

STAAR Reading Passages: The Readability is Too High

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Abstract

This study looked at the new STAAR released reading passages to determine the types of questions posed and the readability of the passages. Readability analysis answers the question, “Are the grade-level passages written at grade-level reading?” It was found that both 4th grade and 7th grade reading passages had the most on-your-own questions and that all the reading passages, except for 8th grade were written at least two grade levels above grade level. As the reading levels of these passages are so high, it is believed that the majority of students will most likely fail to pass the new STAAR

The Accountability Age in public education continues to find momentum through state legislatures who continue to pass increasingly demanding standards in the form of a single standardized test whether it is right or not (Rothstein, Jacobsen, & Wilder, 2008). Texas is no exception to this policy cycle. Texas Senate Bill 1031 and Texas House Bill 3 charged Texas Education Agency (TEA) to expand the Texas Essential Knowledge and Skills (TEKS) focus on the state test. Thus, the State of Texas Assessment of Academic Readiness (STAAR) was created with a focus change to increase college readiness for all high school students. Buzz words have already been attached to this new and improved test such as “more rigorous,” “more accountability,” “results added to GPA,” and “timed test.” Spring 2012 testing will establish basic test norms, and then beginning 2012-2013, the STAAR will be fully implemented into Texas schools. Even though the STAAR questions will focus on fewer TEKS skills, the questions were created to require a more thorough understanding of the material, as they look at the skills in a deeper manner.

Purpose of the Study

During this Accountability Age, child development, the social economic status of the child, the child's IQ, the child's attitudes, the child's interests, and the child's home values are not taken into account. Teachers, children, schools, and districts are blamed when they receive the "unacceptable" label from the state. In addition, every child is expected to read at grade level.

Thus, the researchers examined the released reading passages for the new STAAR test. After looking at some of the reading passages, the TEA offices were called and asked if a readability test was done on the STAAR reading passages. The TEA representative who answered the phone said, "No, we've looked at the content to make sure the content matched the TEKS but a readability test was not done." Thus, this study is guided by the following questions:

1. What types of text passages are included?
2. What types of questions are asked?
3. What is the readability of the passage?

Procedure

First, the released passages for reading were found on the TEA website. On the website, they stated, "released items are valid test questions pulled from the item development that could have appeared on the STAAR tests" (TEA, 2012, slide 14). The stories were copied to a word document and then all the errors were corrected, as there were misspell words and problems with spacing in several of the passages.

To determine the answers to questions 1 and 2, the STAAR passages were read. The questions that were written for the passages were examined and categorized as being one of the following:

- right-there questions- these questions are the easiest as they can be answered from a single sentence in the passage;
- search-and-think questions – these questions require an inference involving linking information found in different parts of the text or connecting text information with prior knowledge
- on-your-own questions – these questions are motivated by the text's information but the answer comes exclusively from the student's prior knowledge.

Next, to answer question 3, the 3rd - 8th grade story passages were copied and pasted into two different free readability index calculators found online. These free readability formulas reported Fry, Raygor, Gunning Fog, Flesch-Kincaid, and SMOG scores.

Released STAAR Reading Passages for Grades 3-8

These story passages were all found on the TEA website (TEA, 2011). When we clicked on Reading at each grade level, the released passages opened.

Grade 3. The first selection was a 1-page copyrighted poem entitled the *Well-Worn Path* by David Crawley. The text had one picture showing a Hispanic girl holding her dog. The passage had 129 words, and 11 sentences with an average of 12 words per sentence. There was only 1 (1% of total words) word in the passage that contained 3+ syllables. There were seven multiple-choice questions with 4 think-and-search questions and 3 on-your-own questions.

The second selection was entitled *Vaqueros: The Original Cowboy*. This was written for the STAAR, as no copyright appears on the text itself. It was a 3-page story with bolded section titles. It had a picture of a cowboy riding a horse with a lasso swinging above his head, and a graph showing cowboy tools. This nonfictional narrative passage contained 584 words and had 49 sentences with an average of 12 words per sentence. There were 50 words (9% of the total words) that contained 3+ syllables. There were eight multiple-choice questions with 2 right-there questions, 5 think-and-search questions and 1 on-your-own question. More information about the 3rd grade passages can be found in Table 1.

Grade 4. The first selection was entitled *The Lady Who Loved the Land*. This was written for the STAAR, as no copyright appeared on the text. It was a 3-page story with bolded section titles. It had three pictures of Lady Bird Johnson at various ages. The nonfictional narrative passage had 699 words. It had 62 sentences with an average of 9 words per sentence. There were 63 words (9% of the total words) that contained 3+ syllables. There were six multiple-choice questions with 2 think and search questions and 4 on-your-own questions.

The second selection contained two passages. *Carmen* was a 1-page, copyrighted poem written by Andrea Cheng while *Zach Bonner's Little Red Wagon* was a 3-page story that was written for the STAAR. The nonfictional passages contained a total of 711 words. There were a total of 64 sentences with an average of 9 words per sentence. There were 171 words (24% of the total words) that contained 3+ syllables. There were nine multiple-choice questions with the 8 of the questions being on-you-own questions. More information about the 4th grade passages can be found in Table 1.

Grade 5. The first passage selection was a play entitled *The Bird with the Broken Wing* adapted for the STAAR test. The fictional play had nine characters, two scenes and no illustrations. There were 774 total words with 74 sentences with an average of 10 words per sentence. There were only 18 words (2% of the total words) that contained 3+ syllables. The passage had eight multiple-choice questions with 6 being think-and-search questions.

The second passage selection was a written 2-page letter to the Editor. The letter was written by an 8th grade student. There was no copyright on this passage. It had 605 words with 38 sentences and an average of 16 words per sentence. There were 77 words (13%) that were 3+ syllables. The passage had seven multiple-choice questions with 4 think-and-search questions and 3 on-your-own questions. More information about the 5th grade passages can be found in Table 1.

Table 1

Readability Information and Question Types for Grades 3-5

Passage	3 rd	3 rd	4 th	4 th	5 th	5 th
	1P	2P	1P	2P	1P	2P
# of Words	129	584	699	711	774	605
# of Questions	7	8	6	9	8	7
Kinds of Questions						
right-there	0	2	0	0	0	0
think-and-search	4	5	2	1	6	4
on-you-own	3	1	4	8	2	3
Sentence Length	8.5	8.4	8.9	9.0	9.6	6.3
Average #Words/Sentence	12	12	11	11	10	16
Total Sentences	11	49	62	64	74	38
Unique Words	82 (64%)	266 (46%)	356 (51%)	353 (50%)	301 (39%)	281 (46%)
Repeated Words	47 (36%)	318 (54%)	343 (49%)	358 (50%)	473 (61%)	324 (54%)
Double Syllable Words	9 (7%)	119 (20%)	187 (27%)	171 (24%)	130 (17%)	128 (21%)
3+Syllable (Hard) Words	1 (1%)	50 (9%)	63 (9%)	46 (6%)	18 (2%)	77 (13%)

Grade 6. The first passage selection contained two different stories. The first selection was a 2-page short story entitled *A Bird's-Eye View of Teamwork* while the second selection was a folktale entitled *Tale of the Bundle*. Both passages were written for the STAAR. The two passages contained 704 words, 58 sentences and 63 (9%) hard words. The passage had nine multiple-choice questions with 5 think-and-search questions and 4 on-your-own questions.

The second selection was a copyrighted poem entitled *Eraser and School Clock* by Gary Soto which contained one illustration. The selection had 207 words, 13 sentences and 10 (5%) hard words. The passage had six multiple-choice questions with 3 think-and-search questions and 3 on-your-own questions. More information about the 6th grade passages can be found in Table 2.

Grade 7. The first selection was a copyrighted poem entitled *A Pioneer Woman Looks Back* by Bobbi Katz which had no illustrations. The selection had 293 words, 35 sentences, and 11 (4%) hard words. The passage had eight multiple-choice questions with 2 think-and-search questions and 6 on-your-own questions.

The second selection was a biography about basketball player Kareem Abdul-Jabbar entitled *Coaching the Falcons*, which was copyrighted by TEA. The passage had one illustration, 695 words, 46 sentences and 73 (11%) hard words. The passage had seven multiple-choice questions with 3 think-and-search and 4 on-your-own questions. More information about the 7th grade passages can be found in Table 2.

Grade 8. The first selection was a copyrighted 3-page nonfiction short story entitled *Daylights Saving Time* by Scott Johnston which contained a map, 679 words, 43 sentences and 63 (9%) hard words. The passage had seven multiple-choice questions with 5 think-and-search questions and 2 on-your-own questions.

The second selection was a 2-page dialogue between Lucy and Linus entitled *You're a Good Man, Charlie Brown* by Clark Gesner. It contained 534 words, 59 sentences with an average of 9 words per sentence and 27 (5%) hard words. The passage had eight multiple-choice questions with 3 think-and-search questions and 5 on-your-own questions. More information about the passages can be found in Table 2.

Table 2

Readability Information and Question Types for Grades 6-8

Passage	6 th 1P	6 th 2P	7 th 1P	7 th 2P	8 th 1P	8 th 2P
# of Words	704	207	293	695	679	534
# of Questions	9	6	8	7	7	8
Types of Questions						
right-there	0	0	0	0	0	0
think-and-search	5	3	2	3	5	3
on-you-own	4	3	6	4	2	5
Sentence Length	12	16	8	15	16	9
Total Sentences	58	13	35	46	43	59
Unique Words	386 (55%)	123 (59%)	178 (61%)	340 (49%)	326 (48%)	253 (47%)
Repeated Words	318 (45%)	84 (41%)	115 (39%)	355 (51%)	353 (52%)	318 (54%)
Double Syllable Words	143 (20%)	33 (16%)	49 (3%)	159 (23%)	181 (27%)	119 (22%)
3+ Syllable (Hard) Words	66 (9%)	10 (5%)	11 (4%)	73 (11%)	63 (9%)	27 (5%)

Readability Formulas

Readability formulas were created to determine the ease of understanding text (Fry, 1968, 1977). There are various readability formulas that can be used to measure the grade level or the knowledge one must have in order to comprehend the text being read. Even though they are all mathematical in nature, they use different text features. These features include using the number of words in a sentence, the number of multisyllabic or hard words, and/or the characters in the text (number of letters).

Readability formulas are used for many reasons. However, the main reason is to make sure the text (brochures, newspapers, journals, magazines, textbooks) is understandable by a large portion of the population. There is a variety of free readability tools found online. You just need to type the text words into the online textbox and submit, and the readability score is calculated for you.

All readability formulas say they are the best and easiest to use. However, more than one readability formula should be used and then an average should be calculated, as one score is not

accurate. The formulas that were used to determine the grade level of the STAAR passages are discussed below.

Gunning Fog Readability. Gunning, a textbook publisher, developed the FOG Index. He believed it was important to write a text that students could read (1952). In addition, he did a lot of his work for businesses and used the readability formula in health care, insurance and other businesses for their general publications (Ackerman, 2010). He also worked with newspapers to help writers and editors write to the audience.

Flesch-Kincaid Readability. This formula uses word length and sentence length per 100 words (Flesch, 1948, 1949, 1951; Kincaid, Fishburne, Rogers, & Chissom, 1975). They believed that the reader would gain a better understanding of the text if the writer of text used shorter words and shorter sentences. The Flesch-Kincaid was developed while authors were under contract to the US Navy. It was first used by the Department of Defense to assess the difficulty of technical manuals.

SMOG Readability. The SMOG Readability Formula (McLaughlin, 1969) was created to estimate the years of education a person would need to understand the text being read. SMOG was first used to evaluate healthcare material. In addition, a study reported in the Journal of the Royal College of Physicians stated that the SMOG should be used over the Flesch-Kincaid, as it underestimated the reading difficulty (Fitzsimmons, Michael, Hulley, & Scott, 2010).

Raygor Readability. The Raygor (1977) readability index counts the number of sentences and the number of words that have six or more letters per 100 words. This instrument was developed to provide a simpler method than the Fry, as it looks at words of 6 or more letters rather than syllables, which could be miscounted. Results show that Raygor typically scores passages a few grade levels below the Fry (1968).

Fry Readability. The Fry Graph Readability Formula (Fry, 1968, 1977) calculates the difficulty level of a text by looking at the number of sentences (y-axis) and syllables (x-axis) per 100 words. The instrument measures reading levels on texts from 1st grade to college. In addition, it has been used for regulatory purposes of healthcare materials to ensure better comprehension for more people.

Results

First, to answer question #1, *What type of text passages are included* in the STAAR test, an analysis of the passages was completed and reported in the literature review section. In 3rd grade, the first passage was a poem while the second passage was a nonfictional short story. In 4th grade, the first passage was a nonfictional short story, while the second passage contained both a poem and a nonfictional short story. In 5th grade, the first selection was a fictional play and the second selection was a nonfictional letter written to the Editor. In 6th grade, the first passage was a nonfictional short story while the second selection was based on a Chinese folktale. In 7th grade, the first passage was a nonfictional poem and the second selection was a

nonfictional short story. In 8th grade, the first passage was a nonfictional story while the second selection was a fictional dialogue between two characters. Thus, the majority of the reading passages were nonfictional.

Next, to answer question #2, *What type of questions are asked*, an analysis of the questions were done by the researchers, as seen in Table 1 and Table 2 above. It was determined that the majority (99%) of the questions were either think-and-search questions or on-your-own questions, with the most on-your-own questions in 4th grade and 7th grade.

Finally, to answer question #3, *What is the readability of the passage*, the readability scores from the free online readability index calculators from the five different readability instruments are reported in Table 3 below. An average was calculated, as each of the readability instruments reported a different readability for the same passage.

Table 3

Readability of Released Grade-Level Passages

	Flesch Kincade	SMOG	Gunning Fog	Ragyor	Fry	Passage Average of the 5 tests	Average of the 2 selections
3 rd grade 1 st passage	4 th	6 th	5 th	3 rd	3 rd	4 th	5 th
3 rd grade 2 nd passage	8 th	9 th	9 th	4 th	7 th	7 th	
4 th grade 1 st passage	8 th	9 th	8 th	4 th	7 th	7 th	7 th
4 th grade 2 nd passage	7 th	9 th	8 th	5 th	7 th	7 th	
5 th grade 1 st passage	5 th	7 th	6 th	3 rd	4 th	5 th	7 th
5 th grade 2 nd passage	11 th	12 th	12 th	7 th	9 th	10 th	
6 th grade 1 st passage	8 th	11 th	10 th	6 th	8 th	8 th – 9 th	7 th – 8 th
6 th grade 2 nd passage	6 th	8 th	7 th	6 th	6 th	6 th -7 th	
7 th grade 1 st passage	6 th	7 th	6 th	4 th	5 th	7 th – 8 th	8 th
7 th grade 2 nd passage	10 th	11 th	10 th	6 th	9 th	9 th	
8 th grade 1 st passage	11 th	11 th	10 th	6 th	9 th	9 th – 10 th	7 th
8 th grade 2 nd passage	5 th	6 th	5 th	3 rd	4 th	5 th	

Discussion

Types of Passage

The majority of the passage selections were nonfictional descriptive stories. This type of informational reading is the easiest, as it is similar to narrative reading. In addition, the majority of the stories had bolded topic headings to give the reader an idea of what they would be reading next.

Types of Questions

As seen in Table 1 and Table 2, all the released passages had 15 questions per grade level. Third grade was the only grade level that had several questions written at the easiest right-there level. For the rest of the grade levels, the questions were either think-and-search questions or on-your-own questions. This is not a surprise, as TEA had stated that this test had harder questions than were found on the old TAKS test.

When examining the type of questions used for the reading passages to predict student outcome, it is believed that 3rd grade students may have the easiest time answering questions, as there were two right-there questions, nine think-and-search questions and only four on-your-own questions. It also appears that 7th grade students will have a hard time with their questions, as there were five think-and-search questions and ten on-your-own questions. However, 4th grade students will most likely have the hardest time answering reading passage questions, as there were only three think-and-search questions while there were twelve on-your-own questions.

Readability of the Passages

The results using the readability formula on each of the grade-level reading passages were disconcerting. The TEA website states, “The state is not building tests that nobody can pass” (TEA, 2011, slide 18). However, as the readability of the grade-level reading passages were not measured by the writers and creators of the STAAR; however, that looks like what has happened. As seen in Table 3, most reading passages were written above grade level reading. Passages in

- Grade 3 was written at a 5th grade level (two grade levels too high);
- Grade 4 was written at a 7th grade level (three grade levels too high);
- Grade 5 was are written at a 7th grade level (two grade levels too high);
- Grade 6 was written at high 7th - low 8th grade level (two grade levels too high);
- Grade 7 was written at that a 8th grade level (1 grade level too high); and
- Grade 8 was written at the 7th grade level (1 grade level below).

When examining the readability of the reading passages to predict student outcome, it is believed that only 8th grade students will be successful on the new STAAR test, as they are the only grade level that had reading passages that were written at or below grade level. In addition, it appears that because the readability of the passages for 4th grade are 3-levels above grade level, they will be the least successful reading the STAAR passages.

Combining Level of Questions and Readability

This section examines the results when the combination of the type of questions and the readability of the passages. These results are used to predict student outcome.

In third grade, the majority of the questions were think-and-search questions which require inferencing. This may be difficult for the 3rd grade students as both passages were written above grade-level reading.

In the fourth grade, the majority of the questions were on-your-own questions which require background knowledge to answer. And, even though both passages were written three grade levels above grade-level reading, this may not cause a problem as the answers are not found in the text anyway. However, the level of frustration that the fourth grade students may feel due to the high reading level of the passage, will further frustrate them if they are lacking background knowledge on the topic of the passage.

In fifth grade, for both reading passages the majority of the questions were written at the think-and-search level. However, as the average readability of the passages was 7th grade reading level, the majority of the students will not be successful at answering the questions.

In sixth grade, the passage selections had their questions divided between the think-and-search questions and the on-your-own questions. As the passages were written at a high 7th low 8th grade reading level, the gifted students should be successful but other students may not be.

In the seventh grade, the passage selections had the majority of their questions at the on-your-own level. And even though the passages were written at an 8th grade reading level, unless the students have the appropriate background information, they will not do well on the multiple-choice questions.

In the eighth grade, the passage selections had the questions split between think-and-search questions and on-your-own questions with the average readability of 7th grade. Thus, if the students have the right background information, they should do very well on the test and many should pass as the readability of the passages were written below grade level.

Implications

For TEA

It is suggested that the reading selections be put through a readability test by TEA, as a 3rd grade student is being tested on their knowledge, their test should be written at a 3rd grade reading level. Although writing to a certain grade is difficult, when using these free online readability formulas, suggestions are given on what can be done to make the passage more readable. This should be a priority. If students are required to read at grade level, then the tests they take should be written at grade level. This is already done in journalism, medicine, and business (Dalecki, Larsorsa, & Lewis, 2009; Razek & Cone, 1991; Schutten & McFarland, 2009).

For the District

There are several implications for the district administrators. First, the teaching approach that has the teacher “teaching to the test” will no longer work, as there are very few right-there questions. Therefore, script-reading teaching is not an appropriate response, as students need differentiation, small-group mini-lesson instruction, guided reading and exposure to lots of topics (Pinnell & Fountas, 2008a&b; Tomlinson, Brimijoin, & Narvaez, 2008). Second, there must be time for reteaching those that did not get it the first time it was taught. Those that got it the first time should be able to move on (Sindelar, 2012). Third, teachers need to have access to a wide variety of books on all content topics (Marzano, 2004). One textbook is not enough. Thus, both the school library and the classroom library need to be provided with more books at a variety of reading levels on all the subject matter that are taught at each grade level. Fourth, background experiences are very important in the learning process and in answering on-your-own questions (Pardo, 2004), so virtual tours and other learning videos should be used to build background experiences of all students. These can be used either whole-class or as a part of learning centers. However, as video tapes may need to be viewed from the TV, placement of the classroom TV needs to be reconsidered and in many cases moved. Having a TV at ceiling level is not conducive to learning and may be a health risk, as the necks of young children are locked in a back position while watching these educational videos.

For the Classroom

First, students need to be taught how to make inferences using different parts of the text to determine how to answer a think-and-search question. Teachers need to be asking more high-level questions, which could be accomplished by using Bloom’s Taxonomy verbs (Cotton, 1991; Pardo, 2004). Second, as a large majority of the questions are on-your-own questions, teachers need to expose students to a multitude of topics. This can be done through reading a variety of texts, displaying artwork that illustrates various topics, examining real documents (i.e. Constitution or Bill of Rights), showing educational videos (i.e. History Channel), and taking virtual tours (White House or Smithsonian). Third, as the passages have a high readability, these passages could be used by each grade-level teacher as read-aloud passages where running records are taken, as this is a good way to find out which cueing system the students need the most help with (graphophonics cueing system, syntactic cueing system, or the semantic cueing system; Adams, 1990; Clewell, n. d.). Fourth, teachers must use small guided reading groups to build the necessary foundational knowledge (Pinnell & Fountas, 2008b), as this cannot be done teaching whole-class. Fifth, teachers need to be encouraged to differentiate, provide choice and use project-based learning to promote deeper understanding of the topics being studied (Tomlinson et al., 2008).

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