Does Reading on a Tablet Improve Eighth Grade Students' Text Dependent Written Responses?

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Abstract

The purpose of this action research project was to examine the effects that reading on a tablet have on students' text-dependent written responses. Additionally, this research was intended to help determine a trend in which medium students preferred to complete the reading and annotating tasks: iPad or hard copy. A total of 23 students participated in this study for a four-week period. No conclusive evidence was gathered when comparing the students' text-dependent written responses from reading and annotating on the hard copy to the e-copy. However, it was determined that approximately 90% of the 23 eighth grade students in this study preferred to complete the reading and annotating tasks via hard copy.

Keywords: iPad, ecopy, evidence-based written response, ELA, technology, annotating

Does Reading on a Tablet Improve Students' Text Dependent Written Responses?

The integration of technology within schools affects students, teachers, aides, and administration because the benefits are endless. One intent of education is for learning to be differentiated on an individual basis so that students can become more college and career ready. Because of the implementation of technology, students' instruction and learning can be differentiated more effectively. Along with technology's benefits, the traditional paper and pencil student-work environment is still beneficial to students' learning.

With the implementation of the 21st century skills, and in order to fulfill the 2010 Common Core State Standards (National Governors Association Center for Best Practices & Council of Chief State School [CCSS], 2010) and 2012 Partnership for Assessment of Readiness for College and Career (Partnership for Assessment of Readiness for College and Career [PARCC], 2012), schools are required to prepare students in ways that will lead them to navigate, perform, and learn from a technology device. While the hard copy of a text is still provided, reading and annotating on an electronic device is a skill that students need to have in order to be successful on such tests like the PARCC assessment.

Literature Review

The state and national initiatives have greatly influenced the ways in which learning and teaching take place in today's 21st century classrooms. Because of its limitless benefits, technology in education has increased tremendously in the past decade. Some schools across the country are implementing technology; some schools have one electronic tablet per student and other schools have a cart or a lab of electronic devices. While reading comprehension has been a research topic for the past century, writing instruction and composition have received more attention recently because of the rigor and complexity for teachers and students that stem from

new standards and expectations. Traditionally, reading has taken place with a paper copy, hardback copy, or from a textbook, and writing is traditionally performed with paper and a writing utensil.   Both of these traditional activities are changing as a result of the Common Core State Standards Initiative (CCSS, 2010) and the Partnership of Assessment for College and Career Readiness (PARCC, 2012).

The educator must read and understand the standards in order to prepare students for college and career readiness. It is equally important that students are aware of and use the academic language found in the standards. The eighth grade English/Language Arts (ELA) standards within the CCSS are separated by reading information, reading literature, writing, language, and speaking and listening. All of the skills associated with each standard are addressed on the PARCC assessment that students in third through eleventh grade take.

State and National Initiatives

Teacher preparation and professional development are shaped by state and national initiatives. Teachers have to be cognizant of what skills students are expected to have mastered according to the CCSS, and teachers need to be willing to adhere and adapt instruction in such a way that allows for student mastery of such skills. Two initiatives that have greatly impacted education are the CCSS and PARCC.

Common Core State Standards. The CCSS have significantly changed the expectations for both teachers and students. Students are expected to read a variety of different genres, as well as write for a variety of purposes. Both reading and writing standards call for students to be able to demonstrate mastery by using textual evidence in writing to support a text-dependent question. The purpose of this is for students to make connections between what they are reading and writing (Butler, Monda-Amaya, & Yoon, 2013).

CCSS expect students to be able to create and produce three different types of writing: argumentative, informational, and narrative (CCSS, 2010). When writing for informational or explanatory purposes, students write using primary or secondary sources and add that information to what they already know about the topic. The literacy standards expect students to be able to analyze grade-level, complex texts to support written argument (Morton-Standish, 2014). Additionally, the literacy standards require 70% of students' work to be analytical (Morton-Standish, 2014, p. 420). In other words, students are asked to write informative or explanatory texts; written responses that use evidence from a text to support their response.

One standard in particular calls for students to be able to cite the textual evidence (CCSS, 2010, CC.RL.8.1). An additional standard asks for students to be able to determine the theme of a fiction text and analyze its development over the course of a text (CCSS, 2010, CC.RL.8.2). Both of these standards call for students to be able to perform multiple complex tasks that have traditionally not been asked of them.

Research has indicated that academic writing is one area in which most students are not prepared for when they get to college (Morton-Standish, 2014). Therefore, it is essential that writing instruction improves and students become more competent and successful in complex writing. Teachers need to use the resources available to aid students in becoming more proficient writers. Combining the different rigorous tasks from the writing standards will allow students to grow as more complex learners and producers.

Writing standards have especially changed the ways in which educators teach writing instruction within classrooms (Sundeen, 2015). It has been argued that these writing standards are a great starting place for educators that wish to see improvements in students' writing (Harris, Graham, Friedlander, & Laud, 2013). In fact, after completing a survey, Todd H.

Sundeen (2015), found that five out of six middle school educators reported that standardized

tests have significantly influenced the ways in which they instruct writing in the classroom (p.

201). This suggests that it is through writing that students can prove mastery on skills like

analyzing, comprehending, evaluating, and synthesizing (Sundeen, 2015), of which all skills are

assessed on the PARCC tests.

PARCC. An additional new adoption that affects learning and teaching for both students

and teachers is the PARCC assessment (PARCC, 2012). PARCC is the assessment that

measures students' abilities to perform the skills that stem from CCSS; such skills include:

analysis of complex texts, comprehension of complex texts, and written response to text-

dependent questions (PARCC, 2012). Therefore, PARCC and CCSS are directly related.

Additionally, because PARCC can be administered via technology (i.e., laptops,

desktops, tablets, etc.), new extended-performance tasks are incorporated and new assessment

possibilities are being created because of technology's benefits and affordances (Herman &

Linn, 2014). For example, rather than filling in the bubble on a paper-pencil assessment,

students may be asked to drag particular sentences in sequential order. In other words, the skills

expected of students are growing more complex and may require more than one step to prove

understanding. As long as CCSS are implemented, the ways in which students are expected to

show mastery of the skills are changing because of technology.

With expectations for text-based writing, teachers must make informative, analytical, and

evidence-based responses more commonplace for writing practices (CCSS, 2010), which

reiterates the importance of the relationship between reading and writing. One way to increase

reading comprehension is to write about the particular text being read (Shannon, 2014). Students

demonstrate their knowledge through writing, and "both writing about text read and teaching writing have a positive impact on reading scores" (Harris et al., 2013, p. 538).

Curriculum Plan

As a result of the expectations from CCSS (2010) and PARCC (2012), the curricula implemented and strategies taught are in a state of reform. Research suggests that the new, high expectations of students are not yet being met. For example, research indicates that students were less likely to answer questions about complex texts (Shannon, 2014). Likewise, students would rather answer the questions that correspond with the easier texts (Shannon, 2014). The most common type of writing activity used by teachers is short answer response to homework; the second most common type of writing activity is a written response or a summary of what was read (Kiuhara, Hawken, & Graham, 2009). This evidence from research reiterates the fact that teachers need to give students the tools and strategies necessary to conquer complex texts, as well as opportunities to practice more complex, extended writing, so that they will be more confident in completing it on state assessments. There are affordances that technology offers that traditional paper simply cannot supply. Therefore, it is essential to consider eBooks over traditional, hard copy texts, as well as consider the benefits of responding to a text through an electronic device over paper and pencil.

eBooks. Because our society is technology driven, eReaders, mobile phones, and tablets are competing with the traditional print form of texts (Morton-Standish, 2014). Research suggests that the incorporation of eBooks and eReaders offers a plethora of benefits (Zambarbieri & Carniglia, 2012). More than half of Illinois students took PARCC online (ISBE, 2014, p. 1), which further indicates that there is a shift in the medium in which our students are reading texts.

eBooks are stocked with accommodations that traditional hardcopy books do not already have, which proves that "eBooks are an effective resource to meet the needs of many students" (Cavanaugh, 2002, p. 56). In other words, because of the interactivity and conveniences that eBooks have to offer, the way that students read and comprehend texts is changing (Schugar, Smith, & Shugar, 2013). Educators expect students to annotate and take notes on complex texts because it can improve reading retention and comprehension (MacFayden, 2011); such tasks can now be completed on an eBook device. One particular study suggests, however, that these accommodations are not being utilized to their potential (MacFadyen, 2011). Other accommodations that an eBook offers, that a print copy of a text does not, are the "tools to change the font size and offer audio" versions of the text (Zambarbieri & Carniglia, 2012, p. 395). A final affordance of an eBook, that can also be viewed as a distraction, is the interactivity, or the incorporation of hyperlinks and hierarchical organization (Zambarbieri & Carniglia, 2012). If these tools are used, differentiated instruction will become more commonplace so students can learn on an individual level.

As a result of this interactivity, digital reading allows for discontinuous reading (MacFayden, 2011). In other words, when reading on a device, readers are not reading in a chronological order. These added features can distract the reader (Schugar et al., 2013). Some added features include: images, hyperlinks, audio, definitions, in-text comprehension questions, animal characteristics (e.g., snake hissing or a dog barking), interchangeable vocabulary words, etc. With the affordances of interactivity with eReaders, some research suggests that the eBooks' features do not significantly support nor impede reading comprehension (Schugar et al., 2013).

The teacher plays a significant role in the implementation of the eBook. Furthermore, a device does not replace the teacher; rather, having such opportunities like using an eReader, should enhance the learning environment. Should schools choose to include eBooks or eReading within a district or classroom, it is essential that teachers be provided with the proper professional development to understand eBooks' benefits and distractions. Additionally, and more importantly, teachers need to model eReader strategies, like annotating and using interactions effectively (Schugar et al., 2013). Guided practice, instruction, and scaffolding should be incorporated when implementing eBooks in the classroom.

Typing responses. Several CCSS address the use of technology for learning. One standard in particular calls for students to use technology to produce their writing (NGS & CCSS, 2010, CC.W.8.6,). Therefore, when educators take the time to effectively teach and encourage proper keyboarding skills, they are doing students a favor by helping them successfully conquer a skill from CCSS (Parker & Lazaros, 2014). These foundational technological skills will help prepare them for the careers in the 21st century (Parker & Lazaros, 2014).

While it is important to consider the medium in which students respond to a text-dependent question, the focus needs to be on the content in which students include in their response.   Research indicates that because a device or screen provides a more authentic audience for their writing, students have a reason to be more purposeful with what they write (Morton-Standish, 2014). However, in some instances, the device is simply used as a substitution for pencil and paper. Thoughtful writing instruction that incorporates the use of technology can enhance and motivate students because of its authenticity (Morton-Standish, 2014).

Based on the previous research and the need for new understandings, the researcher will examine the affects on text-dependent written responses when the text is read via e-copy. When students are given the opportunity to read and annotate texts on a device (iPads), this research will help determine if the written response is affected. For example, is the written response more developed or under developed as a result of reading on a particular medium? On the other hand, the results of this research could also suggest that students written response is more written more effectively when students have both sources (the device to type and the hardcopy of the text) visible during the completion of the task.

Methods

This action research was conducted in an eighth grade English/Language Arts, ELA, classroom for four weeks in February 2016, during a Holocaust Unit. The participating students in this study were in the researcher's Block Two class, the third and fourth hour students. Quantitative and qualitative data were collected during this action research to determine the influences of reading and annotating on a different medium, hard copy versus electronic copy, on the students' ability to write a well-developed text-dependent response.

Purpose

The implementation of technology in the classroom has given students more opportunities to read on a technology device. This research unit focused on students' ability to comprehend grade-level non-fiction texts and write text-dependent written responses. The reading took place with two different mediums: paper copy and electronic copy. The writing was completed on students' iPads. Both the reading and writing components of this research were skills that helped meet the reading and writing standards (CCSS, 2010), helped enrich students' learning experience, and differentiated instruction. The researcher wanted to determine

whether or not comprehension of the text affected the evidence-based writing because of the influence of reading on a tech device versus reading the hard copy.

Setting and Participants

The site of this study took place in small, rural community in Illinois. The Junior/Senior High School consists of students in grades seven through twelve. At this school, the student population is 323 with the average class size of 15 students (Illinois Report Card, 2014-2015). Of these students in the Junior/Senior High School, 49% come from a low-income home, and 21% of the students have a disability (Illinois Report Card, 2014-2015).

The sample of participants in this study consisted of 23 eighth grade students, all between the ages of 12 through 14. The students in this study were in the Block Two ELA class, which was the researcher's third and fourth hours. This class was chosen because it had the most students and because the population of students was the most diverse. In this study, there were 10 females and 13 males. Of the 23 students, fourteen were Caucasian and nine were Hispanic. Five students had an IEP. Each student that participated in this study was given a code number to be represented by, such as 1, 2, 3, 4.

Design Protocol for Curriculum

Because of the emphasis placed on literacy strategies that effectively incorporate technology, the focus for this research was on the ways students' written responses are affected by reading and annotating on a tech device or on the hard copy of the text. The CCSS expect students to be able to use technology successfully to complete tasks; therefore, technology was also an integral component of the study in addition to reading and writing. For example, one writing standard suggestions that students use technology to produce his or her work (CCSS, 2010, CC.W.8.6). The CCSS also expect students to be able to use concrete facts, details, and

other information to support a stance on a topic (CCSS, 2010, CC.W.8.2B). These two standards were key in organizing this research project.

Instruments. The study used three instruments: six different articles from NewsELA.com (Appendix A), a rubric to score all students' written responses (Appendix B), and an emotion response survey (Appendix C). The nonfiction articles were all related to the 1940s, with a specific focus on Holocaust survivors and individuals facing discrimination. The rubric was developed by the researcher to ensure that the proper categories on students' written responses were being scored. The rubric allowed the teacher to assess writing in the categories of: introduction sentence, content explanation with textual evidence, organization, and grammar. These categories are components of the writing standards (CCSS, 2010). The survey allowed the teacher to understand the students' attitude towards reading and annotating on the iPad versus reading and annotating on a hard copy. The survey was given to the students after they completed reading, annotating, and writing the text-dependent written response. In the survey, students were asked to put the date, share which medium in which they read and annotated, and then describe their frustrations they encountered as a result of the medium.

Collection procedure. This research took place over a period of four weeks in the ELA classroom. The first step to implementing the research was to find grade appropriate nonfiction articles about the Holocaust and create text-dependent questions for each article. Students used the text-dependent questions to help focus their annotations and purpose for reading. After the articles were chosen, the researcher created questions that could only be answered effectively if textual evidence from the article was included in the written response.

Table 1

Article and Text-Dependent Question

Article #	Cited	Article Title	Text-Dependent Question
1	McClatcy-Tribune, 2014	"German artist saved hundreds of Jews during WWII"	Was Klemke in the right for keeping his secret about helping Jews for so long or should he have spoken up sooner? Use evidence from the text to support your answer.
2	Los Angeles Times, 2013	"Using a chocolate tub to grab children's attention at a Holocaust museum"	Overall, did Prochnick have a happy life? Use evidence from the text to support your answer.
3	Los Angeles Times, 2015	"Life is sweet: Baker, 90, recalls how his strudel helped him survive WWII"	Was Feld's job as a cook worth it? In other words, does Feld's story have a happy ending? Use evidence from the text to support your answer.
4	Associated Press, 2013	"Investigation finds 139 artworks, looted by the Nazis, in Dutch museums"	What is the author's stance on looted art? Use evidence from the text to support your answer. Then, compare the author's stance to that of your own, also using evidence from the text.
5	McClatcy-Tribune, 2014	"Palestinians visit concentration camp, come home to criticism"	What was the purpose of Dajani's trip to Auschwitz? Was it a success or should he reconsider this trip? Use evidence from the text to support your answer.
6	Los Angeles Times, 2014	"Through life's events, big and small, Atomettes always there for each other"	Use evidence from the text to support the ways in which the Attomettes are comparable to Jewish people during the 1940s?

Note. All articles are nonfiction articles from NewsELA (2016). All articles were between 1000-1700 lexile level. Although some students' reading levels are not this high, pre-reading discussion took place, and students have been studying the Holocaust in other classes, so they all had some knowledge base on the content.

After the text-dependent questions were created, the researcher then organized the medium in which students would read each article. The organization for Article One was for all students to read and annotate on the hard copy. This was done on hard copy so that all students

understood the expectations of the researcher for the students' annotations, and because this is

what the students were most familiar with. For Article Two, all students were to read and

annotate on the e-copy of the article. This was done on their iPads and they could choose their

annotation method. For example, some students took a screen shot of the text and uploaded the

photo onto the app Popplet (Notion, inc, 2013) and typed their annotations within that app. The

organization for Articles Three and Four was solely based on students' identification number.

The first twelve students read Article Three on the paper copy and students numbered 12 through

23 read Article Three on the tech device. The fourth article was opposite from the third article,

where the first twelve students read and annotated on the tech device and the next eleven

students read and annotated on the hard copy of the article. All students that annotated on the

electronic copy for Articles Three and Four had to complete their annotations on the NewsELA

website. The NewsELA website has a feature where readers can select text, highlight text, and

write something about the selected text. For the fifth and sixth articles, students got to choose

which medium they wanted to read and annotate. Table 2 illustrates the organization per article.

Table 2

Article and Medium Schedule

Article #	Cited	Article Title	Format
1	McClatcy-Tribune, 2014	"German artist saved hundreds of Jews during WWII"	All students will read and annotate this article via hard copy.
2	Los Angeles Times, 2013	"Using a chocolate tub to grab children's attention at a Holocaust museum"	All students will read and annotate this article via e-copy on iPad.
3	Los Angeles Times, 2015	"Life is sweet: Baker, 90, recalls how his strudel helped him survive WWII"	Student 1-12- read and annotate article via e-copy on iPad. Student 13-23 - read and annotate this article via hard copy.
4	Associated Press, 2013	"Investigation finds 139 artworks, looted by the Nazis, in Dutch museums"	Each half of students will switch groups from the previous article.
5	McClatcy-Tribune, 2014	"Palestinians visit concentration camp, come home to criticism"	Free choice
6	Los Angeles Times, 2014	"Through life's events, big and small, Atomettes always there for each other"	Free choice

Note. This table shows the organization of the mediums in which students would read the NewsELA articles. All students were required to read on the medium in which they preferred and all students had the opportunity to choose which medium they preferred to read.

The researcher decided to organize the schedule this way to give all students the opportunity to choose their preferred method of reading and annotating. Additionally, the researcher wanted to push the students to read and annotate on a medium in which they were not as comfortable. All in all, the students were given the opportunity to challenge themselves as well as work on a medium that is comfortable to them.

Results

After a four-week collection of data, several different conclusions can be gathered about the difference between students reading and annotating tasks being completed on the iPad or on a hard copy. Different factors contribute to the results of what the researcher gathered. Students'

text-dependent written response scores, students' opinions given through surveys, and students'

preferred method of completing tasks offer different suggestions about how students perform on

tasks.

Data Analysis

All students read and annotated texts on both hard copies of paper and on their iPads. All

students were assessed using the rubric (Appendix B). Upon completion of reading and

annotating six different articles and writing six different text-dependent written responses, the

researcher gathered a plethora of information after the different articles were read on two

different mediums and students' written responses to see what results could be determined. The

Figure One, entitled Articles One and Two Relationship Between Score and Medium, shows the

relationship between students' scores and the medium in which they read and annotated the text.

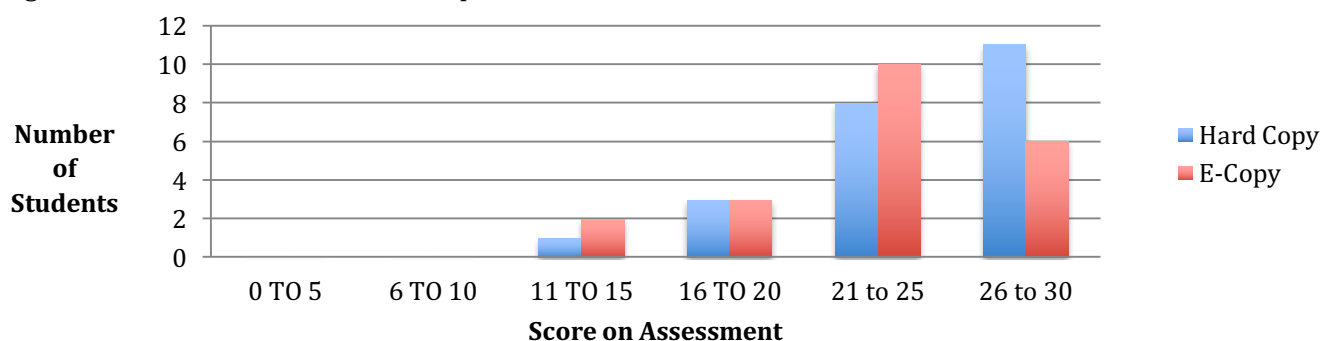Figure 1. Articles 1 and 2 Relationship Between Score and Medium

Figure 1. The double-bar graph is used to show the relationship between the score that the students received on the first two written responses and the medium in which the students annotated and comprehended. All students completed the first task via hard copy and the second task via e-copy.

As a result of the students reading and annotating on the two different mediums for

Articles One and Two, data within Figure One indicate that four more students scored higher on

the written response when they read and annotated via hard copy. Furthermore, two more

students scored a 21 or higher when they read and annotated via hard copy when compared to the

students read and annotated on the e-copy. Because a majority of the students scored 21 or

higher, there were also fewer students that scored 20 or lower on this written response if they

read and annotated via hard copy, compared to those who read and annotated via e-copy. This

indicates that after the first two articles, the students' scores on the written responses from

Article One were overall higher if a student read and annotated via hard copy. In other words,

students had more necessary components outlined in the rubric (Appendix B) that led to a well

developed written response. On the other hand, Article Two's written responses were not as well

developed when compared to Article One's written responses. Therefore, if teachers are

assessing students' writing that stems from a text, it is suggested from the analysis of the data

from Articles One and Two, to have the students read a hard copy of the text. For Articles One

and Two, all 23 students were all working on the same medium. Article Three was the first time

the researcher had the half of the students read and annotate via hard copy and the other half read

and annotate via e-copy. Figure Two shows the relationship between the students' scores

depending on which medium he or she read and annotated from Article Three.

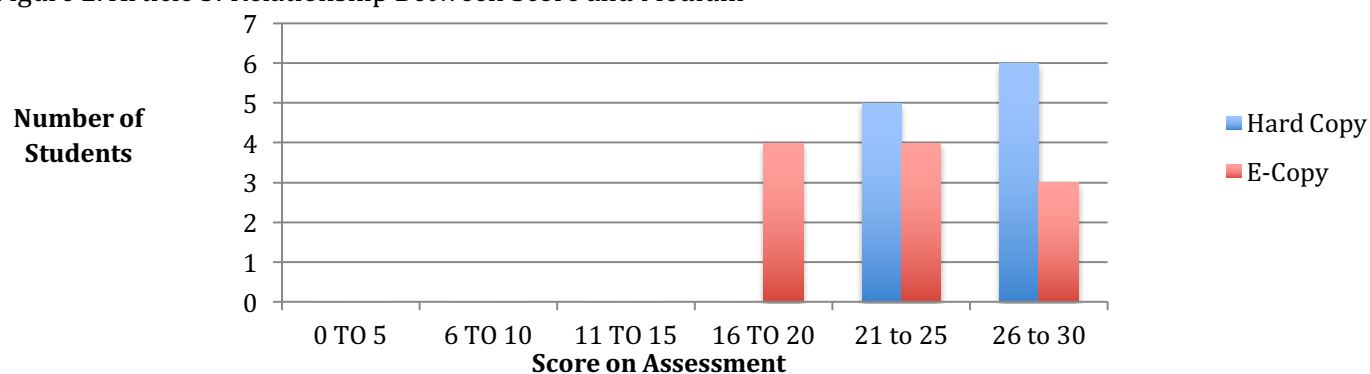Figure 2. Article 3: Relationship Between Score and Medium

Figure 2. The double-bar graph is used to show the relationship between the score that the students received on the third written response and the medium with which they read and annotated. On the third article, students 1-11 read and annotated via hard copy and students 12-23 read and annotated via e-copy.

Similar to what data Figure One showed, the data also indicated that students performed better on the written response component when the work was completed on the hard copy of the text. Not only was the students' writing stronger and used more textual evidence when they read on the hard copy, but also, students that read and annotated via hard copy did not score at all below 21 points. This further indicates that students' written responses were more developed by using evidence from the article when the reading and annotating was completed on hard copy. Therefore, if teachers are to assess students' ability to write using text-based evidence, then as this research suggests, students should read and annotate on a hard copy of the text.

This next graph, Figure Three, shows the relationship between the score and Article Four. For this article, students were required to switch to the opposite medium from what they read and annotated on Article Three. This article, "Investigation finds 139 artworks, looted by the Nazis, in Dutch museums," had a more difficult Lexile level, which may have lead to the data findings to be inconsistent with those from Articles One, Two, and Three.

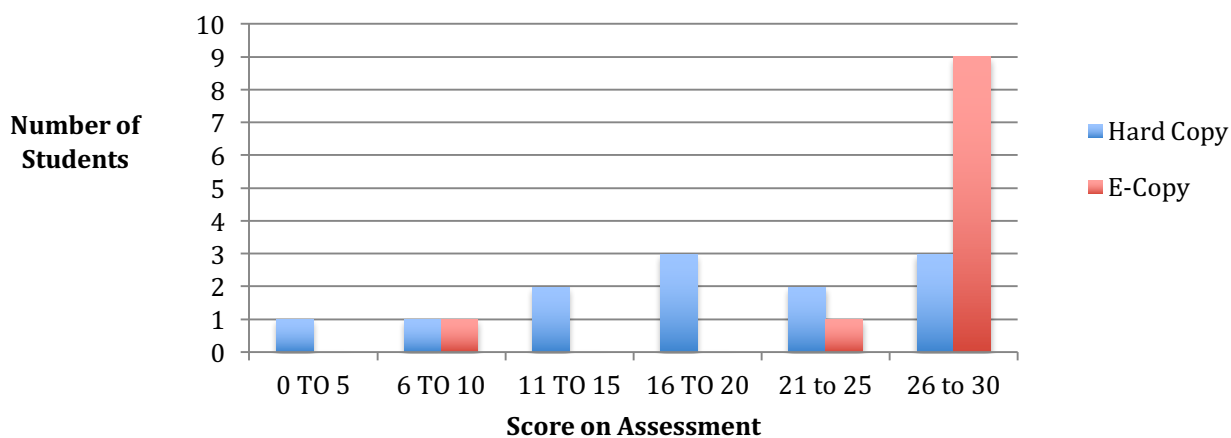Figure 3. Article #4: Relationship Between Score and Medium

Figure 3. The double-bar graph is used to show the relationship between the score that the students received on the fourth written response and the medium that which they read and annotated. On the fourth article, students 1-11 read and annotated via e-copy and students

Students knew that they would have to read on the opposite medium than what was completed for Article Three. The data gathered from Article Four does not show the same results as Articles One, Two, and Three. Because this article had the highest lexile level of 1700, several students, regardless of the medium, had a hard time comprehending this text; therefore, their written response may not have included the necessary components of a well-written response because of their misunderstanding of the text. Although no obvious feelings of frustration were evident during reading and annotating for Article Four, the researcher did notice that comprehension questions were generally higher for this article than any of the others. In other words, it was during this article that the researcher had to stop and explain the main idea of the article so that students could understand what was happening in the text. The results as displayed on this graph also show a wide range of scores, especially for the students who read via hard copy. This differs from the data on the graph in Article Three, where most of the students that completed the tasks via hard copy had a more sound, evidence-based written response. This graph suggests that just because students read and annotated on the hard copy of the text, the written response scores will not always be higher. In other words, unlike the results from Articles One, Two, and Three, Article Four suggests that the medium of the text does not directly relate to the students' written response score.

Although the students' scores were still taken into consideration on Articles Five and Six, the researcher analyzed the data differently for these two articles. Students were given the choice between annotating on the hard copy or annotating on the electronic copy for both Articles Five and Six. Not surprisingly, for both articles, a majority of the students chose to read and annotate via hard copy.

Figure 4. Articles #5 and #6 Free Choice Preference

Article #5: Preference

■ Paper   ■ iPad

9%

91%

Article #6 Preference

■ Paper   ■ iPad

13%

87%
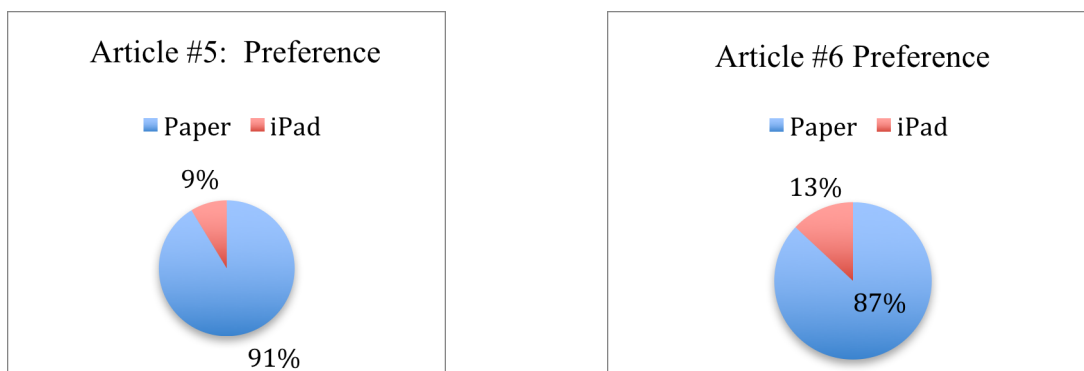
Figure 4. The two pie graphs show the medium in which students prefer to read and annotate.

The results of these charts suggest that a majority of the students prefer to annotate via hard copy. These charts also indicate that, when students are given a choice on which medium they prefer to work, their choice is the hard copy. An emotion survey (Appendix C) was given to the students after reading and annotating each article, regardless of which medium that students read and annotated, so that the research could get a better idea of how the students felt after completing the work on the particular mediums. On the survey, a 5 indicated that students were satisfied with the way in which they learned that particular day and a 1 indicated that they were frustrated with their method of learning for the day. The following graph represents students' emotional responses for Articles One and Two. Article One was read and annotated via hard copy and Article Two was via e-copy.

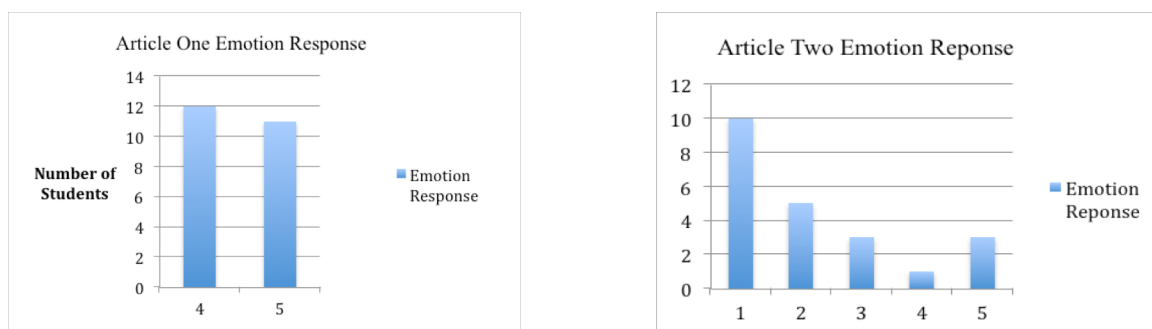Figure 5. Articles One and Two Student Emotional Response

Article One Emotion Response

Article Two Emotion Reponse

Figure 5. These two charts show the emotion response for Articles One and Two.

On Article One, all students responded with a four or a five on the emotion survey. On Article Two, the emotion responses were not as well received, where only three out of the 23 students put a five on the emotion response. Also on Article Two, an alarming 15 students rated their emotion as a one or a two. This indicates that overall, reading and annotating via hard copy, when the whole class practices on one medium and then switches to the next, is the preferential medium of completing the task. Articles Three and Four emotion response survey results were similar. Seven out of the 12 students that worked on the e-copy for Article Three were dissatisfied completely by using the iPad, as their emotion response number was a one. No students put a five for their emotion, indicating dissatisfaction when working on the iPad. When the mediums were switched on Article Four, the emotion responses were similar in that, six of the 11 students that worked on the e-copy were dissatisfied because they responded with a one. All 12 students that completed their work on the hard copy put a four or a five. This further indicates that the students were more emotionally satisfied when their work was completed on the hard copy of the text.

When students were given the choice between learning methods, a majority of students preferred to read and annotate via hard copy of the text, for both Article 5 and Article 6. While a majority of them chose this method, the scores on student written responses were not significantly higher even though the majority of the students performing on a hard copy that they preferred and had higher satisfaction when completed with this medium. In other words, students' scores were only similar to Articles One, Two, Three, and Four in the sense that they were inconsistent; therefore, not all students scored high just because they worked on via their preferred reading medium. This indicates that, although students are performing on their preferred medium, the work they submit is not significantly more well developed. Additionally, the two students that performed the learning tasks via iPad on Article Five rated their emotions as a four and not a five, when it came to being highly satisfied with how they learned. On the other hand, 20 out of the 21 students that annotated via hard copy rated their emotions as a five indicating that they were highly satisfied by the ways in which they completed the task. The students that worked with the e-copy on Article Five were two of the three that annotated via e-copy for Article Six as well. For Article Six, the emotion responses were very similar to that of Article Five, where 19 out of the 20 students indicated that they were highly satisfied with the learning task because it was completed via hard copy by responding with a four or a five.

Overall, the researcher did not find a specific relationships between the method of reading and students' scores on the written response. The researcher did learn that students prefer to read and annotate via hard copy of the text, as opposed to reading performing the reading tasks on the iPad. However, this may be a concern to be addressed because students are already asked to complete reading on electronic copies when they take the PARCC test. If the students are uncomfortable reading on the electronic device, then students may not perform as

well on state standardized tests, because of frustration levels. It may be that the student has the

potential to understand the content but is possibly uncomfortable with reading on the device. In

this instance, students' content knowledge would not be tested, and his or her comfort level with

completing tasks on the device could directly affect the score.

As a result of the research, it can also be suggested that those students that are typically

strong writers performed well throughout the entire research project. For example, five of the

students scored a 26 or higher on all six writing assignments. However, students that typically

score lower on written assignments were not as consistent with how they scored. In other words,

the students that scored low, 20 or lower, did not score this low on all six written responses.

Students' scores could be a result of understanding the content of the article, or lack thereof. For

example, Article Four had difficult content. Students may not have performed as well on that

written response because of his or her lack of comprehension. Therefore, if comprehension is

impeded on a test like PARCC, students' writing is not truly being assessed, but rather the

comprehension ability. Those students that score inconsistently would benefit from guided

instruction on both reading and writing.

Discussion of Findings

As an educator in today's technology-driving society, it is essential that I set up a

learning environment that is comfortable and conducive to students' learning. Additionally, my

priority is to facilitate student learning and find the data and examine the research to make

learning more effective for the students. It is possible that throughout this research, some

undetected variable could have negatively impacted the research completed.

Because of PARCC's (2012) emergence as the state assessment, and because PARCC

(2012) is offered online, giving students opportunities to practice electronic learning is key for

all teachers, and not just ELA teachers. From the findings of this research, one can conclude that

students prefer to read and annotate via hard copy. Another conclusion is that there were not

enough statistically significant results to indicate that students' scores are worse or better as a

result of reading and annotating via e-copy.

Limitations of Study

Throughout the duration of the research, several limitations occurred. Within the school

day, technology is not always working to the extent at which is it supposed to; students' absences

contribute to their performance on the written responses; and the demographics of the school

affect the data.   All of these situations cause limitations to the study.

Technology limitations. The school where the research was conducted has been working

diligently to continue the effective incorporation of technology in the classrooms. However,

with technology, there have been several technical issues that students have to work around. For

example, some students' iPad devices are very sensitive to the touch or the calibration is off.

When that is the case, this may cause an increase in frustration levels for the students, especially

if students were completing the annotating and reading tasks via iPad. Another example of

technology limitations is when app force-close on the iPad. When this happens, students go to

the district technology coordinator. If she is not there, this becomes an inconvenience to both the

teacher and the learner. Additionally, if new students were to come to the community and they

were not familiar with the iPad, this could also cause feeling of frustration or students to feel

overwhelmed. The feelings or gratitude towards the iPads that students feel may also limit the

study. If students view the iPads as novel and valuable, or if students do not have access to

technology or internet, at his or her house, the student may be more likely to perform the task on

the iPad to embrace the technology. On the other hand, if students are not new to technology,

they may not see the use of it as a privilege, but rather a hindrance.

Time limitations. The block scheduling allows for a sufficient amount of time to

complete the study, but the researcher also understood that having the students complete six of

the same assignment might have seemed mundane to the students. The repetitiveness may have

seem more prevalent after Article Four, which had the highest lexile level. However, in order for

the researcher to collect more significant data or to gather more reliable data, it was essential that

the reading topics be similar.

Demographic limitations. This study was completed on one eighth grade ELA

classroom that has only been 1:1 with iPads for one calendar year. Additionally, this activity,

completed on the iPads, is one that has not been practiced often with these students. If the study

had been completed with different classes, like the researcher's Block One and Block Three

classes, the outcomes would likely have been different. If a different teacher would have

performed the research in a younger or older classroom, the results may have differed. Students

that are in elementary school may appreciate the opportunity to do all the work on the iPad,

whereas high school students may prefer paper and pencil copy because that is what they have

been used to throughout most of their educational career. Additionally, the focus group

consisted of only 23 students that range from ages 12 to 14.

Reflections and Action Plan

The results of this research showed that students prefer to annotate and read on the hard

copy version of the text. However, there was not enough significant data to determine whether

or not students' writing was better developed or incorporated more textual evidence when they

performed the reading and annotating task on the hard copy. When the data pool was broken

down by individual student, the researcher noticed that if the student typically did well on a writing assignment, that was the trend throughout the entirety of the research project, regardless of which method the student read and annotated. Likewise, if the student is a poor writer, he or she generally did not do well on the writing responses, regardless of which method the student read and annotated.

As the researcher, several factors could be taken into consideration as a reflection of the research. I would be interested to see how the data would change if reading and annotating on the e-copy of texts would have been practiced more often throughout the school year. With this unit, this was one of the few times that students had to make annotations on the device. For example, Article Two's reading and annotating on the iPad device was one of the first times these students had to complete a task like this.

I would also be interested to see how much progress the students would have made if they were grouped by writing level and abilities. The results of this research could have been different if students read the NewsELA articles that better suited his or her lexile level. Although this was not a research project on student comprehension, students' ability to understand the text did have an impact on the students' written response. If I had approached this with a guided writing mindset, I could have given more small-group instruction and guidance to those students that tend to score lower on writing tasks and assignments. If I were to complete this study again, I would still do the activity based on a unit where the texts are dealing with the same topic.

In the future, I will continue to give my ELA students the opportunity to read and annotate on the iPad. Because PARCC is administered online at the school where the research was conducted, it is important that I give students the opportunity to practice such tasks.

Although many of the results of this study were not deemed significant, I enjoyed having a better understanding about the students preferred learning styles, as well as their opinion on the technology implementation in the classrooms.

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Appendix A

NewsELA Articles

Cited	Article Title
McClatcy-Tribune, 2014	"German artist saved hundreds of Jews during WWII"
Los Angeles Times, 2013	"Using a chocolate tub to grab children's attention at a Holocaust museum"
Los Angeles Times, 2015	"Life is sweet: Baker, 90, recalls how his strudel helped him survive WWII"
Associated Press, 2013	"Investigation finds 139 artworks, looted by the Nazis, in Dutch museums"
McClatcy-Tribune, 2014	"Palestinians visit concentration camp, come home to criticism"
Los Angeles Times, 2014	"Through life's events, big and small, Atomettes always there for each other"

Appendix B

Evidence-Based Written Response Rubric

Evidence-Based Written Response Rubric	3	2-1	0
Topic Sentence/Claim	Fully and directly responds to the prompt in the beginning sentence(s).	Responds to the prompt partially or in such a way that is unclear.	Does not address the prompt in the topic sentence.
Analysis/Supporting Evidence	Includes evidence of reflection and analysis of text. Evidence included is relevant and supports claim.	Mostly literal recount of textual evidence is applied. Some relevant facts are included but may not help develop stance or claim.	Little to no evidence is used. Student provides summary rather than information that supports claim.
Cohesion, Clarity, Organization	Effective transitions are used. Paragraph is well organized.	Transitions are used. Paragraph may seem choppy.	No transitions are used.
Conclusion Sentence	Includes a well developed conclusion sentence that summarizes the paragraph effectively.	Conclusion sentence is there but it is too repetitive or similar to what has already been said.	No conclusion sentence in the paragraph.
Grammar	Uses complete sentences with proper grammar to aid in readability.	Includes incomplete sentences or bullets and readability is impeded.	Response is unclear due to incorrect grammar.

Appendix C

Students' Medium/Emotion Response Survey

<div align="center">
Medium & Emotion
Qualitative Data
</div>

Today, _____ I, _____ read and annotated my assignment
            (date)   (name)
 iPad/hard copy.

On a scale of 1-5 (1= disagree; 5= agree), I enjoyed reading and annotating this way. _____
                                                                                    (number)
Please provide information or explanation as to why you felt this way.

_____

_____

_____