Paper vs. Online Assessments: A Study of Test-Taking Strategies for STAAR Reading Tests

Holly Dasher
Jodi Pilgrim
University of Mary Hardin-Baylor

Abstract

Schools around the nation are increasingly offering online testing options. House Bill (HB) 3906, passed by the 86th Texas Legislature in 2019, resulted in the STAAR redesign, which will be administered in the 2022–2023 school year. The STAAR redesign includes several components including an online test administration for the STAAR. With the change to an online platform comes many concerns related to student familiarity with an online testing platform. The purpose of this qualitative study was to identify and compare the test taking strategies that teachers in grades three through eight teach in preparation for the paper/online versions of the reading STAAR test. A group of Texas teachers participated in focus group sessions. The three primary themes reported in the findings include resources, which teachers suggested were needed to help them prepare students for an online assessment, platforms, which detailed the pros and cons of an online testing environment, and strategies, which support students as they read passages and answer test questions. Overall, the teachers found ways to transfer previously used strategies, such as pen and paper annotations, to online test administration. However, older students have an easier time with this transfer of skills than the younger students.

Introduction

Prior to the coronavirus pandemic's large-scale school disruption in the spring of 2020, over twenty states had begun to offer standardized tests in online platforms for K-12 students (Backes & Cowan, 2019; Terada, 2020). Student performance on these online tests often reflects lower achievement scores than peers who took paper tests (Backes & Cowan, 2019; Harold, 2016; O'Donnell, 2016). In addition, research indicates that some populations, such as children from low-income families, English learners, and students with disabilities, score disproportionately lower on online tests. Performance on English Language Arts test was most affected, with an online test penalty of about 0.25 standard deviations (Backes & Cowan, 2019). Even though the disparities between the scores on these two testing formats seemed to lessen over time (Backes & Cowan, 2019), online testing issues need further investigation.

Currently, Texas students in third through eighth grade take the State of Texas Assessment of Academic Readiness (STAAR) test. Test administration has been paper-based until recently. In 2019, the Legislature passed House Bill 3906, which led to the requirement that all statewide tests be given electronically starting no later than 2022-23. With this change, teachers must consider ways to prepare students for a digital test. The purpose of this qualitative study is to identify and compare the test taking strategies teachers in grades three through eight teach in preparation for the paper version and online version of the reading STAAR test. Insight from participants may help teachers better prepare students for the STAAR.

Theoretical Framework

As digital assessments replace paper assessments, mode equivalence cannot be assumed. Literacy skills required for an online environment often differ from traditional literacy skills (Coiro, 2005; Coiro, 2021; Pilgrim et al., 2018; Lisenbee et al., 2020). In addition, although traditional concepts about print (Clay, 2000) develop in children at a young age, concepts about online text develop at a later age (Pilgrim et al., 2018). Therefore, a transliteracies perspective frames this study. Transliteracy, defined as the ability to read, write, and interact across a range of platforms, tools, and media, reflects the transformational nature of literacy (Vacca et al., 2018). It signifies the transition and transformation from one mode of literacy to another. The complex term is both an idea and a practice and "consists of skills, knowledge, thinking, and acting, which enable a fluid 'movement across' in a way that is defined by situational, social, cultural, and technological contexts" (Sukovic, 2016, para. 5).

Background

Schools are increasingly offering online testing options. In 2014, 65 percent of Ohio schools offered state standardized tests online, and in 2017, 98 percent of Ohio schools offered state standardized tests online. In California, 22 percent of students took statewide standardized online tests in 2019 (Terada, 2020). A feasibility study conducted by the Texas Education Agency (2020), initiated to determine if Texas had the resources to move to online testing, reported that 70 percent of states administer their standardized tests virtually.

State of Texas Assessment of Academic Readiness

In 2012, Texas students began taking the new statewide standardized test called the State of Texas Assessment of Academic Readiness, or the STAAR, which was the successor to the Texas Assessment of Knowledge and Skills. Significant differences marked the transition from one test to the other, and increased rigor is among one of the differences (Weiss, 2012). The STAAR was designed to better assess progress at every grade level toward postsecondary readiness, which has become a national phenomenon as well, with the Common Core. The STAAR, for grades three through eight, evaluates student achievement across content areas, including ELAR, Math, Science, and Social Studies.

House Bill (HB) 3906, passed by the 86th Texas Legislature in 2019, resulted in the STAAR redesign, which will be administered in the 2022–2023 school year. The STAAR redesign includes several components, including Online Testing and Accommodations, New Question Types, Cross-curricular Passages, and Evidence-based Writing. Many schools began using the online platform for accommodations in 2016 (TEA, 2020). With the change to an online platform comes many concerns related to student familiarity with an online testing platform. In a parent resource, TEA (2021) recommended that “campuses help students gain exposure to technological devices and familiarity with the State of Texas Assessments of Academic Readiness (STAAR) online testing platform before test day” (para 6). The report provided a link to online practice tests (https://www.texasassessment.gov/practice-tests.html) so that students would have an opportunity to interact with the test interface while using the available tools. In addition to familiarity with an online platform, there may be other factors that

teachers need to address to prepare students for a new online platform. This qualitative study seeks to provide insight on how to best prepare students for success with these platforms.

Online Assessments

Online test administration has many benefits. When interviewed, Backes commented that

> The items are cheaper to grade. And they're easier to deliver and transmit. And you get results back faster. And there probably are benefits to students being familiar with performing tasks on computers because that's what the workplace is switching to anyway (Future Ed, 2018, para 9).

In addition, TEA (2020), reported that the STAAR online testing platform allows students to receive accommodations like those they get in the classroom, it provides faster test results, it improves test operations, and it allows new non-multiple-choice questions" (TEA, 2020). In their feasibility study, TEA found that other states across the nation initially transitioned to online testing for similar reasons and because online assessments improve test security. They also found "there had been some pressure from states' legislative bodies and education leadership to 'catch up' to other states that were already using online testing" (TEA, 2020, p. 13).

As previously mentioned, researchers who compared performance on paper assessments versus online assessments reported potential issues with online assessments. When the authors of this concerning research were asked what the cause of this difference could be, they speculated that the item format, such as having to scroll when reading passages instead of flip pages could be a difference. They also report that "step one is at least acknowledging that there might be a difference." (Future Ed, 2018, para. 10). Researchers have known for a long time that reading online requires different skills than paper-based reading (Coiro, 2009).

Test-Taking Strategies

Due to item format, one difference between the paper and online testing could be the test-taking strategies students use as they comprehend reading passages and search for answers to questions about passages. Teachers provide strategy instruction to help students master the content and understand the questions asked on the test (Dodeen, 2015). For example, on paper STAAR tests, students are allowed to use highlighters as they read passages and search for answers. Teachers often encouraged students to underline or highlight the text around target vocabulary words, such as the sentence before, with, and after the word, in order to help students use the context of the surrounding text to determine the words meaning. Students were allowed to ask for a dictionary to help them with an unknown word, so teachers would provide instruction as to when and how to use a dictionary. Some teachers encourage students to read test questions prior to reading the passage, and many teachers require students to return to the passage and provide evidence for the answers they choose. Commonly, teachers will have students eliminate answer choices they think are incorrect by marking them with a line or an "x" and mark potential answer choices with a question mark. Some of these test-taking strategies may differ in an online testing platform. Because "test-taking strategies can improve the overall validity of the test scores so that they accurately reflect what students really know" (Dodeen, 2015, p. 109), it is important to investigate the commonalities and differences.

STAAR Online Tools

As previously mentioned, parents, teachers, and students can access STAAR online practice tests. An online reading test was accessed in March 2022 prior to the focus group sessions to gain insight into the testing platform. The platform and the tools for the online STAAR test are described briefly in this section.

After selecting the desired practice test, the platform allows users to choose settings. The "test attributes" that could be adjusted included Zoom, color setting, large mouse pointer, and spelling assistance. The zoom attribute allowed students to select increase the font size. The color setting, defaulted to black and white, could be adjusted to red on white, white on red, light blue, light magenta, light yellow, white on black, or yellow on blue. The large mouse pointer could be set to large black, extra-large black, large green, extra-large green, large red, extra-large red, large while, extra-large white, large yellow, or extra-large yellow. Finally, the spelling help could be set at on or off.

Next, instructions and a help guide are presented. This information can also be accessed at any time during the test by selecting the question mark button. The help guide provides an overview of the test site, test rules, and text-to-speech information. The overview includes a sample test page, which contains labeled information such as the navigation buttons, item drop-down, content menu, and other platform features. It also contains an in-depth guide into context menu tools, which are online tools that parallel pen and paper tools (and more) that students may use to assist them during the assessment. For example, it has instructions on how to use the highlighter tool, the sticky notes, and the "mark for review" flag.

Upon beginning the practice test, the tools must be found by the user. A menu icon, like the one seen in Figure 1, is visible on both the left side (above the reading passage) and right side (above the test questions) of the screen. On the left side, the menu provides the option to highlight. In order to highlight, a text from a passage must be first be selected, and then the highlighter tool can be used. There are four highlighter color options from which students can choose. On the right side of the screen, the menu provides the following options: tutorial, mark for review, sticky note, and strikethrough. The strikethrough can be used to eliminate answer choices.

Figure 1. *Digital Menu Button for the Online STAAR Practice Test*

Above the menu tool located on the right side of the screen, there are five icons which represent tools students can access: a dictionary, a notepad, a line reader, a zoom out button, and a zoom in button. When students access the dictionary, they can type in a word to access a definition and an audio recording of the word. The note pad is a digital version of scratch paper, enabling students to type notes. The "line reader" enables students to mark and read one line at a time in a passage. The Zoom icons enable students to make text larger or smaller.

Method

The STAAR contributes to academic accountability ratings for Texas schools, and both teachers and students are held accountable for academic achievement. As Texas students begin the process of transitioning from a paper to online testing format, educators and stakeholders will be interested how to best help students with this change in the testing platform. This qualitative study used focus groups to gain insight related to the differences between paper and online strategies teachers are promoting. The research question for the study was: *How do paper reading STAAR test-taking strategies compare to online reading STAAR test-taking strategies?*

Data Collection

Qualitative data were collected from Central Texas English Language Arts and Reading (ELAR) teachers during two separate focus group sessions, which were scheduled to accommodate teachers' schedules. A focus group design can put interviewees at ease and encourage the elaboration of ideas in areas that are not sensitive (Creswell, 2018). Criteria for teacher participation was that they taught in 3rd through 8th grade classrooms and had administered both the paper and online STAAR test. A total of five teachers participated in the focus groups. Four of the five participants taught in the same district but in different schools. Table 1 uses pseudonyms to present additional information about the teachers.

Table 1
Teacher characteristics.

Teacher	Grade Level	Subjects Taught	1:1 District
Ellen	3rd	ELA & Social Studies	Yes
Sally	5th	Self-Contained	Yes
Theresa	4th	ELA & Social Studies	Yes
Daisy	7th	ELA	Yes
Suzanne	7th & 8th	ELA	Yes

Data collection occurred during the spring of 2022, and participants in both focus groups were asked the same questions. A focus group protocol was developed for use for this study and is included in the appendix. The focus group occurred virtually to accommodate teachers' schedules, and the researcher used Zoom as a virtual meeting tool. The focus group discussion questions were designed to elicit responses related to the research question. All focus group sessions were audio recorded, and a speech to text software (Google Doc) was used to transcribe the conversation.

Data Analysis

After the sessions were transcribed, qualitative data were analyzed using open coding. In vivo coding is an inductive process that allowed the researcher to make sense of the data generated from participants' discussions (Creswell, 2018). Procedures for coding initially involved reading through transcripts multiple times to find data that stood out, As codes were identified, they were color-coded and labelled. Code checking involved the second researcher coding the transcripts to determine rater agreement. Finally, through the process of collapsing

and disaggregating data, three major themes emerged: resources, platforms (subtheme stamina), and strategies.

Findings

All of the teachers in this study had experience with the STAAR online platform, meaning their students had taken the online STAAR in 2021. In addition, all of the teachers used the "interim" STAAR platform in the fall of 2021 and in the spring of 2022. Although all of the participants in this study acknowledged the benefits of an online testing platform, especially for students with accommodations, all participants expressed some concerns about the online STAAR test, primarily based on their experiences with the STAAR paper test as well as their experiences with the online practice tests available from TEA. The three primary themes that emerged from data analysis related to resources, platforms (with subtheme stamina), and strategies.

Theme 1: *Resources*

TEA has historically provided resources for teachers, parents, and students on their website (https://tea.texas.gov/student-assessment/testing/staar/staar-resources). One of the resources provided in the past has been STAAR released tests and answer keys. Teachers use these released tests, as well as commercial resources which provide practice materials, to help students prepare for the STAAR, which is a high-stakes assessment. Participants in this study expressed a desire for resources that enabled more frequent and consistent practice with the online platform. They shared concerns about a lack of resources to prepare students for the online test. Ellen stated that there are "not enough resources out there to help us prepare the kids to take the online test in the format that's offered." Sally reiterated that teachers "don't really have any resources to support the online test." Because the online requirement for all students is new, Ellen relayed that "education programs are waiting to see what that looks like before they're rolling out a new program…no we do not have specific materials" and "there is not a place to practice those question types." Suzanne agreed that "other than the interim assessment provided by TEA, there is no way to practice daily." Students could practice daily with the paper test, but the lack of resources to do this with the online test is a problem teachers expressed.

One resource all of the participants appreciated was a 1:1 technology initiative at their schools. For Suzanne, it was the first time to be a part of a 1:1 initiative, and she felt the exposure to online environments was helpful in general. She appreciated the consistent exposure with readily available devices as opposed to having to find a computer lab for skills practice. Strategic goal 2 in the Texas Long Range Technology Plan (2018) relates to the implementation of 1:1 initiative in which each student and staff have a connected device. The teachers reported that having a computer to use in class is helpful.

Theme 2: *Platforms*

The STAAR platform, traditionally a pen and paper test, moved online for accommodations reasons in 2015. As of the upcoming 2022-2023 school year, the STAAR platform will be an online testing environment for all students. According to TEA (2021), "Online testing allows for the continued exploration of new question types and assessment

designs that support students and their needs" (para. 3). Examples of the assessment designs that support students include text-to-speech tools and zooming features. Overall, teachers had mixed feelings about the transition to an online platform for all students. For example, Sally commented, "I have some students that truly excel at it because of the format…I have more students with so many issues and distractions." Daisy commented about "very mixed feelings about it being all online."

Teachers shared several positive comments about an online testing platform. Ellen reported a benefit of online testing was "results faster…quicker," which enables schools to "test later." Sally, a fifth-grade teacher, mentioned that her high-achieving students loved the format. In addition, the design features that support students needs were appreciated by the teachers. Theresa commented that the tools for students with accommodations were "incredibly helpful." For example, the ability to have paragraphs read aloud is a benefit of text-to-speech tools. Another feature available for students with accommodations was a tool that allowed students to click a paragraph number in a test question in order to go straight to that part of the passage. This ease of access simplified the search process for some students. Additionally, Theresa mentioned that the online dictionary is much easier and much faster for all students to use. She also liked the audio tool that pronounced unknown words for students.

It's "hard" was used by participants to describe the difficulty of the online testing platform. The most prominent concern about the testing platform for participants was the changing nature of the digital features and tools. According to the teachers in this study, the testing tools have changed from one interim test administration to the next (fall to spring). In other words, the online platform appeared to be undergoing revisions throughout the 2021-22 school year. Theresa commented that "a lot of the tools have changed" and that teachers are not informed about these changes "until we actually go look over their shoulder and all my goodness there's a tool, and it is hidden in a drop-down over here, and they don't even know it's there." Theresa emphasized the same issue with the testing tools on the online platform by commenting ". . . we might not know exactly where those folders are going to be hidden on STAAR day." She summed up the concerns with the statement, "They'll surprise us every time."

Ellen provided an example of a change in testing features that negatively impacted her third graders. At one point, the online testing platform include a "pencil" option in so students could write instead of type. The revised online platform this year did not have the same option. Instead, there was a sticky note options third graders could use to type, but "typing is an issue." She noted, "We are expecting students to type, but we don't even have technology classes on campuses." Another example of a change in testing features Ellen discussed was the elimination tool. In addition to the change in the way it is used, Ellen, considering third grade vocabulary knowledge, was concerned about the "big word to describe it."

Subtheme 1: Stamina

While teachers discussed online platforms, the issue of stamina emerged. "Reading stamina is a child's ability to focus and read independently for long-ish periods of time without being distracted or without distracting others" (Reading Rockets, n.d., para. 2). The ability to maintain one's endurance during a reading exam is a concern for both paper and online assessments. Yet, in this study, participants associated the need to build stamina with the online platform and "screen fatigue." Participants discussed building stamina as a part of a test-taking goal in which teachers trained students by increasing exposure to screen time throughout the year.

Several teachers echoed the issue that reading on a screen with the online version of the test has worsened reading stamina. They felt that students are impacted by "screen fatigue" and see it in the classroom. Ellen emphasized that "it's a real thing." One teacher expressed that "reading on a screen, in general, it's harder for me." To try and combat this issue, one teacher has their students "read more and more... have both online and paper reading so that they can just have that stamina."

Ellen, the third-grade teacher, mentioned that she would have students increase the brightness on their computer device in order to ensure students were alert during testing. She then discovered through personal research that screen brightness may actually increase screen fatigue. As a result, she now has students decrease brightness. According to Ellen, fatigue and stamina are such an issue for third grade students that it is difficult for them to get through the STAAR, which includes five passages. Therefore, she felt that some of the online features, such as the sticky note tool, required a lot more effort for third graders, since they are not proficient at typing. Her concern is that this hinders stamina more than pen and paper task in which they can jot down notes instead of type.

Theme 3: *Strategies*

The participants were asked about both paper-based test-taking strategies and screen-based test-taking strategies. Paper-based strategies discussed by participants included highlighting, underlining, and dictionary searches. Some teachers provided instruction on reading test questions prior to reading the passage. Another strategy mentioned repeatedly was the application of annotations while reading. Annotations reflect a type of note-taking on a test, which can be applied in various ways. Sally referred to her students' annotations as "stop and jot" and "hashtags," which are supposed to be a main idea sentence about a paragraph. Participants mentioned that they require students to provide evidence of where they found answers in a passage, which Sally referred to as "tagging." This strategy often entails students writing down the paragraph number of the text evidence next to the test question.

Screen-based strategies shared by the participants related to ways teachers adapted previously used paper strategies for the online testing platform. Since teachers are allowed to provide scratch paper for students to use during test administration, participants reported that students use the paper for notes or annotations. Students learn to fold the paper in sections of 4 or six, and in each folded section, students are instructed to annotate. For example, instead of summarizing the main idea next to the text as was done with the paper platform, some teachers now instruct their students to write their "hashtag" and take other notes on scratch paper. The exception to this strategy was the third-grade representative. Ellen would prefer her students spend more time rereading rather than trying to take notes on scratch paper or on the sticky note tool.

Even though online tools and features were discussed, test-taking strategies geared specifically to the online test were not shared during the focus group sessions. Instead, participants expressed concerns that students may be distracted by the tools, which could hinder their test taking. The participants indicated that they have provided additional reading time on devices in the hope that exposure to screen-based text will help. Ellen, who was most worried about stamina, during testing mentioned that she encouraged brain break during screen reading, similar to the brain breaks some of her students used on the paper tests.

Discussion

The research question for the study was *How do paper reading STAAR test-taking strategies compare to online reading STAAR test-taking strategies?* Findings indicate that the teachers adapted traditional paper-based strategies for use with online assessments. Participants had limited knowledge about STAAR online tools due to inconsistencies in the platform over time. Overall, the teachers found ways to transfer previously used strategies, such as pen and paper annotations, to online test administration. However, older students have an easier time with this transfer of skills than the younger students.

The three primary themes reported in the findings include *resources*, which teachers suggested were needed to help them prepare students for an online assessment, *platforms,* which detailed the pros and cons of an online testing environment, and *strategies*, which support students as they read passages and answer test questions. Of these themes, strategies and resources seem be related in that until the online STAAR platform becomes more stable, teachers will not have the resources necessary to develop helpful strategies. A change from paper-based to screen-based testing requires traditional literacy skills as well as a new set of skills for online navigation, as transliteracy occurs. Concepts about print develop from exposure to print. The same is true of online text. Students need exposure to digital literacy tools in order to understand online text features and online navigation (Pilgrim et al., 2018). In addition, digital tools frequently change, so it will be important for teachers and students to be notified when the platform tools change.

The findings in this study align with TEA's 2020 feasibility study, which reported similar concerns when they polled Local Education Agencies (LEAs). The LEAs and campuses that participated in STAAR online testing in 2018–19 provide feedback on STAAR online administrations. According to the study, a majority of responding LEAs and campuses recommended more training for teachers and students for successful STAAR online testing. The responses also highlighted the need for teachers to participate in the STAAR online environment in the same manner in which a student would.

Conclusions & Implications

A few things can be concluded, from the input of teachers about online testing and its highs and lows. There is a misalignment between students' daily use and assessment. Students are not using the same materials for the test within their everyday learning, which could be attributed to several factors. Teachers agreed that "if you're not using it in your daily life like how you are with paper and how you're marking that transfer over isn't always as effective, I guess or as natural" and did not think "…there's enough material there to kind of allow them to practice that regularly." Teachers need better training and resources to improve their preparation of students for the online STAAR test. The lack of resources, lack of knowledge of online tools, screen fatigue and low stamina, and teaching test-taking strategies online would likely improve with more training and resources for teachers

References

Backes, B., & Cowan, J. (2019). Is the pen mightier than the keyboard? The effect of online testing on measured student achievement. *Economics of Education Review*, *68*, 89-103.
Clay, M. (2000). *Concepts about print: What have children learned about printed language?* Heinemann.
Coiro, J. (2005). Making sense of online text. *Educational Leadership*, *63*(2), 30-35. http://www.ascd.org/publications/educationalleadership/oct05/vol63/num02/MakingSense-of-Online-Text.aspx.
Coiro, J. (2021). Toward a multifaceted heuristic of digital reading to inform assessment, research, practice, and policy. *Reading Research Quarterly*, *56*(1), 9-31. https://doi.org:10.1002/rrq.302
Coiro, J. (2009). Rethinking reading assessment in a digital age: How is reading comprehension different and where do we turn now. *Educational Leadership*, *66*, 59-63.
Cresswell, J.W., & Puh, C.N. (2018*). Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE. *Research, 5*(2), 108-113. doi:10.17265/2159-5542/2015.02.003
Dodeen, H. (2015). Teaching test-taking strategies: Importance and techniques. Psychology Research, February 2015, Vol. 5, No. 2, 108-113 doi:10.17265/2159-5542/2015.02.003
FutureEd. (2018). Paper vs. Online Testing: What's the Impact on Test Scores? https://www.future-ed.org/work/paper-vs-online-testing-whats-the-impact-on-test-scores/
Harold, B. (2016). PARCC scores lower for students who took exams on computers. *Education Week*. https://www.edweek.org/teaching-learning/parcc-scores-lower-for-students-who-took-exams-on-computers/2016/02?cmp=SOC-SHR-TW
Lisenbee, P., Pilgrim, J., & Vasinda, S. (2020). Integrating technology in literacy classrooms: Models and frameworks for all learners. Taylor and Francis Publishing.
O'Donnell, P. (2016). School districts got A-grades on paper tests, but F grades online. *Metro.* https://www.cleveland.com/metro/2016/03/school_districts_got_a_grades_on_paper_tests_but_f_grades_online_survey_shows.html
Pilgrim, J., Vasinda, S., Bledsoe, C., & Martinez, E. (2018). Concepts of online text: Examining online literacy tasks of elementary students. Reading Horizons: A Journal of Literacy and Language Arts, 57(3), 68-82.
Reading Rockets (n.d.). Growing readers: Building reading stamina. https://www.readingrockets.org/pdfs/edextras/51787-en.pdf
Sukovic, S. (2016). What exactly is transliteracy? *Elsevier SciTech Connect.* http://scitechconnect.elsevier.com/what-exactly-is-transliteracy/
Swaby, A. (2021, January 5). Texas unveils plan to have all students take STAAR online by 2022. *The Texas Tribune*. https://www.texastribune.org/2021/01/05/texas-staar-online/
Terada, Y. (2020). On standardized tests, students face an 'online penalty.' *Edutopia.* https://www.edutopia.org/article/standardized-tests-students-face-online-penalty
Texas Education Agency. (Sept. 2018). Long-range plan for technology 2018–2023: Building a stronger Texas. https://tea.texas.gov/sites/default/files/Long-Range-Technology-Plan.pdf
Texas Education Agency. (Dec. 1, 2020). State of Texas transition to online assessments feasibility study. https://tea.texas.gov/sites/default/files/HB-3906-Transition-to-Online-Assessments-Feasibility.pdf
Texas Education Agency. (Nov. 2021). What parents should know about STAAR online testing. https://tea.texas.gov/sites/default/files/what-parents-should-know-online-testing-11.2021.pdf

Vacca, J. L., Vacca, R. T., Gove, M. K., Burkey, L. C. Lenhart, L. A., & McKeon, C. A. (2018). *Reading and learning to read.* (10th edition). Pearson.

Weiss, J. (2012). STAAR vs. TAKS: Texas' new standardized tests come to school next week. *The Dallas Morning News.* http://www.dallasnews.com/news/education/headlines/20120319-staar-vs.-taks-texas-new-standardized-tests-come-to-schools-next-week.ece

Appendix
Focus Group Protocol

Time of Focus Group	5:00 pm and 4:15 pm
Date	3/8/2022 and 3/25/2022
Place/Mode	Zoom
Focus Group Facilitator	Holly Dasher
Focus Group Participants	Specifics can be added later but third through eighth grade ELAR teachers in the surrounding area
Current Position of Members	Grade levels that they teach can be added
Introduction	**Introduce self:** *My name is Holly Dasher, and I am an undergraduate student at the University of Mary Hardin-Baylor with an interest in the reading STAAR test taking strategies. Thank you so much for taking time out of your busy schedule for me to ask you questions today.* **Purpose of the study:** *The purpose of this study is to use a focus group to identify and compare the strategies that teachers taught for the paper form and the online form. The presentation of the findings will compare the similarities and differences between them.* **Provide structure of the interview:** *I'd like to give you an idea about what to expect during this focus group. I'll pose a question to the whole group and allow time for everyone to respond. The focus group will take between 45 minutes to an hour. I'll be using two recording devices during the interview, one being Zoom video recording and the other an open Google document for transcription purposes. This will allow me to go back and reflect on the information you have shared.* **Ask if interviewee has questions:** *Do you have any questions?*

Questions	*I will ask these questions to the whole group and allow time for each person to respond.* 1. What test-taking strategies did you teach for the paper STAAR test? 2. What paper taught test-taking strategies did your students use? 3. How many years have your students taken an online STAAR test 4. How has the online test impacted student performance on the STAAR? 5. How has the transition to online changed the way you instruct on what strategies to use? 6. How do your online strategies differ from the paper strategies? a. If teachers did one thing on the paper STAAR test I will ask them, how did they emulate that on the online version. 7. Are students provided with or do they have the technology or materials to do these strategies? No more questions will be asked but some may be omitted if the researcher feels necessary
Closure	**Thank the individual for participating:** *Thank you so much for allowing me the opportunity to ask you all some questions. I greatly appreciate your time.* **Assure individual of confidentiality:** *I want to assure you that the information you shared with me today will be kept confidential. No names will be used in presentation of the findings.*

Authors

Holly Dasher, University of Mary Hardin-Baylor, hollydasher@hotmail.com or hjdasher@mail.umhb.edu, Holly Dasher is a senior undergraduate student in the College of Education at the University of Mary Hardin-Baylor (UMHB). She has been a member of the University's cross-country team since the fall of 2019. In that time, she has received all conference and all conference academic honors each year with a team and individual championship during the 2020-2021 season. Dasher was named to the College Sports Information Directors of America (COSIDA) Division three third team Academic All-American team for the 2020-2021 season as well. She has been a part of UMHB's chapter of FCA and helped put on a women's conference in the spring of 2021. She has been on the Provost's Honor Roll for all six of her semesters at UMHB and has been awarded three scholarships for showing excellence academics and leadership. She has also participated in Scholar's Day in the Spring of 2022 and is the current Vice President of Alpha Chi. At the end of the 2022 spring semester, she was nominated by the college of education for the Texas Association of School Personnel Administrators (TASPA) scholarship. She worked as a substitute in the Belton Independent School District during the 2021-2022 school year.

Jodi Pilgrim is a professor at the College of Education at the University of Mary Hardin-Baylor (UMHB) in Belton, Texas. With over 25 years of experience in literacy education, Jodi's passion is ensuring struggling readers receive the instruction and motimotivation necessary for success in the classroom. Jodi is an active member of the International Literacy Association and the Texas Association of Literacy Educators (TALE), and TALE awarded her the Texas Education Leadership in Literacy Award in 2019. Jodi's teaching and research interests include new/digital literacies, Universal Design for Learning, teacher preparation, and technology integration.