AN EXAMINATION OF HIGH FREQUENCY WORDS IN THE STAAR END-OF-COURSE EXAMS AND IN AN ENGLISH LANGUAGE ARTS TEXTBOOK

A Thesis

by

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ABSTRACT

Over the past couple of decades, the state of Texas has made numerous amendments to its standardized tests in an attempt to abide by legislation changes as well as its own shifting standards. The latest administration of the STAAR standardized end-of-course exams was released in the Fall of 2013, along with expectations that it fare more successfully than the previous edition of the STAAR. In order to assess one aspect of the test's similarity to what is taught in the classroom, an attempt was made to compare the vocabulary of the STAAR Reading/Writing end-of-course exam to that of commonly used English Language Arts textbooks in Texas. After comparing the most frequently used words in the textbook and the corresponding STAAR exams, it was determined that there is not enough evidence to cite the textbook as the main reason students are failing the STAAR English Language Arts end-of-course exams.

NOMENCLATURE

ELA	English Language Arts
ELL	English Language Learner
STAAR	State of Texas Assessments of Academic Readiness
TEA	Texas Education Agency

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1. INTRODUCTION

High-stakes testing is an integral and highly-disputed part of the American school system. In order to prove their mastery of a subject, students must demonstrate their understanding of the subject through an exam. This must be completed for several school subjects, including English Language Arts (ELA), one of the tests with a low passing rate in Texas (STAAR, 2011).

Texas has gone through many modifications and replacements of standardized tests through the years. In the past couple of decades, Texas has utilized the TAAS (Texas Assessment of Academic Skills), the TAKS (Texas Assessment of Knowledge and Skills), and finally, the STAAR (State of Texas Assessments of Academic Readiness).

The TAAS test was in effect from 1991 to 2002 (Cruse & Twing, 2000). It tested students in three academic areas: reading, writing, and math. Students were tested in grades 3-11. The eleventh grade TAAS test was required for graduation, and numerous opportunities for retesting were provided.

The TAKS test was in effect until 2012, when it was gradually phased out (Cruse & Twing, 2000). It tested students in the following content areas: reading/writing (ELA), math, science, and social studies. It also tested students in grades 3-11.

In 2007, a senate bill was passed which called for end-of-course assessments for specific content areas (Texas Education Agency [TEA], n.d.). English Language Arts was a selected subject, with English I, II, and III requiring end-of-course exams. In Texas, a field test was executed in the spring of 2010, for English I. In the spring of

2011, the English I end-of-course exam was fully operational, and the English II and III exams were being field tested. Spring 2012 was the first year where all subject end-of-course exams were fully operational.

The STAAR test is the latest replacement. It has become somewhat problematic and notorious because it replaced the four tests high school students were required to take with 15 (Blakeslee, 2013). Additionally, Texas lawmakers mandated that the tests count as 15% of a student's final grade in a class, even demanding that students who did not score high enough on the English III and Algebra II exams be ineligible to attend any of Texas' public universities (Blakeslee, 2013). With these oppressive adjustments, Texas experienced backlash from parents, students, teachers, and other educational staff. Among the complaints that arose, many wondered why so many students had failed the first round of STAAR tests. Reportedly, nearly half of ninth and tenth graders in Texas failed the English I and II exams (Stutz, 2013). Dan Patrick, Republican Chair of the Senate Committee on Education, asked Pearson, the company in charge of creating Texas' standardized tests, why this was occurring, as "Pearson had promised that the questions would be tailored to the state's curriculum" (Blakeslee, 2013, p. 1). "Either the teachers and the schools are doing a poor job of teaching the curriculum, or you all are incorrect that these tests are accurate tests," Patrick suggested as he addressed Pearson at the Texas state capitol on February 2013 (Blakeslee, 2013, p. 1).

In an effort to address the immediate issues experienced during implementation of the STAAR, Texas has now reduced the number of tests to five (English I, English II, Algebra I, United States History, and Biology) (TEA, 2011). This legislation occurred

Summer 2013 and will be in effect Fall 2013. Forty percent of a high school student's tests are ELA; a student must pass their ninth grade English I end-of-course exam and their tenth grade English II end-of-course exam in order to graduate. Standardized tests are no longer taken into account when calculating a student's overall class grade; the STAAR does not affect a student's final grade.

Additionally, there can be no modified versions of the STAAR (such as the STAAR-Modified or STAAR-L). The U.S. Department of Education decided that after the 2013-2014 school year, states cannot provide or utilize modified versions of standardized tests (TEA, 2011). For English language learners (ELLs), the only ELA requirement is that they pass the English II end-of-course exam.

Statement of the Problem

The concern that remains is if students will be able to meet the newly set standards. If students cannot conform to the test, how will the state of Texas react? Will standards be lowered, will the test be revised, or will the currently utilized textbooks be changed, through modification or replacement? Although the STAAR test has been reconditioned, students are currently still utilizing the same textbooks. No researcher has reviewed any textbook in relation to the vocabulary on the ELA end-of-course exam for STAAR.

Purpose of the Study

The purpose of this study was as follows. I attempted to determine how closely the textbooks students use to prepare for the STAAR resembled the STAAR Reading/Writing end-of-course exam for English II by comparing the vocabulary words

in the STAAR to those in the student textbook. Knowledge of the most commonly used words in the STAAR may notably improve a student's vocabulary and may advance reading comprehension, significantly augmenting end-of-course scores.

Research Questions

In this study, I intended to answer the following research questions:

1. What are the most commonly used/high-frequency words in the STAAR English II end-of-course exam? What are the most commonly used/high-frequency words in the English II ELA textbook?

2. How similar are the vocabulary words (high-frequency) in the Reading/Writing (English II) STAAR end-of-course exams and the current, grade-appropriate textbook used in schools in Texas?

High-Frequency Vocabulary Methodology

In this study, I attempted to measure the similarities between the vocabulary words in currently-utilized textbooks in English II classes and vocabulary words in the released STAAR ELA (Reading) end-of-course exams. Although the latest version of the ELA STAAR for English I and English II combines reading and writing, the former, released versions of the STAAR separated them. Both the Reading and Writing end-of-course exams released on the Texas Education Agency (TEA) website were used for the comparison. The similarities and differences in vocabulary were determined by comparing the high-utility/high-frequency, or the most commonly used, words in each individual entity.

The End-of-Course Word List consists of the words which occur most frequently in the released portions of the STAAR End-of-Course exams for English II (Reading and Writing). The April 2013 ELA exams were fully released, with the exception of a couple of passages which were excluded from the official, released versions due to copyright restrictions. Additional sample passages and questions from the 2011 tests have also been released. The End-of-Course Word List compiled included both the passages and the questions from the exams.

The lists (textbook and STAAR) do not include a large portion of the highest frequency words in written and spoken English, which comprise approximately 90-95% of spoken English and 80% of written English (Hornbeck, n.d.). For this exclusion, only the top 1200 most common words in the English language were taken into consideration and removed from this list.

The logic utilized in the eradication of certain words already commonly used in the English language is as follows: it was necessary for the production of the list to only include words that may have been recently learned in the student's educational career, and not words which are so mainstream that the student may readily define them. Including common words and Tier I words might have skewed the accuracy and practicality of the lists, as many simple and familiar words, such as boy, happy, and tree, while they may have a high frequency, do not present a significant vocabulary challenge.

Furthermore, I attempted to reduce the lists by removing Tier 3 words, including only Tier 2 words and some Tier 1 words. The unique tiers are presented in Table 1 (Beck, McKeown, & Kucan, 2002):

Table 1. Vocabulary Tiers and Examples

Tier	Examples
TIER 1: Basic Vocabulary	Most basic words **Examples**: boy, happy, tree
TIER 2: High Frequency/Multiple Meaning Vocabulary	High frequency words which occur across several domains **Examples**: proficient, reinforcement, apprehensive
TIER 3: Low Frequency/Context-Specific Vocabulary	Low frequency words which occur in specific domains **Examples**: photosynthesis, chromosome

Examples of Tier 3 words included in the STAAR end-of-course exam which were removed from the list are: laparoscopic and psychology. Additionally, words which appeared on the exams or textbook but were not intended to educate or assess the student were removed. Examples include: copyright, permission, and assessment.

Limitations and Delimitations

The limitations and delimitations encountered were the following. Due to the dynamic nature of the STAAR tests' evolution, there was certain data that could not currently be obtained. Additionally, the information contained within this thesis may only apply for a brief period of time, as the STAAR test continues to be modified.

As of Fall 2013, the ELA STAAR is a combined reading and writing test, whereas previously, the two were separate tests. In order to measure the similarity between the vocabulary in the STAAR and the related textbook, I chose to combine the reading and writing tests into one.

Organization of the Thesis

The rest of this thesis is organized as follows. Section 2 reviews publications related to the topic of this thesis. Section 3 describes the methodology utilized in the process of comparing the STAAR exams to the ELA textbook. In Section 4, I describe the results of my work. The research questions are also addressed in this chapter. Section 5 provides a conclusion, as well as explanations of how this information can be utilized. Possible future work is also described.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Although the STAAR exams do not directly assess vocabulary, word knowledge affects text comprehension and test performance. Researchers categorize vocabulary in two unique elements: breadth and depth (Alavi & Akbarian, 2012). The breadth, or size, of a student's vocabulary may impact the student's performance on any exam which involves significant reading comprehension. Alavi and Akbarian (2012) stated that vocabulary size is an important indicator of both academic and reading success. Vocabulary breadth affects text coverage, which is the "percentage of running words known by the reader" (Alavi & Akbarian, 2012, p. 377). If a student possesses a 90% text coverage, the student recognizes all but 10 words in a paragraph of 100 words. In a study conducted by Hu and Nation (2000), it was determined that their group of students needed a 98% text coverage to adequately understand a text.

Another way to classify vocabulary is as oral, written, receptive (words one knows when they encounter them) and productive (words one uses) (Graves, 2006, p. 11). For ELA test completion, a student must access his/her written-productive and written-receptive vocabularies. Students must also recognize when they do not know a word, and must possess either the discipline to look the word up in the dictionary or the deduction skills necessary to determine a word's meaning through strategies such as context clues. For the most part, the students are using their written-receptive vocabulary to understand what they are reading in the STAAR. But knowing a word's meaning is not easily definitive. Beck, McKeown, and Kucan (2002) suggested that true understanding of a word's meaning follows a five stage continuum:

- No knowledge
- General sense, such as knowing *mendacious* has a negative connotation
- Narrow, context-bound knowledge, such as knowing that a *radiant* bride is a beautifully smiling happy one, but unable to describe an individual in a different context as radiant
- Having knowledge of a word but not being able to recall it readily enough to use it in appropriate situations
- Rich, decontextualized knowledge of a word's meaning, its relationship to other words, and its extension to metaphorical uses, such as understanding what someone is doing when they are *devouring* a book. (p. 10)

"People who do not know the meanings of many words are probably poor readers" (Anderson & Freebody, 1983, p. 244). If a student has sufficiently inferior text coverage and a shallow written vocabulary, the student may be stopping frequently throughout the text, every time s/he encounters an unknown word. The student may pause and attempt to determine the word's meaning, or these unknown words may only initially affect a student's fluency as the student continues to read, leaving the words unexplored. In either case, these reading gaps and interruptions in thought negatively affect the student's reading comprehension.

While all students encounter words they do not recognize, strong readers know how to approach the situation so that they are not at a severe disadvantage. Strong readers use strategies to determine an unknown word's meaning; Irvin (2001) listed some of those strategies as: skipping the word and reading on, re-reading, sounding out

the word to determine if they know it, guessing at what type of word could replace it, and associating the word's parts (root word, affixes) with words they know (p. 37).

Strong readers are also at an advantage because of their ability to learn words incidentally. In a study conducted by Swanborn and de Glopper (2002), incidental word learning was examined among a group of sixth graders. They found that low-ability readers hardly learned any new words incidentally while high-ability readers learned up to 27 out of every 100 unknown words. This is important to note because, according to Graves (2006), an average twelfth grader knows "something like 50,000 word families" (p. 14). In order to achieve this number, a student would have to learn 3 to 4 thousand words per school year. However, teachers only present 300 to 400 words a year (Stahl, 1991). According to Kuhn and Stahl (1998), the students must learn the remaining words incidentally. This is not likely to successfully occur for all students when an adept reader learns up to five times more words through reading than a poor reader (Kuhn & Stahl, 1998).

Schmitt, Jiang, and Grabe (2011) argued that there is a linear relationship between how much a student comprehends a text and how many words in the text they recognize and understand. Students may be failing their English end-of-course exam due to their low text coverage, shallow vocabulary breadth, and lack of vocabulary strategy use, and this is all further exacerbated by what is, and is not, occurring in the classrooms.

Research-based Practices and Their Occurrence in the Classroom

"Current practices in teaching word meanings—techniques such as dictionary practice, matching synonyms and antonyms, study of word origins and word parts, and the use of context—have no established theoretical basis" (Gipe, 1978, p. 626). Although they are a common classroom occurrence, searching for an unknown word in a dictionary or memorizing word definitions does not actually aid text comprehension (Irvin, 2001). There are several key points researchers focus on:

vocabulary instruction should be focused on Tier 2 words

vocabulary instruction should be an interactive and multi-faceted process wherein the student builds a relationship with the word

vocabulary instruction should involve teaching word-learning strategies.

Tier 2 words are "high-frequency words for mature language users—and thus instruction in these words can add productively to an individual's language ability" (Beck, McKeown, & Kucan, 2002, p. 16). Beck, McKeown, & Kucan, authors of *Bringing Words to Life* recommended teaching Tier 2 words, because they are almost as common as Tier 1 words but not as difficult as Tier 3 words, which a student is unlikely to encounter.

While providing definitions for words is necessary, one must also provide contextual information (Graves, 2006, p. 69). If a student is to build a relationship with a word, the student must also be involved in mental immersion and meaningful processing of the word (Graves, 2006, p. 69). This refers to activities such as discussing background knowledge, relating the word to other words in the student's vocabulary,

and completing creative activities with the word. Additionally, the student must receive repeated exposure to the word if one is determined to commit it to long-term memory. This involves reviewing, rehearsing, and reminding students about the word in various contexts over time (Graves, 2006, p. 69). The word-learning strategies one utilizes in the classroom should also be taught to students so that they use them when reading on their own. Other strategies one can use are: building word maps with related words or drawing a picture which defines the word.

Students should be taught to observe context clues and word parts when attempting to define an unknown word. If a student cannot infer a word's meaning, s/he may use the dictionary, but Graves (2006) recommended teaching students how to use the dictionary. In 1987, Miller and Gildea conducted a study where fifth and sixth graders generated sentences based on words with corresponding dictionary definitions. It was found that over 60% of the sentences students formed were judged to be odd. Beck, McKeown, and Kucan (2002) placed part of the blame on the fact that dictionary definitions must be concise to conserve space. They recommended talking through definitions with students so that, instead of just accepting a word's confusing dictionary definition, the student learns to use the provided definition to form a student-friendly one (Beck, McKeown, & Kucan, 2002).

Classroom Practices

While the numbers of vocabulary research studies conducted on high school students are scarce, there are studies on vocabulary and reading instruction in elementary and middle school classrooms.

Over the past 30 years, several researchers have studied vocabulary instruction in schools as well as vocabulary practices in basal reading programs, finding similar patterns of student behavior and a lack of vocabulary instruction on the teacher's part. Durkin (1979) studied fourth grade classrooms, finding that out of 4,469 minutes of observation, only 19 minutes were allotted for vocabulary instruction and 4 for vocabulary review. Beck, McCaslin, and McKeown (1980) observed third through sixth graders either skipping an unknown word or looking it up in the book's glossary. Durkin (1981) observed that limited attention was provided for vocabulary instruction in kindergarten to sixth grade teacher manuals. Roser and Juel (1982) investigated first through fifth grade classrooms, discovering that only 5% of total minutes observed in the classroom were devoted to vocabulary instruction. Jenkins and Dixon (1983) found that fourth graders in their study only learned about 300 words per year. Blanton and Moorman (1990) found that fourth grade teachers provided definitional vocabulary instruction 56% of the time. Watts (1995) observed third and sixth grade classrooms within a school and found that 87% of vocabulary instruction in these classrooms was definitional. Harmon, Hedrick, and Fox (2000) paid special attention to social studies textbook teacher manuals in Texas for grades 4 through 8. They found that while the books did focus on vocabulary, the vocabulary activities were dated and not reflective of modern vocabulary theory. The books' vocabulary activities were not sufficiently engaging, instead providing definitional and word-matching activities. Scott, Jamieson-Noel, and Asselin (2003) observed fourth through eighth grade classrooms in Canada. They found that 12% of the time designated to literacy activities was vocabulary-based,

but the time was spent on definitional vocabulary instruction and assigning vocabulary words for the students to learn. Hedrick, Harmon, and Linerode (2004) sent self-report surveys to fourth through eighth grade teachers to compare their knowledge of vocabulary research with typical practice. They found that although these teachers were aware of what modern research reports on best vocabulary practices, the teachers adhered to their textbook's methods of teaching vocabulary, which involved practices such as word/definition matching and memorizing of definitions. What these teachers self-reported and what all of these studies have in common is the following: When it comes to vocabulary, there is a disparity between what we recognize as effective instructional practice and what actually occurs in the classroom (Greenwood, year). Looking words up in the dictionary or glossary is a prevalent instructional practice despite the fact that this activity, as well as memorizing definitions, leads to a depthless and short-lived understanding of the word (Greenwood, year, p. 258). This practice of vocabulary instruction should be deemed unsatisfactory; "vocabulary curricula need to be derived from principles that are grounded in research and theory, if the many American students at or below basic standards on state and national tests are to read at acceptable levels" (Hiebert, 2005, p. 244?).

Lubliner and Smetana (2005) conducted a study in which fifth grade students in a Title I school in California were exposed to 12 weeks of vocabulary intervention. After the 12 weeks, the students' reading comprehension was compared to that of a group of fifth graders in a nearby "above average" school. "Strong gains in reading comprehension and vocabulary achievement and increased metacognitive skills were

documented following the 12-week vocabulary intervention" (Lubliner & Smetana, 2005, p. 163). Because of the 12-week vocabulary intervention, the Title I students had narrowed the achievement gap that separated them from the fifth-graders in the "above average" school.

According to Harmon (2002), many middle and high school teachers realize that students struggle with reading due to their limited vocabulary. Despite this, there is very little vocabulary instruction taking place in schools (Biemiller, 2001). Students don't need more content-specific vocabulary instruction, but "vocabulary instruction that is generative so they are learning how to learn new words they encounter during independent literacy experiences" (Allen, 2006, p. 17). Students need to acquire the ability to learn vocabulary from what they are reading (Sternberg, 1987). Even if a student encounters an unknown word in the STAAR, s/he must possess the ability to effectively deduce its meaning without having to look it up. Furthermore, as students are provided a dictionary for use during the STAAR, students must be able to determine when they do not accurately understand the meaning of an unknown word in the text.

Conclusion

For ELLs and struggling readers, this process may be more daunting. Precious research suggests that many Hispanic children suffer from poor reading comprehension due to their limited vocabulary (Carlo et al., 2004, p. 191). Students who already experience significant difficulties when reading any text may become overwhelmed by Matthew Effects: "In terms of vocabulary development, good readers read more,

become better readers, and learn more words; poor readers read less, become poorer readers, and learn fewer words" (Lehr, Osborn, & Hiebert, 2001, p. 2).

Ortlieb, Grandstaff-Beckers, and Cheek (2012) found that one significant problem for struggling readers is that unknown vocabulary words are challenging to decode and are usually unfamiliar. Since 1970, the number of ELLs has tripled (Collins, 2010, p. 84). Ortlieb et al. (2012) stated that as minority populations continue to rise, utilizing antiquated methods previously designed for Caucasian students is not effective for today's diverse population. The newest version of the STAAR end-of-course exam includes all populations under one exam, discarding unique versions of its tests, some of which catered specifically to ELLs. Are textbooks going to provide sufficient preparation for all students in regard to the new and inclusive English II end-of-course exam?

Standardized tests at the high school level represent one of the most momentous events in a student's career, as they are exit exams; passing them is required for graduation. Despite this fact, there is a dearth of research pertaining to reading comprehension in high school students. The belief is that by the time a student reaches high school, s/he will have learned all of the strategies necessary for mastering reading comprehension of any text type. The accuracy of this assumption is heavily challenged by the many students who have failed the STAAR ELA end-of-course exams. Additionally, while many textbooks use antiquated vocabulary strategies, they are still the primary source of vocabulary instruction in many classrooms.

The Writing exam proves to be the most daunting threat for students. Only a little over half of students in Texas passed the Writing exam, which is now part of the English end-of-course exam (Stutz, 2013). The end-of-course exams are increasing in difficulty, and students and teachers must find a way to effectively prepare.

Summary

There is much research which describes the differences between good and poor readers, and the profound advantages good readers possess. There is also research which provides information regarding how to properly teach vocabulary to all students. Teachers, for the most part, are aware of the research-based practices. However, their actions in the classroom do not reflect this knowledge.

3. METHOD

Although there are a myriad of approaches one can take in determining the validity of a standardized test, I chose to assess the latest version of the English II STAAR on the basis of its vocabulary, and its similarity to the vocabulary in a tenth grade (English II) ELA textbook.

Procedure

The vocabulary aspect was selected because for many years, vocabulary has been perceived as a determinant of academic and reading success (Biemiller, 2003). Sternberg (1987) stated that "vocabulary is probably the best single indicator of a person's overall level of intelligence" (p. 90). In other words, a student's reading success may be predicted by their vocabulary level (Sternberg, 1987). Basically, vocabulary is an easy and reliable way to assess a student's understanding of text.

Lehr, Osborn, & Hiebert (2001) stated that text comprehension and a student's vocabulary knowledge are closely associated. Therefore, if vocabulary which appears in a textbook also appears in the corresponding test, a student who acquires the vocabulary from the textbook should be able to pass the test (not accounting for other issues which may impede a student's ability to complete the test).

STAAR Reading and Writing End-of-course Exams

Texas Education Agency (TEA) releases its standardized tests after they have been utilized in the schools; it provides them on its website. If one searches the TEA website, one can find the latest STAAR tests and former STAAR and TAKS tests for all

subjects assessed. TEA provides all information possible; occasionally, certain texts on the STAAR Reading or Writing exam are not available due to copyright issues.

The tests most recently issued, the Spring 2013 STAAR Reading and Writing exams, were the versions utilized for the word frequency counts. Both the reading and writing tests were used because beginning in Fall 2013, these tests are combined into one exam. Both exams were wholly available on the TEA website, with no text omissions.

The tests were downloaded and combined into one Microsoft Word document. Words such as STAAR and copyright were deleted in order to maintain the validity of the actual document when counting word frequency. The document was then copied and pasted onto a word frequency counting site, WriteWords. One can paste any document into the WriteWords site and WriteWords compiles a list of all words in the document, from most frequently used to least frequently used. WriteWords also provides the word frequency. Once WriteWords produced a list of words for the Reading and Writing STAAR tests combined, this list was then reduced. It was edited for both exceedingly basic and complex words, or Tier 1 and 3 words. Proper nouns were also removed. Tier 1 words were determined by removing the 1200 most common words in the English language. The list was further reduced to the top 175 words which appeared on the ELA end-of-course exams. It was determined that words which appeared two or less times on the STAAR did not appear frequently enough to be considered impactful. The words on the final end-of-course list are words which appeared on the STAAR tests three or more times. In order to be able to compare the STAAR end-of-course list to the most frequently utilized words in the textbook, the textbook's list was also reduced to 175.

Prentice Hall Literature Texas ELA Textbook, Grade 10

A copy of an ELA textbook was obtained in CD-ROM format: Pearson/Prentice Hall's *Literature Texas: Language and Literacy*, Grade 10, published in 2011. This is the book currently being used in many Texas high schools. The book was downloaded in small web format (SWF) data files, where one SWF file is equivalent to one page in the textbook. These files were then individually screen shot and converted to portable network graphic (PNG) files via a macros program called "Keyboard Maestro". Once the book was fully converted to PNG, the files were combined into one portable document format (PDF). Using Adobe Acrobat Pro, the PDF was converted into a Microsoft Word document. In Word, the book was edited for consistency: the text was formatted to Times New Roman size 12. Once this was completed, the document was cut and copied into WriteWords. The same procedure utilized for reducing the words in the STAAR list was then applied until only 175 words remained.

Data Analysis

In this study I intended to address several questions. The first was to determine the most frequently encountered words in the STAAR English II End-of-course exam as well as the most frequently encountered words in the corresponding English Language Arts textbook for high school sophomores. The lists were compiled by two separate word counts conducted on each item.

Tables 2 and 3 contain the lists of 175 most frequently used words in the STAAR Reading and Writing End-of-course exams and the ELA textbook. Words are listed with the most frequently used at the top, and the least frequently used at the bottom. The

number of times the word was observed in its respective medium also appears next to the word. Words are naturally separated by their frequency, most visibly noticeable when examining the STAAR list; the bottom group is the set of words which appeared three times in the STAAR end-of-course exams. Within each group, the words are alphabetized.

In order to compare the two lists for similarity, the words which appeared on both lists have been highlighted. These words were gathered into one list, Table 4. This list contains the words which appear on both the STAAR's top 175 and the textbook's top 175. Words did not have to be exact in order to be considered the same. If words were off by one letter (most likely due to plurality), they were regarded as the same word. If words were off by more than one letter, they were regarded as different words, or unique and separate entities. Basically, the term word refers to word families. For example, low and lowly would not be considered the same, but star and stars would. This occurred several times with singular and plural nouns, as evidenced by the /s at the end of the word on the list in Table 4.

Third, I determined how similar the lists of words were for the STAAR and the textbook. Two Pearson *r* correlations were computed to assess the following relationships: the strength of the relationship between the 66 most frequently used words in the STAAR end-of-course exams and their frequency in the entire textbook, and the strength of the relationship between the 50 most frequently used words in the textbook and their frequency in the STAAR Reading and Writing end-of-course exams. The numbers (n) are as close to 50 as they can be; as the groups of words are categorized by

frequency, the only way to divide them is to stop at the end of a frequency group. The 66 STAAR words end with the last word in the 5-count frequency group, and the 50 textbook words end with the last word in the 151-count frequency group. These lists are displayed in Tables 5 and 6.

Summary

In order to answer my research questions, I compiled several tables of data. One table contained the most frequently used words in the STAAR exam. The second table contained the most frequently used words in the textbook. The next tables limited these lists to words which appeared more frequently than twice in order to effectively compare the lists. Pearson *r* correlations were used to determine the strength of this relationship. Lastly, a list containing words common to both the STAAR exam and ELA textbook was compiled.

Table 2. Top 175 Words in the STAAR and Their Frequency

Frequency	STAAR Word	Frequency	STAAR Word	Frequency	STAAR Word
59	sentence	6	incisions	4	docile
35	code	6	published	4	electronic
21	paragraph	6	quotation	4	evidence
21	talkers	6	searches	4	heroism
17	information	6	speakers	4	indicate
16	document	6	versus	4	innate
16	following	6	workers	4	interested
16	surgery	6	working	4	kindness
15	author	5	began	4	management
14	results	5	canine	4	marble
14	selection	5	cards	4	obedient
13	personal	5	computer	4	passion
12	found	5	courier	4	photograph
12	internet	5	cultures	4	plays
12	technology	5	dinosaurs	4	plot
11	surgeon	5	effective	4	previous
10	journal	5	immersion	4	retrievers
10	military	5	innovators	4	robotic
9	comma	5	inserts	4	role
9	digital	5	monolingual	4	speaker
9	insert	5	openings	4	surgical
9	lifeguards	5	outperformed	4	swamp
9	reader	5	rescue	4	talker
9	speaking	5	residents	4	tweaks
9	written	5	retirement	4	unable
8	communication	5	selections	4	understood
8	native	5	significantly	4	valuable
8	research	5	stainless	4	weighs
8	sentences	5	steel	3	accessible
7	rods	5	united	3	according
7	spark	5	vocabulary	3	advances
6	communicate	4	baits	3	affect
6	educational	4	carefully	3	against
6	employers	4	challenges	3	agency
6	golden	4	created	3	allow

Table 2. continued

Frequency	STAAR Word	Frequency	STAAR Word
3	among	3	improved
3	ancestors	3	included
3	article	3	industry
3	attention	3	launched
3	bodyguard	3	lonely
3	camera	3	media
3	characteristics	3	nil
3	clandestine	3	online
3	clicked	3	paragraphs
3	communications	3	position
3	complex	3	promising
3	computers	3	providing
3	connection	3	reason
3	contribution	3	rescues
3	correct	3	revise
3	correctly	3	secrets
3	curious	3	send
3	custom	3	sense
3	data	3	servants
3	decisive	3	set
3	delete	3	show
3	deleted	3	situation
3	detail	3	size
3	develop	3	special
3	dining	3	spelling
3	discovered	3	success
3	doctors	3	suggests
3	drive	3	summary
3	effort	3	surgeons
3	engines	3	telegram
3	establish	3	transition
3	except	3	true
3	express	3	typical
3	flowered	3	velvet
3	former	3	wealth

Note: These are the most frequently used words in the 2013 Reading and Writing STAAR (*highlighted words are common to both lists)

Table 3. Top 175 Words in Textbook and Their Frequency

Frequency	STAAR Word	Frequency	STAAR Word	Frequency	STAAR Word
760	writing	181	context	115	setting
564	vocabulary	180	viewing	114	graphic
473	analyze	175	contrast	114	workshop
456	text	174	theme	112	essays
429	essay	173	understanding	110	convey
392	analysis	169	conclusions	110	devices
385	information	168	draft	104	appropriate
373	sentence	164	found	103	conclusion
352	evidence	163	consider	103	permission
321	purpose	157	response	99	meanings
312	poetry	156	interactive	99	positive
303	character	154	heroes	94	oral
303	poem	152	structure	94	personal
291	answer	151	mood	94	strategies
291	research	151	topic	93	controlling
280	critical	147	plot	93	statement
278	identify	147	sources	93	summarize
269	evaluate	145	style	92	connection
268	questions	139	background	91	epic
264	focus	139	conventions	91	techniques
255	tone	139	inferences	91	textual
244	meaning	136	complex	89	pronoun
233	conflict	133	narrative	88	clauses
230	audience	133	persuasive	88	interpret
230	characters	131	argument	88	partner
226	chart	131	media	88	presentation
221	fiction	127	speaker	86	arguments
220	effect	126	tragedy	86	relevant
210	determine	125	cultural	84	finally
210	nonfiction	120	logical	84	reality
196	specific	119	paragraph	82	audio
195	images	118	informational	82	dreamers
194	comprehension	118	revise	82	effective
186	selection	116	phrases	81	clause
184	elements	115	comparing	81	figurative

Table 3. continued

Frequency	STAAR Word	Frequency	STAAR Word
80	whose	63	technical
78	paraphrase	62	consult
77	attitude	62	diction
77	historical	62	ledge
77	major	62	prewriting
77	perspective	62	strategy
77	sword	62	whom
76	academic	60	according
76	organization	60	correctly
76	similar	59	archetypes
75	noble	59	brief
75	rhetorical	59	irony
74	debate	59	revising
73	definition	59	spiral
72	beginning	58	infer
72	dramatic	58	quickly
71	monitor	58	tide
70	development	57	compound
70	range	57	description
70	source	57	narration
69	affect	57	organizers
69	culture	57	resolution
69	jazz	56	communication
69	suddenly	56	imagery
68	dialogue	56	prompt
68	synthesize	56	psyche
67	insight	56	quotation
67	longitude	55	level
66	genre	55	memory
66	role	55	pocket
65	directly	55	relationship
65	independent	55	responses
65	plebeian	55	scurvy
65	poetic	55	wart
63	format	55	working

Note: These are the most frequently used words in the Prentice Hall Literature Texas textbook, Grade 10

Table 4. The 23 Words Common to Both STAAR and Textbook Lists and Their Frequency

Word	STAAR Frequency	Textbook Frequency
according	3	60
affect	3	69
communication/s	11	56
complex	3	136
connection	3	92
correctly	3	60
culture/s	5	69
effective	5	82
evidence	4	352
found	12	164
media	3	131
paragraph/s	24	119
personal	13	94
plot	4	147
quotation	6	56
research	8	291
revise	3	118
role	4	66
selection/s	19	186
sentence/s	67	373
speaker	10	127
vocabulary	5	564
working	6	55

Table 5. Top 50 Textbook Words

Frequency	Word	Frequency	Word
760	writing	226	chart
564	vocabulary	221	fiction
473	analyze	220	effect
456	text	210	determine
429	essay	210	nonfiction
392	analysis	196	specific
385	information	195	images
373	sentence	194	comprehension
352	evidence	186	selection
321	purpose	184	elements
312	poetry	181	context
303	character	180	viewing
303	poem	175	contrast
291	answer	174	theme
291	research	173	understanding
280	critical	169	conclusions
278	identify	168	draft
269	evaluate	164	found
268	questions	163	consider
264	focus	157	response
255	tone	156	interactive
244	meaning	154	heroes
233	conflict	152	structure
230	audience	151	mood
230	characters	151	topic

Table 6. Top 66 STAAR Words

Frequency	Word	Frequency	Word
59	sentence	6	employers
215	code	6	golden
21	paragraph	6	incisions
21	talkers	6	published
17	information	6	quotation
16	document	6	searches
16	following	6	speakers
16	surgery	6	versus
15	author	6	workers
14	results	6	working
14	selection	5	began
13	personal	5	canine
12	found	5	cards
12	internet	5	computer
12	technology	5	courier
11	surgeon	5	cultures
10	journal	5	dinosaurs
10	military	5	effective
9	comma	5	immersion
9	digital	5	innovators
9	insert	5	inserts
9	lifeguards	5	monolingual
9	reader	5	openings
9	speaking	5	outperformed
9	written	5	rescue
8	communication	5	residents
8	native	5	retirement
8	research	5	selections
8	sentences	5	significantly
7	rods	5	stainless
7	spark	5	steel
6	communicate	5	united
6	educational	5	vocabulary

4. RESULTS

Research Questions

Three research questions were addressed in this study:

1. *What are the most commonly used/high-frequency words in the STAAR English II end-of-course exam? What are the most commonly used/high-frequency words in the English II ELA textbook?*

The lists for the most commonly used/high-frequency words for the STAAR and ELA textbook were compiled and can be found in Tables 2 and 3.

2. *How similar are the vocabulary words (high-frequency) in the Reading/Writing (English II) STAAR end-of-course exams and the current, grade-appropriate textbook used in Texas schools?*

Out of the two lists of 175 words, there were only 23 similar words; the STAAR and textbook lists only contained 23 of the same words. This is a 13% overlap of similarity.

In comparing the 66 words in STAAR and the textbook, there is a statistically significant and positive correlation between the two variables, r=.38, p=.0016, with the magnitude of the correlation being small to moderate. In comparing the 50 textbook words and the STAAR ELA end-of-course exams, there is a statistically non-significant and positive correlation between the two variables, r=.19, p=.186. Out of the 51 most frequently used words in the textbook, 29 of them (57%) appeared in the STAAR Reading/Writing end-of-course exams. Out of the 66 most frequently used words in the STAAR, 57 of them (86%) appeared in the textbook. This information appears in

Tables 5, 6, 7, and 8. A moderate amount of the most frequently used words in the STAAR are found in the textbook, although the number of most frequently used words in the textbook also found in the STAAR is not as extensive. The textbook provides a considerable amount of words a student may encounter on the STAAR tests: 86% of the words in the STAAR tests are found in the textbook. Therefore, there is not enough evidence to cite the textbook as the main reason students are failing the STAAR ELA end-of-course exams.

This data align with Graves' (2006) report on word frequency and school materials: the first 300 words in Fry's Instant Words List (a list of frequent words) accounted for 65% of the words in school materials, the first 5000 words in The American Heritage Word Frequency Book accounted for almost 90% of the words in materials for grades 3 to 9, and the first 5000 words in The Educator's Word Frequency Guide accounted for nearly 80% of the words in materials for kindergarten through college (p. 14). This information demonstrates that while the majority of words encountered by students are commonly used words, it is the small percentage of unknown words which are most disconcerting to students.

Table 7. Top 50 ELA Textbook Words and Their Frequency in the STAAR

Word	Textbook	STAAR	Word	Textbook	STAAR
writing	760	6	chart	226	0
vocabulary	564	5	fiction	221	0
analyze	473	0	effect	220	1
text	456	1	determine	210	1
essay	429	2	nonfiction	210	0
analysis	392	0	specific	196	2
information	385	17	images	195	1
sentence	373	59	comprehension	194	0
evidence	352	4	selection	186	14
purpose	321	2	elements	184	0
poetry	312	0	context	181	0
character	303	2	viewing	180	1
poem	303	3	contrast	175	1
answer	291	55	theme	174	2
research	291	8	understanding	173	0
critical	280	0	conclusions	169	0
identify	278	0	draft	168	1
evaluate	269	0	found	164	12
questions	268	11	consider	163	2
focus	264	0	response	157	2
tone	255	2	interactive	156	0
meaning	244	2	heroes	154	1
conflict	233	0	structure	152	0
audience	230	0	mood	151	0
characters	230	2	topic	151	0

Table 8. Top 66 STAAR Words and Their Frequency in the ELA Textbook

Word	STAAR	Textbook	Word	STAAR	Textbook
sentence	59	373	employers	6	2
code	35	3	golden	6	33
paragraph	21	119	incisions	6	0
talkers	21	0	published	6	40
information	17	385	quotation	6	56
document	16	51	searches	6	2
following	16	232	speakers	6	24
surgery	16	1	versus	6	2
author	15	335	workers	6	5
results	14	27	working	6	55
selection	14	186	began	5	144
personal	13	94	canine	5	0
found	12	164	cards	5	29
internet	12	68	computer	5	21
technology	12	44	courier	5	1
surgeon	11	3	cultures	5	30
journal	10	22	dinosaurs	5	1
military	10	14	effective	5	82
comma	9	36	immersion	5	0
digital	9	7	innovators	5	0
insert	9	11	inserts	5	0
lifeguards	9	0	monolingual	5	1
reader	9	113	openings	5	2
speaking	9	180	outperformed	5	0
written	9	159	rescue	5	4
communication	8	56	residents	5	7
native	8	35	retirement	5	1
research	8	291	selections	5	34
sentences	8	245	significantly	5	2
rods	7	7	stainless	5	0
spark	7	9	steel	5	10
communicate	6	34	united	5	46
educational	6	3	vocabulary	5	564

5. DISCUSSION AND CONCLUSION

Limitations and Continued Research Needs

More accurate inferences and conclusions were not able to be drawn due to the lack of STAAR data. As there is no school-specific scoring information currently available, no explicit interpretations of the data were made. It is necessary to run analyses on the data once actual STAAR scores are available, so that one can truly interpret how students at Texas schools are performing. It is most imperative that the Fall 2013 data be analyzed, as this period is the first where the combined English Language Arts exam is utilized. More research will be necessary once the final phase of the STAAR scoring guidelines is in place. As Texas has undergone a series of standardized test modifications in the recent years, it will be important to analyze how well the newest STAAR is truly capturing what students' learn in the classroom. Additionally, as it has been determined that the Prentice Hall Texas Literature textbook provided sufficient coverage of the vocabulary observed in the Reading and Writing exams, it would be beneficial to explore other reasons why Texas students are failing these exams.

One important area of further study involves discovering why students do not understand the meanings of the words they encounter in the STAAR. Significant research could be conducted on the reasons why students cannot figure out a definition when they encounter an unknown word in the STAAR. Students, for the most part, should be able to use context clues to determine a word's meaning. Furthermore, students are provided access to a dictionary during the STAAR. Even if a student does

not possess the skills to determine an unknown word's meaning, s/he should be able to use the dictionary to determine its meaning. A future research study could involve examining student behaviors during the STAAR and determining what is occurring when they encounter an unknown word.

Implications for Use

English Language Arts educators can use the tables provided to ensure their curriculum and the vocabulary taught in their classroom align with the words used in the ELA STAAR. Educators will be able to use the information provided to establish a vocabulary foundation for their students. Educators can also improve vocabulary instruction in the classroom by ensuring that the majority of it is not definitional. Effective vocabulary instruction is a multi-faceted process where a student engages with the word on many levels, and this process can be adopted by teachers of all content areas.

While many teachers are already doing all they can, there may be some whose students may benefit from additional reading. Students who find reading challenging and do not engage in recreational reading outside of the classroom need the most help, as they are the least likely to read on their own (Wood, Harmon, & Hedrick, 2004). These students would benefit from reading in the classroom; "learners who are struggling with print, regardless of the cause, need numerous opportunities each class day to read material they can handle with relative ease to enable them to increase their vocabulary incidentally through recreational reading" (Wood, Harmon, & Hedrick, 2004, p. 57).

As the question of whether Pearson's tests truly assessed students on what is taught in the classrooms was raised by the chair of the Senate Committee on Education, further research could be conducted by/for a government agency regarding how much of the textbook is actually taught in the classrooms; the fact that the textbook is assigned to a specific classroom does not signify that the teacher spends a substantial amount of time on it.

Conclusion

This examination of vocabulary similarities within the ELA STAAR and the 10th grade ELA textbook used in Texas can be recapitulated with a fact acknowledged by vocabulary researchers: "…greater vocabulary knowledge makes comprehension easier, while wider reading generates larger vocabularies." (Carlo et. al, 2004, p. 191).

Regardless of the reasons why students are failing the STAAR, the fact remains that they are not performing as well as expected. While the testing itself is not producing ineffective teaching practices, the pressure and anxiety the students and teachers feel is (Greenwood, 2002). As the STAAR is a more difficult test than the TAKS, students who were already performing poorly on the TAKS are probably struggling on the STAAR. Because of the STAAR's more stringent standards, the responsibility to bring the struggling students up to capacity falls more heavily on the teachers, and the pressure for teachers to leave no child behind accumulates. While there is no definitive plan which will salvage STAAR performance, a plan does need to be formulated, and it needs to bring change to the classroom instead of to the standardized tests.

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