R^2 of .577. This suggests that 58% of the variance of ACT science scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT science scores. Beta scores and significance levels are listed in the table below. English 10 EOC scores were the only significant predictor of ACT science scores. The Null Hypothesis was rejected. Students who scored higher on their English 10 EOC tended to have higher ACT science scores. The results are displayed in Table 4.

Table 4

Coefficients for English 9 and English 10 EOC Scores

Variables	B	Beta	t	Significance
English 9 EOC	.013	.063	1.076	.283
English 10 EOC	.341	.729	12.470	.001*

Note. *indicates significance at $p < .05$.

Research Question 5

RQ5: Is there a significant relationship between students' EOC individual writing categories and their ACT composite score; and if so, which writing category acts as the strongest predictor?

H₀5: There is no relationship between students' EOC individual writing categories and their ACT composite scores.

A multiple regression analysis was conducted to determine if there was a relationship between students' EOC individual writing categories and ACT composite scores, and if so, which EOC writing category acted as the strongest predictor of the ACT composite score. A significant regression equation was found [$F(6, 152) = 34.268, p = .001$] with R^2 of .575. This suggests that 58% of the variance of ACT composite scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT composite scores. Beta scores and significance levels are listed in the table below. The English 9 EOC Development writing category and Focus and Organization category, and the English 10 EOC Language writing category were all significant predictors of ACT composite scores with the English 10 EOC Language writing category being the strongest predictor of the ACT composite score. The Null Hypothesis was rejected. Student performance on English 9 EOC Development, English 9 EOC Focus and Organization, and English 10 EOC Language writing categories all showed a positive relationship with ACT composite scores with the English 10 EOC Language writing category being the strongest predictor. The results are displayed in Table 5.

Table 5

Coefficients for English 9 and English 10 EOC Writing Category Scores

Variable	B	Beta	t	Significance
English 9 Development	4.612	.159	1.976	.050*
English 9 Focus and Organization	6.456	.205	2.316	.022*
English 9 Language	-1.682	-.064	-.930	3.54
English 10 Development	.815	.034	.303	.763
English 10 Focus and Organization	3.104	.120	1.041	.300
English 10 Language	10.366	.435	5.499	.001*

Note. *indicates significance at $p < .05$.

Research Question 6

RQ6: Is there a significant relationship between students' EOC individual writing categories and their ACT reading score; and if so, which writing category acts as the strongest predictor?

H₀6: There is no relationship between students' EOC individual writing categories and their ACT reading scores.

A multiple regression analysis was conducted to determine if there was a relationship between students' EOC individual writing categories and ACT reading scores, and if so, which EOC writing category acted as the strongest predictor of the ACT reading score. A significant regression equation was found [$F(6, 152) = 23.614, p = .001$] with R^2 of .482. This suggests that 48% of the variance of ACT reading scores could be explained by the predictor variables. Beta

scores were examined to determine which variable was the most predictive of ACT reading scores. Beta scores and significance levels are listed in the table below. English 10 EOC Language writing category was the only significant predictor of the ACT reading score. The Null Hypothesis was rejected. Students who scored higher on their English 10 EOC Language writing category tended to have higher ACT reading scores. The results are displayed in Table 6.

Table 6

Coefficients for English 9 and English 10 EOC Writing Category Scores

Variable	B	Beta	t	Significance
English 9 Development	3.856	.101	1.141	.256
English 9 Focus and Organization	5.545	.134	1.373	.172
English 9 Language	-.344	-.010	-.132	.896
English 10 Development	-.302	-.009	-.078	.938
English 10 Focus and Organization	7.581	.224	1.755	.081
English 10 Language	11.880	.380	.4351	.001*

Note. *indicates significance at $p < .05$.

Research Question 7

RQ7: Is there a significant relationship between students' EOC individual writing categories and their ACT English score; and if so, which writing category acts as the strongest predictor?

H₀7: There is no relationship between students' EOC individual writing categories and their ACT English scores.

A multiple regression analysis was conducted to determine if there was a relationship between students' EOC individual writing categories and ACT English scores, and if so, which EOC writing category acted as the strongest predictor of the ACT English score. A significant regression equation was found [$F(6, 152) = 36.071, p = .001$] with R^2 of .587. This suggests that 59% of the variance of ACT English scores could be explained by the predictor variables. Beta scores were examined to determine which variable was the most predictive of ACT English scores. Beta scores and significance levels are listed in the table below. English 9 EOC Focus and Organization writing category and the English 10 EOC Language writing category were both significant predictors of ACT English scores with the English 10 EOC Language writing category being the stronger predictor of the ACT English score. The Null Hypothesis was rejected. Student performance on English 9 EOC Focus and Organization and English 10 EOC Language writing categories both showed a positive relationship with ACT English scores with the English 10 EOC Language writing category being the stronger predictor. The results are displayed in Table 7.

Table 7

Coefficients for English 9 and English 10 EOC Writing Category Scores

Variable	B	Beta	t	Significance
English 9 Development	3.901	.112	1.408	.161
English 9 Focus and Organization	10.254	.270	3.099	.002*
English 9 Language	-1.794	-.056	-.836	.404
English 10 Development	4.948	.169	1.549	.124
English 10 Focus and Organization	-.371	-.012	-.105	.917
English 10 Language	12.109	.422	5.412	.001*

Note. *indicates significance at $p < .05$.

Research Question 8

RQ8: Is there a significant relationship between students' EOC individual writing categories and their ACT science score; and if so, which writing category acts as the strongest predictor?

H₀8: There is no relationship between students' EOC individual writing categories and their ACT science scores.

A multiple regression analysis was conducted to determine if there was a relationship between students' EOC individual writing categories and ACT science scores, and if so, which EOC writing category acted as the strongest predictor of the ACT science score. A significant regression equation was found [$F(6, 152) = 20.709, p = .001$] with R^2 of .450. This suggests that 45% of the variance of ACT science scores could be explained by the predictor variables. Beta

scores were examined to determine which variable was the most predictive of ACT science scores. Beta scores and significance levels are listed in the table below. English 9 EOC Development writing category and Focus and Organization category, and the English 10 EOC Language writing category were all significant predictors of ACT science scores with the English 10 EOC Language writing category being the strongest predictor of the ACT science score. The Null Hypothesis was rejected. Student performance on English 9 EOC Development, English 9 EOC Focus and Organization, and English 10 EOC Language writing categories all showed a positive relationship with ACT science scores with the English 10 EOC Language writing category being the strongest predictor. The results are displayed in Table 8.

Table 8

Coefficients for English 9 and English 10 EOC Writing Category Scores

Variable	B	Beta	t	Significance
English 9 Development	5.462	.182	1.981	.049*
English 9 Focus and Organization	6.503	.199	1.974	.050*
English 9 Language	-3.593	-.131	-1.682	.095
English 10 Development	.645	.026	.203	.840
English 10 Focus and Organization	.691	.026	.196	.845
English 10 Language	11.086	.448	4.977	.001*

Note. *indicates significance at $p < .05$.

Summary

The purpose of this study was to present findings following analysis. The sample for this study consisted of the 217 graduates from the class of 2020 of a high school in a selected school district in Upper East Tennessee. This predictive correlational study examined the relationship between English 9 and 10 EOCs with composite, reading, English, and science ACT scores. Additionally, this study examined the relationship between the EOC writing categories with composite, reading, English, and science ACT scores. Eight research questions and eight null hypotheses were addressed. Results show that there was a significant relationship between English 9 and 10 EOCs and composite, reading, English, and science ACT scores. English 9 and 10 EOCs were both predictors of the ACT reading score with English 10 EOCs being the stronger predictor. English 10 EOCs were the only predictor of the composite, English, and science ACT scores. Overall, the English 10 EOC was the greatest predictor of composite, reading, English, and science ACT scores.

Results also show that there was a significant relationship between EOC writing categories and composite, reading, English, and science ACT scores. English 9 EOC Development and Focus and Organization writing categories as well as the English 10 EOC Language writing category were all predictors of the ACT composite scores with the English 10 EOC Language writing category being the strongest predictor. The English 10 EOC Language writing category was the only significant predictor of the ACT reading score. The English 9 EOC Focus and Organization writing category and the English 10 EOC Language writing category were both predictors of the ACT English score with the English 10 EOC Language writing category being the stronger predictors of the ACT English score. The English 9 EOC Development and Focus and Organization writing categories and the English 10 EOC Language

writing category were all predictors of the ACT science score with the English 10 EOC Language writing category being the stronger predictors of the ACT science score. Overall, the greatest predictor of composite, reading, English, and science ACT scores was the English 10 EOC Language writing category.

CHAPTER 5

Discussion, Conclusions, and Recommendations

ACT scores over the past 15 years show students experience difficulty with critical reading (ACT, 2006, 2018a). In 2005, only 51% of test-takers met the benchmarks which indicated they were ready for college and career reading. ACT reported text complexity as the most significant factor in identifying college and career readiness (ACT, 2006). In 2018, the amount of test-takers to reach those benchmarks decreased to 46% (ACT, 2018a). This problem, however, is not solely at the national level. Students in Tennessee continue to demonstrate they also struggle with reading. During the 2017-2018 school year, 29% of English EOC test-takers scored at a level of on-track or mastered which was a decrease from 35% the prior year (Aldrich, 2018). Since 2010, all states have adopted “College and Career Ready” into their standards, and both ACT and EOC are founded in those same standards (ACT, 2006, 2018a; TN Department of Education, July 2018). However, the problem remains that ACT and EOC scores show students’ continued struggle with reading (ACT, 2006, 2018a; Aldrich, 2018).

The purpose of this quantitative study was to identify the relationship between English 9 and 10 EOC scores with composite, reading, English, and science ACT scores. This study also examined if either the English 9 EOC or English 10 EOC predicted ACT scores. Additionally, this study examined if any of the English EOC writing category scores predicted ACT scores.

Summary of the Findings

This study could be divided into two separate sections. First, this study examined the relationship between English 9 and 10 EOC scores with ACT scores. Second, this study examined the relationship with EOC writing categories and ACT scores. Within the scope of these two sections, eight research questions were tested and answered. First, it was found that

English 10 EOC scores were the strongest predictor of composite, reading, English, and science ACT scores. English 9 EOC scores were also a predictor of ACT reading scores with English 10 EOC scores being the strongest predictor. Secondly, the English 10 EOC Language writing category scores were the strongest predictor of composite, reading, English, and science ACT scores. English 9 EOC Development and Focus and Organization writing categories were also predictors of the composite and science ACT scores with the English 10 EOC Language writing category being the strongest predictor.

Interpretation of Findings

In examining the first four research questions, it was found that English 10 EOC scores, when examining English 9 and English 10 scores, were the stronger predictor of composite, reading, English, and science ACT scores. These findings refute current literature. In examining the Tennessee State Standards, English 9 and 10 state standards are combined into a single grade band of standards (TN Department of Education, July 2018). Therefore, if students are learning the same standards two years in a row, it is likely this emphasis could lead to both English 9 and English 10 EOC scores serving as strong predictors of ACT scores rather than a single grade level. It could be argued that by the sophomore year, students had received instruction on the same standards twice and should, therefore, be more proficient in the curriculum.

Additionally, several passages are incorporated in the reading and science ACT subtests, and test-takers are given a limited time frame to read, comprehend, and answer corresponding questions (ACT, 2019). Having a higher automaticity would allow students to complete the subtest more effectively within the time limitation (Rasinski, Nageldinger, Yildirim, & Nichols, 2016). By 10th grade, students have had an extra year of experience with reading overall. This presents students with the opportunity to become more familiar with reading, to be more fluent in

word recognition, and to have a higher level of automaticity. This idea confirms a 2016 study suggesting students with higher automaticity tend to score higher on their ACT reading and composite scores (Rasinski, Nageldinger, Yildirim, & Nichols, 2016). Due to the amount of required reading, this same idea can be applied to the ACT science subtest as well.

In examining the last four research questions of this study, it was found that the English 10 EOC Language writing category, when examining all writing categories, was the strongest predictor of composite, reading, English and science ACT scores. These findings confirm current literature. The EOC writing rubric Language Category scores students' ability to effectively use domain-specific vocabulary, a varied usage of syntax, transitions, and objectivity in their writing (TN Department of Education, May 2017). These writing components are often seen in literature regarding reading, and when modeled by teachers while reading complex texts, students' scores improve (Fisher & Frey, May 2015).

Understanding domain-specific vocabulary and syntax, criteria in the EOC writing rubric Language Category, also tend to play a role in ACT scores. Tennessee State Standards for English Language Arts include vocabulary and sentence structure knowledge which, in turn, become standards that are tested on reading and English ACT subtests (TN Department of Education, July 2018). However, these same criteria are needed to read and understand disciplinary texts in fields such as science. To have disciplinary literacy, one must have an increased specialization of literacy development (Shanahan & Shanahan, Spring 2008). The skills needed to effectively comprehend scientific texts are those that are being scored in the EOC Language writing category.

Limitations of the Study

A limitation that was found during this study was that of the English EOC Conventions writing category: The student EOC score report did not clearly identify how many points a student earned in the Conventions Category solely based on their writing sample. Therefore, the Conventions writing category was omitted as one of the variables altogether. This study did not take external factors into consideration such as students who participated in ACT preparatory courses that may have aided in ACT achievement. This study also did not take into consideration the different teaching styles of the English teachers throughout the course of students' academic careers. This study did not factor in students' attendance, race, age, or gender. No efforts were made within the scope of this study to validate the data beyond what was reported by the participating school. This study was conducted in a single high school in Upper East Tennessee and may not be generalizable to other populations.

Recommendations

This study examined eight research questions. The relationship between English 9 and 10 EOC scores with ACT scores were examined; the relationship between English EOC writing categories and ACT scores were examined. In discussion of the findings, four recommendations for future research were made. Additionally, recommendations for future practice were addressed.

Recommendations for Future Research

Current research suggests that students from lower socioeconomic households encounter far fewer words than those who live in a higher socioeconomic household (Hart & Risley, 1995). By the time these children enter school, they are fundamentally already behind (Jensen, 2009; Schoon, Jones, Cheng, & Maughan, 2012). The subject high school of this study received

Title I status which indicates that at least 40% of students received free and reduced meals due to the household income (U.S. Department of Education, 2018). It is recommended that future research examines the relationship between English EOCs and ACT scores while addressing the students' household income.

Composite English EOC scores and writing language scores were found to be significant predictors of composite, reading, and English ACT scores. Additionally, English EOC scores were also predictors of a non-English-related ACT subtest: Science. Due to the high volume of reading necessary on the science ACT subtest (ACT, 2019), it is understandable that some kind of relationship exists between English and science test scores. Because reading skills are not limited to the English and science curricula, it is recommended that future research examines the relationship between English EOC scores and other subject area EOC scores such as math and social studies. It is also recommended for future research to examine the relationship between English EOC scores and math ACT scores.

Recommendations for Future Practice

The findings from this study may be used to guide educators in better understanding trends in student testing and, therefore, understanding gaps in students' understanding and ability of reading skills. Results from this study showed that a significant relationship occurred between English EOC tests and the ACT. Not only did a relationship exist between English EOC tests and the reading and English ACT subtests, but a relationship also existed between the science ACT subtest as well as the overall ACT composite score. Because reading skills are needed in multiple subject areas other than English, it is necessary that all educators focus on reading skills necessary in comprehending and analyzing complex texts.

It is recommended that educators utilize more complex texts in the classroom and model close reading skills while focusing on improving student automaticity and language skills. First, the ability to read and analyze complex texts can determine who is ready for college-level reading (ACT, 2006). Second, while learning to close read those complex texts, students are able to practice and hone multiple literacy skills that are used in reading texts across numerous discipline areas (Fisher & Frey, May 2015; Kappes, 2012; Shanahan, Fisher, & Frey, March 2012). Third, automaticity skills show to correspond with ACT scores; students with higher automaticity tend to have higher ACT scores (Rasinski, Nageldinger, Yildirim, & Nichols, 2016). Fourth, language skills that include vocabulary and syntactic knowledge are needed in both reading and writing. Students are scored on their ability to use language skills in their writing (TN Department of Education, May 2017), but they are also needed to comprehend more complex texts, specifically non-fiction texts such as science (Grant, Fisher, & Lapp, 2015; Shanahan, Fisher, & Frey, March 2012; Shanahan & Shanahan, Spring 2008). Finally, it is recommended that educators model all of these skills as students who learn through teacher modeling show more significant gains than those students who are not exposed to teacher modeling (Fisher & Frey, May 2015).

Conclusion

Literacy skills impact more than the English classroom. If a student is unable to read, he/she will struggle in all classes, at every grade level, in every subject area. A lack of literacy skills even affects students in college and career. Through this study, it is found that language skills, specifically showcasing language ability through writing, predict ACT test scores not only in reading and English, but also in science. This finding suggests to educators the importance of language skills when it comes to understanding and analyzing complex texts - complex texts that

are required in college and career. It becomes imperative for educators to teach their students the steps needed to read, comprehend, and analyze those complex texts across multiple discipline areas in hopes of better preparing students for life beyond the high school English classroom.

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APPENDICES

APPENDIX A

English EOC Writing Rubric: Level 4 Criteria

Focus and Organization

In response to the task and the stimuli, the writing:

- contains an effective and relevant introduction.
- utilizes effective organizational strategies to create a unified whole and to aid in comprehension.
- effectively clarifies relationships among ideas and concepts to create cohesion.
- contains an effective and relevant concluding statement or section.

Development

In response to the task and the stimuli, the writing:

- utilizes well-chosen, relevant, and sufficient evidence from the stimuli to thoroughly and insightfully develop the topic.
- thoroughly and accurately explains and elaborates on the evidence provided, demonstrating a clear, insightful understanding of the topic, task, and stimuli.

Language

The writing:

- illustrates consistent and sophisticated command of precise language, domain-specific vocabulary, and literary techniques appropriate to the task.
- illustrates sophisticated command of syntactic variety for meaning and reader interest.
- utilizes sophisticated and varied transitional words and phrases.

- effectively establishes and maintains a formal style and an objective tone.

Conventions

The writing:

- demonstrates consistent and sophisticated command of grade-level conventions of standard written English.
- may contain a few minor errors that do not interfere with meaning.

APPENDIX B

Superintendent Permission to Conduct Study

To:

FROM: Natasha Colley

DATE: November 8, 2019

SUBJECT: Superintendent Permission to Conduct Study

I would like your permission to conduct a research study at _____ as part of my doctoral dissertation at Milligan College. I am researching the relationship between English EOC scores and ACT scores in a high school at a selected school district in Upper East Tennessee.

The purpose of this study is to examine the relationship between English End of Course tests and the ACT in a high school in Upper East Tennessee. Specifically, this study will examine the relationship between English 9 and 10 EOC scores and composite, reading, English, and science ACT scores. This study will also determine which English EOC may be the strongest predictor of each of the above ACT elements.

The following forms of data will be collected in the course of this study:

1. English 9 and 10 EOC scores for students in the 2020 graduating class of the school being studied
2. ACT composite, reading, English, and science scores for students in the 2020 graduating class of the school being studied

All data will be for the students who will graduate in 2020. Please understand that the confidentiality of your school district, the selected high school, and all student names is of utmost importance. Know that all names will remain confidential throughout the entirety of this study. Additionally, all information will be kept in a secure file and only this researcher will have access to student information to ensure confidentiality.

Upon your approval, school administrators will be contacted in order to explain the purpose of this study. They will be informed that the school district, school, and student names will remain confidential. Finally, the assistant principal who oversees testing and the school counselors will be contacted. They will also be informed that all names will remain confidential. At this time, it will be requested by the assistant principal and school counselors to help compile data to be used in this study.

Please sign and return one copy of this form to:

Natasha Colley

APPENDIX C

Principal Permission to Conduct Study

To:

FROM: Natasha Colley

DATE: November 8, 2019

SUBJECT: Principal Permission to Conduct Study

I would like your permission to conduct a research study at _____ as part of my doctoral dissertation at Milligan College. I am researching the relationship between English EOC scores and ACT scores in a high school at a selected school district in Upper East Tennessee.

The purpose of this study is to examine the relationship between English End of Course tests and the ACT in a high school in Upper East Tennessee. Specifically, this study will examine the relationship between English 9 and 10 EOC scores and composite, reading, English, and science ACT scores. This study will also determine which English EOC may be the strongest predictor of each of the above ACT elements.

The following forms of data will be collected in the course of this study:

1. English 9 and 10 EOC scores for students in the 2020 graduating class of the school being studied
2. ACT composite, reading, English, and science scores for students in the 2020 graduating class of the school being studied

All data will be for the students who will graduate in 2020. Please understand that the confidentiality of your school district, the selected high school, and all student names is of utmost importance. Know that all names will remain confidential throughout the entirety of this study. Additionally, all information will be kept in a secure file and only this researcher will have access to student information to ensure confidentiality.

I have already received approval from your Director of Schools. Upon your approval, the assistant principal who oversees testing and the school counselors will be contacted. They will also be informed that all names will remain confidential. At this time, it will be requested by the assistant principal and school counselors to help compile data to be used in this study.

Please sign and return one copy of this form to:

Natasha Colley