Supporting Middle School Students' Critical Reading of Online Texts

by

Todd William Yancey

Bachelor of Arts, University of Pittsburgh at Greensburg, 1993

Master of Education, Saint Vincent College, 2011

Submitted to the Graduate Faculty of the

School of Education

of the requirements for the degree of

Doctor of Education

University of Pittsburgh

2021

UNIVERSITY OF PITTSBURGH

SCHOOL OF EDUCATION

This dissertation was presented

by

Todd William Yancey

It was defended on

March 22, 2021

and approved by

Byeong-Young Cho, PhD, Associate Professor, Hanyang University

Linda Kucan, PhD, Professor, Dept. of Teaching, Learning, & Leading

Charlene Trovato, PhD, Clinical Associate Professor, Dept. of Teaching, Learning, & Leading

Thesis Advisor: Emily Rainey, PhD, Assistant Professor, Dept. of Teaching, Learning, & Leading

Supporting Middle School Students' Critical Reading of Online Texts

Todd William Yancey, EdD

University of Pittsburgh, 2021

In this action research study, I designed, taught, and analyzed results of a unit in my eighth grade English language arts classroom. The unit focused on supporting students' critical reading of online texts. My research questions were: 1. Within a focal unit, how did I support my students' critical reading of online sources? 2. Within a focal unit, how did my students learn to critically read texts they accessed online? Drawing on Freebody and Luke's (1990) four-resources model, I found that students most frequently engaged as text participants and text users in their reading of online texts. Like my students' talk and my unit design, my instructional talk also tended to move between supporting students as text participants and text users. Conclusions are of interest to other classroom teachers, especially those concerned with literacy teaching and learning.

Table of Content

List of Tables

List of Figures

1.0 Problem Statement

Critically reading and evaluating information online is essential in the 21st century. People use online searches daily to accomplish both personal and professional tasks. People type in a keyword or phrase and hundreds of thousands of possible sources appear in a matter of a second. These results can often be filled with irrelevant or misleading information and require sophisticated literacy practice to sort and sift, compare perspectives and claims, and draw conclusions. Because weighing information and drawing conclusions is also important for voting and other political activity, some have argued that critical online reading is key for ensuring a strong and informed democracy (Smith, 2017).

Given the importance of ensuring that adults are consistently able to critically read online information, both national and state standards now reflect the importance of teaching online skills. The Common Core State Standards Initiative (2020) and the Pennsylvania Core Standards (2013) both state a focus on conducting research in the middle grades, which includes conducting short research projects to answer a question and utilizing both print and digital sources. Another focus of the standards is determining credibility, reliability, and validity of sources, as well as drawing evidence from informational texts to support analysis, reflection, and research.

Even though middle grades learning standards include the importance of teaching online research skills, there is still an important and persistent question about how to best design instruction that addresses these skills. Sadaf and Johnson (2017) suggested that in order to teach critical online literacy skills, teachers themselves must be digitally literate, and further suggest that professional development programs must focus on the digital literacy of teachers to fulfill national accreditation standards and to pursue educational reforms to its fullest extent. Many teachers,

including myself, are unsure of how to approach this "new" skill of online research. Sadaf and Johnson (2017) discovered through studies that many teachers interviewed feel ill-prepared to support their students in developing digital literacy skills effectively. Teachers allow students to use the Internet for research, but often have little understanding themselves in evaluating online texts. Often this is due to lack of curriculum or professional development.

In my own context, I have experienced a similar problem with a lack of professional development and a curriculum that does not address the current standards. In order to address this problem, I need to design instruction that supplements the current district curriculum and is aligned to state standards and meets the needs of my students. Even though I see my students as tech-savvy and knowledgeable in searching the Internet, I have noticed that they often do not question where the information has come from or whether a source or author is reliable or unreliable. They often do not know how to refine their search criteria and give up easily if their requested information does not show up on the first two pages of search results. This problem alarms me, and I know that I have a role to play in their learning.

I began my EdD program committed to exploring this problem. I did not know how to best teach my students to critically read informational texts online. I sought to design learning opportunities for my students that would begin to incorporate critical online reading and study and improve them through a cycle of action research. In this thesis, I report results of my review of the literature, my method and artifacts from my instructional design, which ultimately included a 16-day mini-unit that I taught my eighth graders, my results, and my conclusions.

2.0 Review of Supporting Scholarship

I began my process by researching possible strategies and frameworks that could be used in my classroom to support students' critical online reading. I focused specifically on the reading of informational texts. These questions guided my review of scholarly and professional literature:

1. What are the processes and practices involved in evaluating informational texts?

2. What are the specific processes and practices required when informational texts are located and read online?

3. What instructional approaches have been designed and implemented for adolescent readers to support locating and evaluating information on the Internet?

2.1 What are the Processes and Practices Involved in Evaluating Informational Texts?

Informational text is a type of nonfiction. Its purpose is to convey information and may be in many different formats, such as encyclopedias, reference books, textbooks, websites, and periodicals. Informational text may include text features, for example tables, pictures, captions, and glossaries that help the reader understand the content. Research demonstrates through studies that readers approach informational texts with the task of locating and understanding information for a specific goal. Researchers have found certain strategies that help readers understand informational text with a purpose in mind.

2.1.1 Role of Reader Characteristics

One component of evaluating informational texts involves individual characteristics of the reader. In 2009, Fox conducted a systematic review of relevant aspects of readers' processing and products through a body of 45 studies, considering reader characteristics of ability, experience, knowledge, and interest. In considering various studies involving reader characteristics in processing and learning from informational texts, Fox's findings suggest that a reader's characteristics of ability, experience, knowledge, and interest played a factor in how much comprehension, involvement, and engagement went into the comprehending and further synthesizing of the text. One prominent pattern across the studies reviewed was that reading ability did make a difference in how readers processed as they read and learned from informational texts; therefore, more capable readers were more successful in learning and processing the information presented and therefore better at making use of the texts in constructive ways.

Fox's (2009) review suggests that some amount of successful reading is located within the individual. That is, there are "stronger" and "weaker" readers. But it also suggests that any individual's reading success may vary based on the ways that their experience, knowledge, and interest align with the reading task. In other words, a reader who is reading a text about a topic that they know a lot about for a clear purpose may appear to be a better reader than they would if they were reading a text about a topic they know little about for an unspecified purpose.

2.1.2 Text Evaluation

Although Fox's (2009) review of empirical work is a helpful beginning place, it does not specifically focus on the process of text evaluation or critique. Freebody and Luke (1990) offer a

four-part framework that does begin to describe a process of text evaluation. According to this framework, the successful reader is able to engage with 4 practices: (a) code breaker, (b) text participant, (c) text user, and (d) text analyst. Effective readers are able to toggle through all four practices depending on their reading purposes.

Acting as a text participant means that the reader draw inferences in connecting textual elements and background knowledge to help make sense of the text. Acting as a text user means developing and maintaining resources to participate in, largely in instructional contexts. The author's idea that reading and writing are social; therefore, a successful reader should be able to participate in those social activities where text plays a central part and where adequate reading take place, such as school, work, leisure, or civil purposes. As a text critic the reader grapples with why the text was crafted and decipher its meaning through one's own knowledge and ideological position. To be a critical reader, the reader must understand the author's purpose for writing and through one's own understanding be able to question the information presented with a critical view.

2.1.3 Social Nature of Reading

Freebody and Luke's (1990) framework highlight the important differences between reading to comprehend or to accomplish a purpose and reading to critically evaluate. Further, it represents the social nature of text use. Rather than a simple cognitive process of an individual reader's meaning making with a text, it shows that reading happens in social contexts and for real purposes, such as school, work, or civic purpose.

Like Freebody and Luke (1990), Gee (2001) also stresses the social aspects of reading. Gee states reading is not only about words, but incorporating one's experience within the worlds of

home, school, and work. The idea is that reading and writing are social, and you have to approach literacy with the understanding that culture and one's social interactions play a large role in literacy. Gee explains his idea that language is situated in action and experiences, and it is through action and experience that one gains perspective and understanding.

The meanings of words, phrases, and sentences are always situated within our contexts, meaning not just words, but also our purposes, values, and intended courses of action and interaction. Language is not about conveying neutral or objective information, but about communicating perspectives on experience and action in the world (Gee, 2001). My understanding of Gee's points is that the process one takes to understanding and comprehending is social and rooted in action and perspectives.

2.1.4 In Sum

These particular sources help me understand that reading and understanding of informational text are multifaceted in that many issues need to be considered in determining one's ability to comprehend text. Fox (2009) draws attention to a reader's experience, prior knowledge, and ability to use inferences as ways to support comprehension and therefore allow a reader to become more critical of the text. Freebody and Luke (1990) and Gee (2001) also suggest that reading is social and situated in action and it is through deep engagement with texts that critical or evaluative meaning making occurs.

2.2 What are the Specific Processes and Practices Required when Informational Texts are Located and Read Online?

Is the process involved in reading print-based informational texts the same as what is involved as a process in reading informational texts online? Although reading is reading and comprehending the text is a vital component to understanding any informational text, many researchers' studies over the last 25 years have suggested that a new group of strategies need to be employed when reading online (e.g., Cho & Afflerbach, 2015). The multimodal reading aspect of the Internet, with its hyperlinks, search engines, URLs, and the myriad of information choices and pathways, has been suggested by researchers that the process one evokes to search information online is quite different from that of simple, print media (e.g., Hoch, McCarty, Gurvitz, & Sitkoski, 2018). Recently, one scholar has begun to write about online critical evaluation as "the process of judging the extent to which information is relevant and credible" (Forzani, 2019, p. 404).

2.2.1 Specific Demands of Online Reading

In addressing the challenges presented for students when conducting information searches online, as well as exploring the challenges for classroom teachers in adopting new pedagogies to accommodate a new curriculum for digital literacy, Dwyer (2013) notes multiple complexities introduced for student readers in an online environment:

- The reader must read selectively and strategically, monitoring the text to be read, while
    - at the same time avoiding unwarranted distractions, such as advertisements and website clutter.

- The content of hyperlinks is hidden from view and consequently the online reader is less able to construct meaning by drawing on contextual information.
- Learner control and choice is heightened in an online environment. When searching for information, the reader generates search strings and evaluates search results, chooses which hyperlink is pertinent to the task and which is extraneous, judges what information to skim quickly and what information to scan carefully. This is quite different from a literary standpoint that a print-based source.

The author also suggests skills needed for students when searching for information online:

- For purposeful reading and inquiry, it is important that students formulate engaging questions to provide a purpose for their inquiry, set a context for problem solving, and establish a goal for learning.
- The online information inquiry process should encompass both the ability to generate and revise search strings and investigate search results in a critical manner.
- The ability to investigate search results speedily and with a critical eye is an important Internet skill to master.
- Teaching students to realize that misleading and erroneous information is placed on the Internet and to challenge if the information is reliable. Likewise, an author's hidden agenda, bias, and purpose need acknowledged.

Lastly, Dwyer (2013) states that the ability to work collaboratively to construct meaning, to problem solve as part of a team, and to develop new understandings by exploring multiple perspectives are valued in the workplace and should be nurtured in the classroom to enhance learning.

Forzani (2019) lays out a three-tiered framework for evaluating a topic of interest online in considering relevancy and credibility. The framework positions readers as proactive judges engaged in a dual process of evaluating while constructing understanding to learn about a topic of interest.

Forzani's three-tiered framework is as follows:

1. Evaluating the content refers to assessing the accuracy of ideas presented through explanations and arguments, including claims, evidence, and reasoning.

2. Evaluating the source refers to assessing the trustworthiness of the source of information (author). Furthermore, it involves evaluating the author's expertise, point of view, and purpose.

3. Evaluating the context refers to assessing the trustworthiness of the context in which the ideas are presented and includes elements such as genre, presentation, URL type, and currency (p. 404).

Although Dwyer (2013) and Forzani (2019) name the specific online evaluation practice with texts somewhat differently, there are clear similarities, such as evaluating a source's reliability and to view sources critically, through inquiry and evaluative strategies.

2.2.2 Trends in Adolescents' Online Reading

Many adolescents struggle in evaluating online information, such as identifying the author, author's point of view, evaluating the author's expertise, and the website's overall reliability. In one recent study, Coiro, Coscarelli, Maykel, & Forzani (2015) sought to provide empirical data on the specific types of evidence that seventh graders use to judge the quality of online information by studying 773 students in a stratified random sample involving schools in 42 districts from two

states in Northeastern United States. The students represented a diverse range of ethnic and socioeconomic backgrounds and achievement levels.

Coiro et al. (2015) analyzed four critical evaluation items, including students' ability to determine: the author of a given website, the author's level of expertise, the author's point of view, and the overall reliability of the website. The students completed two 16-item assessments. The students were given a scenario to research and were asked to use a search engine to locate two to four websites with information related to the scenario and summarize relevant details into a notepad. Students answered four questions for the evaluation items. Content analysis from the study revealed that across four items designed to measure online critical evaluation skills, an average of only 25% of responses applied acceptable criteria and clear reasoning to judge the information quality. And, 69 – 79% of responses included a range of unacceptable, vague, or otherwise superficial criteria to determine the evaluative items.

Coiro et al. (2015) conclude that students do not tend to read carefully when searching information and are more concerned with content relevance than credibility, and they also rarely focus on source features to evaluate reliability and author perspective. They further conclude that many students may benefit from instruction that supports students to consider information about authors and their affiliations when determining level of expertise, to make inferences about the consequence of an author's point of view, to grapple with conflicting information, and to use multiple indicators of reliability.

The Coiro et al. (2015) study reinforces the idea that the online reading context holds particular demands for readers. It also suggests that adolescents would greatly benefit from instruction and support targeted toward their online reading.

2.2.3 In Sum

Successful online readers are efficient in assessing the credibility of sources, reducing the number of sources to a manageable number, and discerning a text's relevance with a reading goal in mind. Successful Internet readers are strategically active in navigating information spaces, testing hyperlinks, examining information, and determining the order to read texts. While online, a reader makes continuous decisions on what to read, what to ignore, and the reading path to follow to attain the end goal. Making tentative judgements about sources and links are an important part of online reading. Inferences play an equally important role with content, author, quality, and potential uses.

The overlying idea within the literature is the difference that researchers have found between standard, static print-based sources and that of which is required when reading online informational texts. The process and practice required in a reader evaluating online texts is different, therefore the comprehension skills involved with teaching will be different too. To garner success, the approach that teachers use will have to be modified to better suit the learner understanding and evaluating online texts. In my 15 years as an English and reading teacher, I have never realized that the process and skills required to comprehend online text is quite different than the skills needed to comprehend print-based text, let alone what it requires to evaluate online texts.

2.3 What Instructional Approaches Have Been Designed and Implemented for Adolescent Readers to Support Locating and Evaluating Information on the Internet?

The studies I have reviewed point to the need for supporting adolescents' critical online reading. As a practicing teacher, I am especially interested in guidance on how to best do this in my classroom. I have reviewed many relevant frameworks and ideas, and I offer especially promising ones for my classroom practice in this section.

Cho and Afflerbach (2015) suggest four strategies to foster students' online reading success: (a) Allow students to explore and select multiple possibilities of text choice, (b) support students as they interconnect and learn across multiple sources, (c) guide students to evaluate and critique texts in multiple aspects, and (d) encourage students to monitor and adjust their reading.

Similarly, Leu et al. (2015) suggests three key principles that teachers can use as best practice as they seek to teach evaluation of online texts in the classroom. First, the researchers recommend that teachers explicitly teach online search skills. The ability to read and locate online information is a gate-keeping skill and students must be supported if they are to learn to tackle complex problems using digital tools. Second, they recommend that teachers support students' growth as "healthy skeptics" who question information for reliability and accuracy, bias and point of view. Third, they recommend that teachers integrate online communication into lessons in order to develop a culture of effective online information use in classrooms.

Forzani (2019) offers instructional recommendations for adolescent readers as well:

- Allowing students to choose their research topic is a motivating factor in which they will feel vested in.
- Providing a foundation of critical habits when evaluating online texts, will forego into future research skills.

- Viewing information accuracy and source authority with skepticism will encourage critical analysis.
- Providing opportunities for readers to present and defend their opinions through discussion or writing, encourages understanding.
- Engaging readers to multiple websites on a topic, allows flexible thinking. Forzani suggests having students work in groups and place each website on the continua for relevancy and credibility, asking them to share their evidence and reasoning.
- Exposing students to the same kinds of texts they will see on the open Internet will help them develop the tools they need beyond the classroom. Teaching students to navigate the Internet by modeling evaluation with the framework can help them learn to think critically. For example, Forzani proposes to expose students to two websites with opposing claims, one that is much less credible than the other. Students will likely question credibility further since both claims are likely to be true. Ask which website they find more credible and why.

Together, the instructional guidance offered by the scholars described above share certain recommendations. They all stress that students need to be taught how to evaluate the credibility and reliability of a source. They also emphasize that teaching online evaluation strategies should be modeled in the classroom by engaging students in assignments and projects that involve online investigative searches with authentic goals and purposes.

2.4 Conclusions and Pointing to My Study

Over the last 25 years much research has been done on how best to teach digital literacy skills regarding evaluating online sources' credibility and reliability. There are several studies that suggest best practices and frameworks to integrate into curriculum learning to ensure core standards are being taught, and students are being prepared as critical learners in the digital world they will be soon working in. Cho & Afflerbach (2015), Coiro et al. (2015), Castek & Manderino (2017), Leu et al. (2015), and Forzani (2019) offer frameworks and best practices that will lend well to my classroom study in teaching my English classes how to critically evaluate online sources when considering credibility and reliability.

In considering my students' abilities as 21st century digital literacy learners, I believe they are efficient in carrying out general online searches. My students also clearly know their way around the Internet. For example, they use social media, music streaming, email and communication platforms, and game applications. What I suggest that they need to learn is to become more critical in online searches and to consider the reliability of a source.

One cannot expect a student to know something that hasn't been taught; therefore, I will need to specifically teach online evaluation strategies, drawing upon my review.

3.0 Method

In Fall 2020, I conducted an action research study in my middle school classroom. I designed a short mini-unit, taught it, and collected records of student learning and my teaching. My goals were to explore new approaches for supporting my students' critical online reading, study those approaches, and generate conclusions for my future instruction. I asked:

1.Within a focal unit, how did I support my students' critical reading of online sources?

2.Within a focal unit, how did my students learn to critically read texts they accessed online?

Action research is "active, reflective, and problem-solving in nature" and it uses a "strategic process or approach for investigation" (Buss & Zambo, 2016, p. 141). Action research works best for practitioners, like me, who are not only the researcher, but the facilitator and teacher as well. As such, action research was a good fit for my professional role and problem of practice.

3.1 Study Context

I am a teacher in the Belle Vernon Area School District (BVASD). BVASD is in Southwestern Pennsylvania in the city of Belle Vernon. The current enrollment is 2,200. BVASD is 95% White, with African American, Indian, Asian, and Latino making up the other 5%. Of the two elementary schools in the district, one is considered Title One, based on free and reduced lunch data. There is one middle school and one high school. The district is mixed regarding

household income. There are several low-income housing areas, including trailer parks and section 8 housing, as well as upper-income areas with houses selling for $250,000 - $500,000.

Because of the current Covid-19 pandemic, my school consisted of two separate groups, a group of in-class learners and a group of remote learners that communicated daily via Zoom. My school used Google Classroom to communicate assignments and provide material for both groups of learners.

3.2 Participants

In Fall 2020, I had two eighth-grade English classes, totaling approximately 50 students. Given the unusual class schedule and likelihood of interruptions to the unit sequence, I selected 8 focal students to include as study participants. These 8 focal students were all drawn from one of my eighth-grade classes. They comprised the complete group of "fully online" students from that class period. The students consisted of four white males and four white females. I expected that these students had not had explicit instruction about evaluating online sources, as it is not part of the sixth- or seventh-grade curriculum.

A major affordance of focusing on one specific group of students is that it made my data collection more feasible. I was nervous about how the day-to-day changes to our school calendar and my teaching schedule would complicate my data set. By focusing on one group of fully online students, it limited the potential for interruptions. Focusing on a group of fully online students also helped me to collect cleaner data. Classroom recordings are notoriously difficult to use because students' voices can often be quiet or muffled and the noise of the classroom is loud. However, recording Zoom classroom meetings meant that all students were at their computers with

individual microphones. Their voices could be captured clearly. I also expected that my choice to focus on 8 students would support my analysis, because it would minimize the need to tease apart school and schedule interruptions from my goal to explain and draw conclusions about my instruction.

As the classroom teacher at the center of this action research study, I was also a participant.

3.3 Instructional Plan

I sought to integrate specific components of previous research studies and frameworks of Cho & Afflerbach (2015), Coiro et al. (2015), Castek & Manderino (2017), Leu et al. (2015), and Forzani (2019) into my unit. These researchers have offered useful and worthwhile suggestions and ideas that have allowed me to design a unit with the purpose and goal of supporting my students to be critical readers while online.

There were three key principles that drove my unit design: 1) valuing co-construction of learning; 2) ensuring project-based and purposeful learning; 3) supporting student-directed and continually engaged activity.

Valuing co-construction of learning was a proposed suggestion from Forzani (2019). When students play a bigger role in the activities and lessons, they will feel more vested in their learning. For instance, by allowing the students to discuss with each other the evaluation process, they will feel that their contribution to the unit is justified, as opposed to being only teacher-directed. Likewise, Dwyer (2013) suggests making units project-based and purposeful when teaching the students online evaluation skills such as inquiry questioning, where students formulate engaging questions to provide a purpose for their inquiry, set a context for problem solving, and establish a

goal for learning, such as the need to understand how to adequately evaluate online sources for the purpose of skepticism and fact-finding. Lastly, Cho and Afflerbach (2015) reason that lessons should focus on being student-directed in keeping them continually engaged. By allowing them to choose their own topics, formulate their own

questions, and synthesize what they found as an end product, will not only keep them continually engaged, but offer pride in an end product and a deeper understanding for future source evaluation.

I designed an 8th grade English language arts unit that incorporated these goals and design principles. See Appendix A for Unit Plan.

3.4 Data Sources

I collected artifacts of my teaching and students' efforts through various collection methods. To answer research question 1, I collected the following data sources:

- My own lesson plans (15)
- Audio recordings of my teaching and student interaction and discussions (10 days)
- To answer research question 2, I collected the following data sources:
- All written work that the 8 focal students produced in the unit (5)
- Rubric for slide presentation (1)
- Audio recordings from the class and small student group activities (7 days)

Throughout, I considered the collected audio recordings my primary data. I wanted to understand how students' talk revealed their critical reading of texts, and how I supported students' critical reading in my instructional talk.

3.5 Data Analysis

I conducted my analysis in reverse order of my research questions. I began by transcribing my audio files from students' small group work and then looking for patterns responsive to question 2: how did my students learn to critically evaluate online texts?

The main data source was in the form of audio recordings within the group (7 days). I split the focal students into two groups: a boys' group and a girls' group. These two groups worked together over a set of days to critically evaluate texts online. Looking closely at what they said in these small group meetings gives insight into how they were learning throughout the unit.

I developed a code book using Luke and Freebody's (1990) Four Resources model. To do this, I returned to their argument and then considered how the student talk I collected aligned with their four processes. See Table 1 for student talk codes.

Table 1 Code Book - Student Talk

Code Breaker (Decoder)	Text Participant (Comprehender)
Student is working to "break the code" of the symbols they are looking at. This can include alphabetic knowledge and putting together sounds in words. Examples include: • Student appears to stop and sound out a word; • student says they are unsure about where to begin reading; • student says they are unsure about what a symbol means. Not present in data	Student is working to make sense of the text. This can include making connections, drawing inferences, asking, and answering comprehension questions. When acting as a participant, the student is working to make meaning. Examples include: • Student considers what the meaning of a bar graph is; • Student summarizes big idea of article • Student makes connection with prior knowledge Data examples: - "The author is Randy Kalman, PhD. It was posted October 5, 2018." - "The title is "Should Schools Cut the Physical Education Classes?" OK, I got the

	date. I got the author. The author is Matt Woetus. The date is November 24, 2015."
Text User Student is working to reason and draw conclusions by interacting with the text. This category represents students knowing how to use texts for specific purposes. This can include noticing elements of the text in order to consider trustworthiness. Data examples: - "I think it's credible and reliable." (claim) - "It has actual dates. It says dates when everything was published. Dates when the study was published" (reasoning process) - "She brings up Cornell University, which is well known. She brings up MSNBC, which is a news source. (reasoning process) - "He had actual studies. It's a good, published date too. He has other books too. He has two books about technology."	Text Analyst Student is working to detect points of view, ideologies, and bias in text. This category represents students being able to critically analyze texts and use critical practices to write and create new text. Not present in data

To characterize the learning opportunities, I provided students to critically read online sources (question 1), I primarily focused on my instructional talk. I looked for my own instructional moves in the classroom recordings. What was I asking students? Where was I pressing? How did I actually characterize the work of reading informational texts?

I created a parallel codebook that would help me capture patterns in my instructional talk. Returning again to Luke and Freebody (1990), I considered what it would sound like for me as the teacher to support students as code breakers, text participants, text users, and text analysts. I created an initial scheme and then reviewed my classroom videos for instances of each. See Table 2.

I used all other instructional materials (e.g., lesson plans) as supplemental data.

Table 2 Code Book - Teacher Talk

Code Breaker (Decoder) Teacher is teaching to "break the code" of the symbols students are looking at. This can include alphabetic knowledge and putting together sounds in words. Examples include: • Teacher helps student sound out a word; • Teacher helps student that is unsure about where to begin reading; • Teacher helps student decipher what a symbol means. Not present in data	Text Participant (Comprehender) Teacher supports students' comprehension. Examples include: • Teacher demonstrates how to identify main idea of a text • Teacher explains to students how making inferences with the text can benefit understanding • Teacher asks students to make a connection Data examples: - "Notice if I scroll down, I find more information about the author and an updated published date."
Text User Teacher is demonstrating and helping students understand how to reason and draw conclusions by interacting with the text. This category represents students knowing how to use texts for specific purposes. This can include noticing elements of the text in order to consider trustworthiness. Data examples: - "Why would it be important to know more information about the author? How would that information help us determine whether the source is reliable and credible?" - "Why does your group think that the source without an author is stronger than the source with an author?"	Text Analyst Teacher is demonstrating and helping students detect points of view, ideologies, and bias in text. This category represents students being able to critically analyze texts and use critical practices to write and create new text. Not present in data

See Table 3 for day-to-day activities and the data source of collected artifacts.

Table 3 Student Activities by Day and Artifacts Collected

Day(s)	Activity	Data Source
1	Pre-lesson Survey of Terms	Google Form of question and answer
2&3	Activity 1 – Group evaluating two conflicting sources	Google Doc of two conflicting sources provided with guided questions and audio file recording
4&5	Activity 2 – Group evaluating three sources for strongest source	Google Doc of three sources provided with guided questions and audio file recording
6	Activity 3 – Group evaluating two sources without guided questions	Google Doc of two sources provided without guided questions but student notes and audio file recording
7&8	Activity 4 – Group evaluating one source and search for stronger source with justification	Google Doc of one source provided without guided questions but student notes and audio file recording
14-16	Final Google slide presentation	Google slides of all eight focal students

3.6 Trustworthiness and Credibility of My Research Process

As an action researcher and classroom teacher, there was the possibility that I would bring a biased perspective to the study's findings by being directly involved in the research through collection of data, analysis, and teaching. For example, I have a professional stake in demonstrating that this approach yielded evidence of student learning. Yet, I acknowledge that my instructional approach did not yield neat or completely positive results. To ensure that I saw

what is present in the data, rather than what I wanted to see in the data, I enlisted the help of others. I have shared the full data set with my thesis advisor and co-analyze sections of data. This has yielded confidence in my process.

Second, since I created my particular instructional approach for use in my classroom context, it is possible that it may not transfer easy to other educators or researchers who wish to carry it out. This is an issue that is common of action research studies and not necessarily a problem, as long as I do not make claims of generalizability.

As an action researcher, I want to ensure that my action research is rigorous. Melrose (2001) suggests several ways that an action researcher can ensure rigor. For one, repeating the cycle helps to develop adequate rigor. The early cycles are used to help decide the latter cycles. Each cycle builds on the previous and becomes stronger. For me, I engaged in an early version of this unit in 2018-19, in which I taught my seventh-grade students an online evaluation method known as the CRAAP Test. As an acronym, CRAAP stands for Currency, Relevance, Authority, Accuracy, and Purpose. Overall, this experience gave me insights in teaching online source evaluation and aided my design of this current unit. Even though my thesis was completed as one cycle, I drew upon my reflections and the feedback I received on my initial mini-unit. Secondly, Melrose (2001) suggests that rigor can be established by having an experienced researcher involved in the study, one that helps facilitate and oversee a study and incorporate their experience to ensure rigor. In my own research, my advisor is an experienced researcher and has encouraged rigor in my action research study. Thirdly, Melrose (2001) notes that rigorous action research uses appropriate methods of collecting data, such as critical research for the situation, inclusive, involving, and informing for those supplying the data, and research that is likely to result in new knowledge. Also, data from several sources have been checked for patterns and themes, as a means for rigor. Lastly, in interpreting and reporting data, an action researcher should provide reasons for patterns in data and explain why differences might exist (Melrose, 2001). I have analyzed my data

thoroughly, making connections and explaining observations, as a means of inducing rigor within my study.

4.0 Findings

In this section, I report patterns from my data analysis. I begin with my second research question, within a unit designed to support their critical reading, how did my students learn to critically read online texts? I assert that students most frequently engaged as text participants and text users in their reading of online texts. For one of the two student groups—the boys' group--there was also a shift toward more critical talk as the unit unfolded.

4.1 Students' Engagement with Texts

I analyzed four key small group activities that occurred in the unit. Each of these activities involved students splitting into small groups via Zoom to make sense of one or more informational texts. Activity 1 happened on days 2 and 3 of the unit; Activity 2 happened on days 4 and 5 of the unit; Activity 3 happened on day 6 of the unit; Activity 4 happened on day 7 of the unit.

I coded a total of 8 sessions: Activities 1-4 for the boys' group, and Activities 1-4 for the girls' group. I coded each turn of talk using the student coding scheme. See Tables 4 and 5 for frequencies.

Table 4 Boys Code Frequency by Category

Category	Activity 1	Activity 2	Activity 3	Activity 4
Code Breaker	0	0	0	0
Participant	12	59	8	7
User	7	19	27	13
Critic	0	0	0	0
Total	19	78	35	20

Table 5 Girls Code Frequency by Category

Category	Activity 1	Activity 2	Activity 3	Activity 4
Code Breaker	0	0	0	0
Participant	50	61	12	46
User	22	25	9	22
Critic	0	0	0	0
Total	72	86	21	68

Overall, my coding of student talk revealed 0 instances of code breaking or text critic. Instead, students frequently moved between text participant and text user, often in rapid succession in their discussion. I coded 86 instances total of the boys engaging as text participants, and 66 instances of them engaging as text users. I coded 169 instances total of the girls engaging as text participants, and 78 instances of them engaging as text users. Examples of text user include phrases such as, “Who is the author?” and “What is the date?” Examples of text participant include

phrases such as, “I clicked on the author’s name at the bottom. He is a clinical psychologist. He’s believable and supported,” and “He talked about the University of Oxford to back stuff up.”

The girls displayed text participant and text user across all four activities. In each, they worked to comprehend aspects of their focal text and consider how trustworthy the source was. For example, in Activity 4 the girls’ interchange was:

> Paige: And does the author seem to know what they’re talking about?
> Bella: Let me read a little bit. I think it’s by other authors because he has links in there too.
> Paige: Yeah. I think he knows what he is talking about.
> Bella: Do you think this date is recent enough.
> Kelcy: It’s been 5 years but things could have changed.
> Paige: I feel it’s recent enough.
> Bella: I think that he knows what he is talking about.

This interchange between the girls moving from text participant to text user was common throughout all four activities, especially activities 3 and 4.

Similarly to the girls’ group, the boys’ group also flexibly moved between text participant and user. One example of this pattern happened in the boys’ group during Activity 2:

> Steve: How is it supported?
> Nick: It explains how it is bad.
> Steve: They back up their claims by writing more info on the topic. Does the information relate to your topic?
> Nick: I guess, yeah.
> Steve: Yes, it does. Why would you use it? To stay healthy. The site’s purpose is to inform, educate, argue, provide opinions.

By asking “How is it supported?”, “Does the information relate to your topic?”, and “Why would you use it?”, the dialogue between the boys is characterized as text participant, because these questions are simply asking to locate information within the source. The statements “They back up their claims by writing more info on the topic” and “The site’s purpose is to inform, educate, argue, provide opinions” is characterized as text user, because for the boys to make these types of

statements, they would have to read and draw conclusions because of the information within the text.

Differently from the girls, however, the boys' talk shifted over the sequence of activities. In Activities 1-2, the boys were engaging more frequently as text participants; in Activities 3-4 there were more instances of text user. This marks a potential shift from comprehension-focused talk to more text evaluation-focused talk. One example of this occurred in Activity 3, when two of the boys are discussing whether or not the source is credible and reliable:

> Nick: I think he [author] did everything good. He just didn't section it good. He has resources to back it up. He just didn't have it built correctly.
> Steve: Overall it is a reliable source. He backs up a lot of his topics, like he's done tests.
> Nick: Should I look up [author] Andrew P. to see if he's credible?
> Steve: He's a professor at the University of Oxford. So he's a scholar. So he's listing multiple studies from this guy, so that's good. He's bringing in other people's information into this to back up his topic. So far it is a pretty good source.

This excerpt is an example of the boys' engaging with the focal text as text users. Here Steve considers whether they can trust the author as a way of understanding how much to trust the author's claims. Nick considers the author's organization of ideas. This type of talk clearly moves beyond questions of main idea or comprehension.

Although the boys are evaluating the credibility of the author here, they stop short of acting as text critics. To have been coded as text critics, they would have needed to evaluate the way the author sought to influence the reader or the text in relation to questions of power. For example, if the boys had looked closely at the multiple studies being cited and noted that they were all written by white authors or men, then they could question whether there were important perspectives missing from the account. A second example that would have moved the boys into the critic category was for them to question the "other people's information" which they claim back up the author's topic. Who are the "other people" and why should we as readers believe them? How are

these "other people" approaching the studies and information? Are they biased or supporting a specific race, group, or gender more than others? If so, are they then believable and trustworthy as initially thought? Did this "information" cater to the ideas of the author, as to benefit his agenda? These specific questions would have moved the boys into the critic category.

In students' projects, I noted similar patterns. Overall, students gave indications that they were engaging with focal texts as text participants and users. For example, Steve created a project to explore ways to minimalize pollution. He selected the article titled "Reducing Your Transportation Footprint." to read and consider. See Figure 1 for one slide of his presentation.

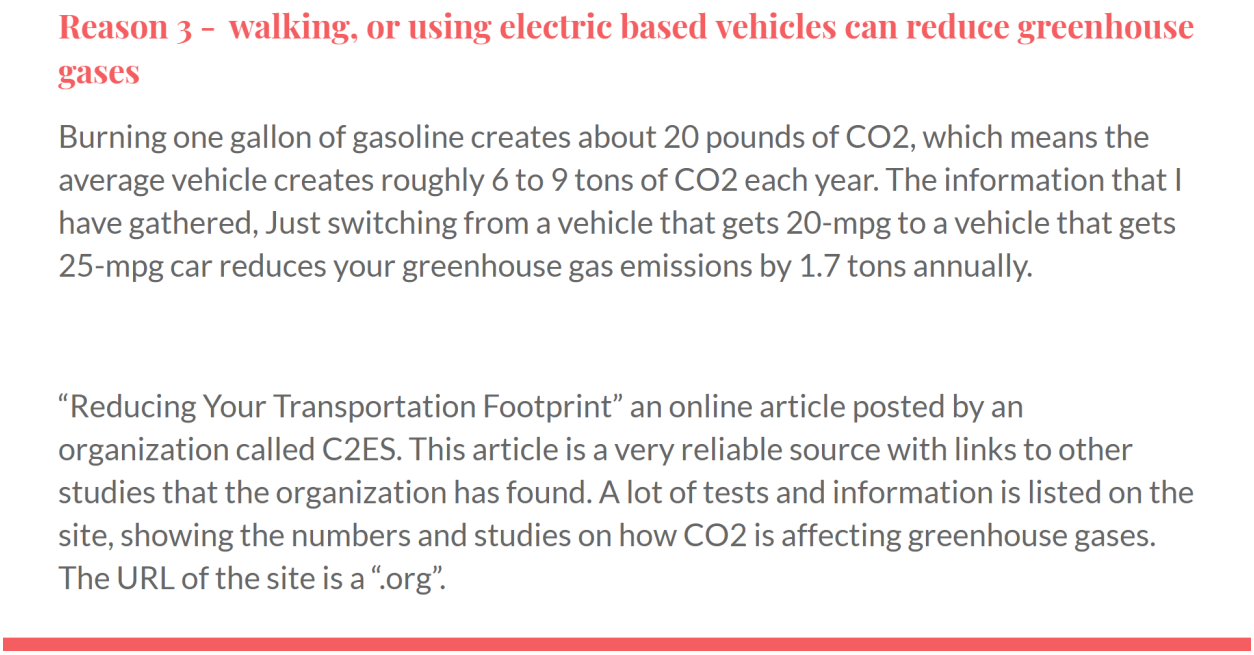


Figure 1 Student Example

On this slide, Steve explained why he used the source and why he found it credible and reliable. He wrote, "The URL of the site is '.org.'" This is evidence of Steve's engagement as a text participant because he is locating information within the text. He also wrote, "This article is a very reliable source with links to other studies that the organization has found. A lot of tests and

information is listed on the site, showing the numbers and studies on how CO2 is affecting greenhouse gases." This is an example of text user because Steve understands that if the source has additional links to other studies, then posting those links would be a possible indicator that the source is reliable on the benefit of providing additional studies to their information.

Steve's final project is representative of the other students' projects. And, as a set, they are all similar to my students' talk patterns in that they show written evidence of acting as text participants and users, but they do not show evidence of acting as text analysts.

In Table 6, I report students' questions, claims, and my scores of their projects using the rubric I created (see Appendix C for rubric).

Table 6 Final Student Slide Presentation

Student	Question	Conclusion	Rubric Scores		
			Guiding question	Evaluates online sources	Provides reason from sources to answer question
Student 1	How can changing our ways of transportation help the environment?	Transportation through electric powered vehicles, bikes, or walking, can help lower air pollution, save money, and reduce greenhouse gases.	10/10 exceeds	10/10 exceeds	10/10 exceeds
Student 2	Are there benefits of doing cyber school rather than doing physical school?	I believe that school should be taught from home on a device and would be better for the student overall.	8/10 meets	9/10 exceeds	8/10 meets
Student 3	Are there any benefits of raising the driving age?	I believe they should raise the driving age because it would reduce fatal accidents with teens driving on the road, it would make teens more physically active, and would reduce automotive insurance for families.	8/10 meets	10/10 exceeds	9/10 exceeds

Student 4	Are there benefits of going to the gym and having gym class?	I believe going to the gym or having gym class helps with academic performance, your fitness, and helps with self-confidence and self-esteem.	9/10 exceeds	10/10 exceeds	10/10 exceeds
Student 5	What is the effect of having poor nutrition versus proper nutrition at school?	I believe that proper nutrition at school is the key to higher achievements, healthier kids, and giving the students specific times to eat and socialize.	10/10 exceeds	10/10 exceeds	10/10 exceeds
Student 6	How does parental and coach pressure affect young athletes?	I believe sports pressure from parents and coaches does affect children in many negative ways.	8/10 meets	9/10 exceeds	8/10 meets
Student 7	Are there negative reasons why animals should not be kept in captivity?	I think there are negative reasons why animals should not be kept in captivity, such as animals do not have enough space, caged animals lead miserable lives, and zoos don't have the right resources to take care of the animals.	10/10 exceeds	10/10 exceeds	10/10 exceeds
Student 8	Is starting school later more beneficial for students?	I believe schools starting later is more beneficial for students because if students get more sleep they have more energy in classes, improved focus, and improved physical health.	8/10 meets	8/10 meets	8/10 meets

4.2 My Support of Students' Engagement with Texts

Now I turn to my analysis of my own instructional support, the focus of my first research question, how did I support my students' critical reading of online sources? I assert that I mostly

supported students' engagement as text participants and text users in my instructional talk and in my design of unit activities and instructional scaffolds.

4.3 Critical Reflection of My Unit Design

I designed three objectives for this unit. In this section, I describe what I did that I intended to support each objective and offer my critical reflection of my design using Freebody and Luke's (1990) framework.

4.3.1 Student Objective 1: Evaluate Online Sources for Credibility and Reliability

When considering my lesson plans and unit design, I used the frameworks and recommendations of researchers Cho & Afflerbach (2015), Leu et al. (2015), Coiro et al. (2015), Castek & Manderino (2017), Hoch et al. (2018), and Forzani (2019). Their suggested frameworks best fit my design plans, which took into account my middle school students' beginning engagement into evaluating online sources.

As a basic understanding of my students' knowledge of evaluating online sources, I began my unit with a survey, which questioned them on terminology, like credibility, reliability, refining an online search, authorship, and currency. From this survey, I learned that most of the students knew that a URL ending on an address meant what type of source they were looking at, such as dot com, dot edu, dot gov, and dot org. The students also understood why a source such as "Wikipedia" cannot be trusted. As well as, understanding the importance that a published date carries. On the other hand, the students did not understand what it means to "refine a search."

Terminology such as credibility and reliability were not understood, along with what differentiates the two. The importance of an author and an author's accomplished career or lack of, presented misunderstanding, as well as bias and author's purpose. The student's responses and discussion allowed me to gain a perspective and understanding of what and where I needed to start.

To aid the students' evaluation of online sources in the first two activities, I designed a template with guided questions under specific headings that directed the students to specific points on a webpage, which once determined, would help explain how credible and reliable a source was. The first heading was "Authority." The guided questions under this heading where about the author and URL ending. The next heading was "Currency", which asked the questions, "What is the site's published date or last update?" and "Is this recent enough or could the information be outdated?" The third heading was "Accuracy." This category had the students look specifically at the site's information to help determine where the information came from, whether there was bias, and if they felt the information was believable and supported. Finally, the last heading of "Purpose" had the students consider why the piece was written and for what type of audience.

Since this was the students first time evaluating sources, I reasoned that the guided questions would help them understand what type of questions to ask when determining a source's credibility and reliability. Throughout the first two activities, both groups of students went diligently through each category of questions and recorded their answers.

The first activity I had the groups consider was from Forzani (2019) in having the students consider two sources with conflicting information, as to suggest that both sources could not be correct. The topic question was "Does religion belong in schools?" I found two different sources that relayed two conflicting viewpoints. The groups evaluated each source through the guided questions and then explained which source was stronger and why.

In considering Freebody and Luke's four resource model, it is clear that my provided guided questions that the students used, were in the category of text participant, since these questions only had the students locate specific information from the site. I also believe my questions at the end of the activity which had the students determine the source's credibility and reliability, along with explaining why, would fall in the category of text user. In this category, the students considered the found information in determining their response. There was no teaching on my part of text critic, which would have had the students take the author, the purpose, and their drawn conclusions in determining whether the source could have been used further, such as a research paper. Since there was not teaching of text critic, there was no findings from the students that fell within this category.

The second activity was comprised similar to the first activity, in that I had the students consider three sources that all were about the topic of "sugar substitutes." My creation of activity 2 stemmed from Cho and Afflerbach's (2015) suggestion of supplying students with multiple sources, in the idea that they will have to determine which to be the stronger of the group. As with activity one, I again gave the students the same guided question template to assist their evaluation efforts. Likewise, because of the supplied guided questions, my teaching and the students' text efforts only fell within the categories of text participant and text user. The category of text critic was non-existent in my teaching and in the students' text efforts.

My design of activity three differed from the first two activities, in that I did not offer the guided questions to the students, with the curiosity and hope that they would consider the guided questions previously in their source evaluation efforts. In the third activity, I had the groups look at only one source on the topic "Is too Much Screen Time Harmful to Teens?" In the activity, I only recommended the students record notes, which in the end would help them better evaluate

the given source. The students did consider the previous guided questions as they wrote notes on the source, which was rewarding to observe, but it still only kept my teaching and the students' text efforts in the categories of text participant and text user and unfortunately did not transition into text critic.

The fourth and final activity had the students consider the topic, "Should schools cut physical education classes?" To provide an additional component to the activity, I not only gave the students a source to consider the credibility and reliability of, but I also had the students search for a stronger source than the one I provided. I wanted to provide the students with the opportunity to search for a source on their own for a given topic. There were no guided questions again, and the students did consider the questions when evaluating the provided source and in evaluating their new-found, stronger source. The additional component of searching for a stronger source went well and did lend to further student discussion regarding credibility and reliability. Although, even with the additional component, it still only kept my teaching and the students' efforts within the categories of text participant and text user.

4.3.2 Student Objective 2: Evaluate Sources for Credibility and Reliability

The student objective was to "evaluate sources for credibility and reliability", which I feel was a success through my teaching, lesson plans, group discussions, and student engagement. Although in considering Freebody and Luke's four resource model, my teaching only supported the categories of text participant and text user and did not transition into the text critic category, which was the reason the students did not transition into that category as well.

Student Objective 2: Create inquiry questions to guide research focus online

Suggested by researchers Cho & Afflerbach (2015) and Forzani (2019) is the idea that students need to learn how to create inquiry questions that will allow them to focus their research efforts. In my lesson plan, I modeled the idea of inquiry questions through each of my student activities. Questions such as, “Does religion belong in schools?”, “Should schools cut physical education classes?”, “Is too Much Screen Time Harmful to Teens?”, and “Are sugar substitutes harmful?” allowed the students, through my discussion and explanation, observe what a focused, open-ended inquiry question looks like, and allowed the research to be focused and on-task.

As an end project to the unit, I had the students choose a topic to research, in which they had to create an inquiry question that was open-ended and allowed for a claim after research to be made. One of the students’ slides for the end project was for their inquiry question. I wanted the students to approach their chosen topic open-minded and not already have a claim in mind. Their open-ended inquiry question allowed for open research, which was the intent. In considering this objective and my teaching, I realize my teaching of the purpose and formulation of the inquiry question put my discussion and explanation into the text user category. This obligated my students to consider the text for the purpose of research, but it did not transition them as intended into the text critic category.

4.3.3 Student Objective 3: Synthesize Online Sources to Generate a Claim

The third student objective was proposed as a culmination after reviewing and evaluating online sources. The four student activities provided practice on this objective. My design of the activities had the students evaluate sources for credibility and reliability, with the end goal of making a claim as to whether the source was sufficient in being trusted and in offering support to a research paper. A characteristic that I added to the final project was for the students after

researching and synthesizing information from three sources that offered trusted support, was to make a claim from the inquiry question. These aspects of the instructional design were most supportive of students as text users.

4.4 Critical Reflection on My Instructional Talk

In addition to revisiting my instructional materials from a lens of Freebody and Luke (1990), I also evaluated my instructional talk at key points in the unit. Like my students' talk and my unit design, my instructional talk also tended to move between supporting students as text participants and users. See Table 7.

Table 7 Number of Times I Supported Students' Critical Reading by Lesson/Discussion

	Day 1	Day 3	Day 5	Day 6	Day 8	Day 9	Day 10
Codebreaker	0	0	0	0	0	0	0
Participant	24	16	25	21	28	17	12
User	18	12	17	19	20	15	15
Analyst	0	0	0	0	0	0	0
Other	42	35	41	29	32	9	13
Total	84	63	83	69	80	41	40

Throughout my unit, my teacher talk reflected both categories of Participant and User. One example of my teacher talk that I coded as Participant is, "What date did your group find as the published date of the source?" In this example I am asking the student group to find and state the

published date of the source within the text, which is a way of supporting their comprehension of the text. In another example, I said, “I see that your source does not have an author but is from an organization. Since your source is from an organization, how does that possibly help the credibility and reliability of your source?” This is an example of how I supported students as text users because I am asking the students to draw conclusions and to consider the impact that an organization may have when considering a credible and reliable source.

I coded as “Other” all of my turns of talk that were about something else during the lesson. For example, when I gave directions or asked questions that did not have to do with textual meaning making, I coded those instances as “Other.”

5.0 Discussion

The action research project described in this paper has yielded several insights related to the scholarly literature, action research, and my students.

5.1 My Use of the Literature

First, my scholarly literature review played a large role in my unit design through best practices and frameworks suggested by veteran researchers in the field of digital literacy. As a middle school English teacher, I had taught a research paper yearly over the last 12 years. Over the last several years, I noticed that the majority of research being conducted was being conducted over the Internet. I began to realize that reading and evaluating informational text in the form of books and paper periodicals was different than evaluating online informational text, as Cho & Afflerbach, (2015) have suggested. This presented a problem for my students, as they were not equipped with the necessary skills to evaluate sources for credibility and reliability. I understood the importance of evaluating sources for credibility and reliability but was unaware of how to design a unit and teach the necessary skills my students would be required to have in today's digital society.

The research of Dwyer (2013) and Forzani (2019) had me consider characteristics and skills of online reading, which are important for students to incorporate online, such as Dwyer's suggestions of the formulation of inquiry questions to provide a purpose, and for students to become skeptical when reading online text, with an understanding of an author's hidden agenda,

bias, and purpose. Likewise, Forzani's (2019) three-tiered framework for evaluating topics online for relevancy and credibility, provided me ideas in creating my lessons and the guided questions.

Coiro et al. (2015) suggested trends with middle school students and their abilities and/or lack of abilities that they incorporate when evaluating online texts. The findings of their study were applicable to my students as well, which only reinforced what they were suggesting. Conclusions such as, students not reading text carefully and not being focused on a source's features, which help in deciding the credibility and reliability of a source. Coiro et al. claimed that students would benefit from instruction on online text evaluation skills, such as author's point of view, inferences, and dealing with conflicting information. It is these findings and conclusions that fueled my unit creation.

My literature review provided guidance on how I should approach my own instruction. Cho and Afflerbach (2015), Leu et al. (2015), and Forzani (2019) all provided compelling frameworks regarding skills that teachers are able to implement within a unit in an English class. For example, Cho and Afflerbach's strategy suggestion of allowing students to explore and select multiple possibilities of text came into play in my unit as I allowed the students to research multiple sources to make a claim in their final unit project. Similarly, Leu et al. (2015) recommend that teachers explicitly teach online skills and to approach online text with skepticism as one who questions information for reliability and accuracy. In my unit design, I structured my lessons with this recommendation in mind, at first with my guided questions, but then as a skill that students demonstrated on their own. Lastly, Forzani (2019) added multiple recommendations to assist adolescent readers, such as allowing students to choose their own research topics, which I insisted my students choose on the final project. Another Forzani recommendation was to provide students

with opportunities to present and defend their opinions on a source's credibility and reliability. I gave my students ample opportunities as individuals and as groups to openly discuss their ideas and opinions regarding source evaluations.

These frameworks not only provide a strong starting point in teaching critical online reading, but they are also frameworks that can be built upon and molded into specific units and projects, as well as frameworks that my colleagues can easily understand and adapt within their own classrooms.

5.2 Interpretation of Findings

I found Freebody & Luke's (1990) Four Resources Model for Reading very useful as a way to reflect on my students' talk and work and my instructional talk and decisions. I found that students mostly engaged as participants and users of texts in their talk and final projects. When I compared students' talk to their final projects, I noticed the same general pattern. Students were summarizing aspects of online texts and they were making determinations about credibility and reliability. But, they were not really interrogating those texts. This was a bit disappointing to me at first. I had wanted to find instances of students engaging as text critics.

My second finding was that my instructional design and talk only supported students as participants and users. This helps to explain why student learning data looked as it did. Students were not engaging as critics because they were not supported to do so. This leads me to wonder what students would have done if I had designed more support for their critical reading.

Thinking about what is included in the fourth text critic category has been a new way of thinking for me. Even though I began this work intending to use Freebody and Luke's scheme

and intending to support students' critical thinking and reading, I did not think about how power mattered for these activities. This process has helped me to extend my understanding of critical reading. To critically interpret texts requires interrogating an author's ideology. Ideology is a person's system of thought that we acquire from the world around us. What we acquire helps shape our beliefs, attitudes, and values as a lens that we look through and one that further results in our interpretation of how things should be (Bonnycastle, 1996, as cited in Appleman, 2015, p. 2). An author's ideology needs to be questioned and sometimes resisted (Appleman, 2015). A true critic will question an author's purpose and underlying beliefs and values that are not often written in black and white.

5.3 Looking to the Future

In teaching this unit again, I would further research practices and frameworks that would allow me to teach, model, and demonstrate actual skill sets needed to reach the domain of text critic. A first step to teaching critical reading is to show and provide practice in questioning everything they read, not just online text, but all types and genres. So, no matter what they read, they become ingrained to critically think and challenge the text. Appleman (2015) suggests that the teacher's role is to help students make sense of the myriad of texts they will encounter and help them challenge the ideologies that are embedded in those texts. Appleman points out how literary theory (methods for literary analysis) provide critical lenses that can sharpen our vision to guide, inform, and instruct us, including when we read informational texts. These lenses allow students to see text differently and often between the lines.

Teaching students what ideology is and its importance to interrogating an author's text would also be essential. Providing consistent practice in interrogating an author's ideology would be imperative to them gaining a deeper understanding. Understanding the social and cultural ideas behind the text meaning and how society plays a role in writing, just as it plays a role in reading.

The final project itself likely played a role in the student meaning making I found. If I were to revise the final project to better support students as critics, I would have the students focus specifically on the author or organization of which the information came from. Previous practice and engagement with online text within the text critic category, will allow the students better opportunity to engage with their final project as text critics and allow this focus to be made within extra slides on their project. I would need to revise my model presentation (Appendix D) in a few key ways: add three more slides that specifically interrogate and challenge the author or organization as another dimension and focus of each source. I would also upon review of literature, add possible focus questions regarding source credibility and reliability within the text critic category. By making these changes, I would be better supporting students' critical thinking with texts.

Looking at my school's curriculum broadly, I see that it does not include critical reading of the sort suggested by Luke and Freebody and Appleman. But, it is vital that our students gain skills that will help them become critical readers, they are encountering multitudes of text, especially online and in digital form. I would like to enlist my English and reading colleagues in this challenge with me. As I become more knowledgeable in literary theory, power, and ideology, one starting place would be to gather my colleagues together in several in-service department meetings to consider how we might build the teaching of critical reading into our curriculum. By

sharing the results of my study and my self-reflection on my own teaching, I think I could begin to shift our department's instructional priorities and approaches.

One way I may help my colleagues become vested in the criticality of students and critical reading skills is sharing my study and some of the literature from researchers that helped me understand the necessity of what our students aren't being afforded. The previous studies done by researchers, along with frameworks and best practices that I enlisted within my study. I believe my colleagues also want what is best for our students and feel that if I can allow them to see what I found and what our curriculum is missing, then I believe they will also become vested.

I have done much of the legwork involved in my study and believe that there is a true relevance to having my colleagues along with my principal onboard. I would welcome my colleagues' viewpoints and ideas in what they have observed with their students to see if they align with mine. I believe these discussions will also create an investment into why we need to further bring critical reading lessons, especially online into our current curriculum. Possibly a few department meetings could establish a start to rewriting the curriculum and developing additional units, similar to mine, that would benefit the success of our students.

A key part of my learning has been to rethink my own practice. Going through this process challenged my previously held ideas about what critical reading and thinking involves. Also, I had to admit that what I had been doing was not a full version of teaching critical thinking. This made me feel inadequate as a teacher at first, but reaffirmed that best practices and researched frameworks exist from researchers in the field that will support me in teaching critical skills. The process has helped me to think about what other teachers may need in order to shift their literacy instruction to a more critical means. First, through their own understanding of what critical thinking is, and second, teaching the students the skills needed to reach the highest levels of literary

analysis. I think teachers need space and tools to look back at their own instruction and they need conditions that would encourage them to come to these sorts of conclusions. In my school, we could make shifts such as reading literature with a focus on teaching critical reading skills and discussing during department meetings with a plan to implement the learned skills into each of our classrooms. These changes would allow teachers to do more honest reflection and take a vested interest in what students need to know to become strong digital citizens in a global society.

Appendix A Unit Design

Appendix A.1 Goals and Objectives

Previous researchers such as Cho & Afflerbach (2015), Leu et al. (2015), Coiro et al. (2015), Castek & Manderino (2017), Hoch et al. (2018), and Forzani (2019) have offered useful and worthwhile suggestions and ideas through their research that have allowed me to design an online research unit with the purpose and goal of better educating my English students as critical evaluators and readers while online. For example, Cho & Afflerbach (2015) and Forzani (2019) suggest student-created questions as an idea for focused online research. Forzani (2019) also suggest providing the students with the opportunity to evaluate two sources proposing contradictory claims, allowing the students to deeply evaluate both sources and choose one with the better claims.

Three specific objectives allowed me as an action researcher to design an online research unit and keep a specific focus that guided my teaching and my students' learning, so goals could be met. The three objectives are as follows:

Students will be able to:

- create inquiry questions to guide research focus online
- evaluate online sources for credibility and reliability
- synthesize online sources to generate a claim

Appendix A.2 Summative Assessment

As an end product for my eighth-grade English students, one that took into consideration my three objectives, the Pennsylvania Common Core State Standards, and the guiding literature, I had the students create a multi-slide presentation that argued points on an online researched-topic.

Considering my three objectives, the first objective of student-created inquiry questions for research focus is one that not only researchers Cho & Afflerbach (2015) and Forzani (2019) have proposed for focused research, but the PA Common Core State Standard CC.1.4.8.V have stated that students should be able to conduct short research projects to answer a question (including a self-generated question), drawing on several sources.

Best practices and frameworks of Leu et al. (2015), Coiro et al. (2015), and Hoch et al. (2018) have all suggested the need and urgency of teaching students to evaluate online sources for credibility and reliability for an academic purpose. My second and third objectives were written with my assignment having the purpose of allowing my students to state an argumentative claim, and by evaluating three online sources with credibility and reliability of each source in mind, be able to synthesize the three sources in supporting their claim. The PA Common Core CC.1.4.8.W parallels this necessity by assessing the credibility and accuracy of each source, for the purpose of quoting and paraphrasing data to support conclusions.

Appendix B Student Explanation of Activities

Appendix B.1 Day 1 – Pre-lesson Survey of Terms

Students were given questions on a Google Form relating to terms that were used throughout the lesson, such as credibility, reliability, bias, importance of author, date, URL, and meaning of refining a search online. The survey was followed by a discussion of the question asked.

Appendix B.2 Days 2 & 3 – Activity 1 – Conflicting Sources

I grouped the students into groups and had them evaluate two conflicting sources on the topic of "Religion in Schools." On a Google Doc that was provided with guided questions that helped them evaluate the sources, the students evaluated both conflicting sources to determine the source they believed to be the correct source, realizing that both sources could not be correct.

Appendix B.3 Days 4 & 5 – Activity 2 – Evaluating Multiple Sources

The students in groups evaluated three sources on the topics of "Are Sugar Substitutes Harmful." The links were provided on a Google Doc, along with guided questions to help them evaluate each of the three sources, with the objective of stating which source was the strongest to the weakest. The groups had to justify their choice by providing reasons.

Appendix B.4 Day 6 – Activity 3 – Evaluating Two Sources Without Guided Questions

The students in groups evaluated two sources on the topic of "Is too Much Screen Time Harmful to Teens." The links to the sources were provided on a Google Doc. The guided questions were not provided, with the purpose of the students evaluating the sources on their own. The groups wrote notes on each source on the Google Doc and provided reasons why they thought one source was stronger than the other.

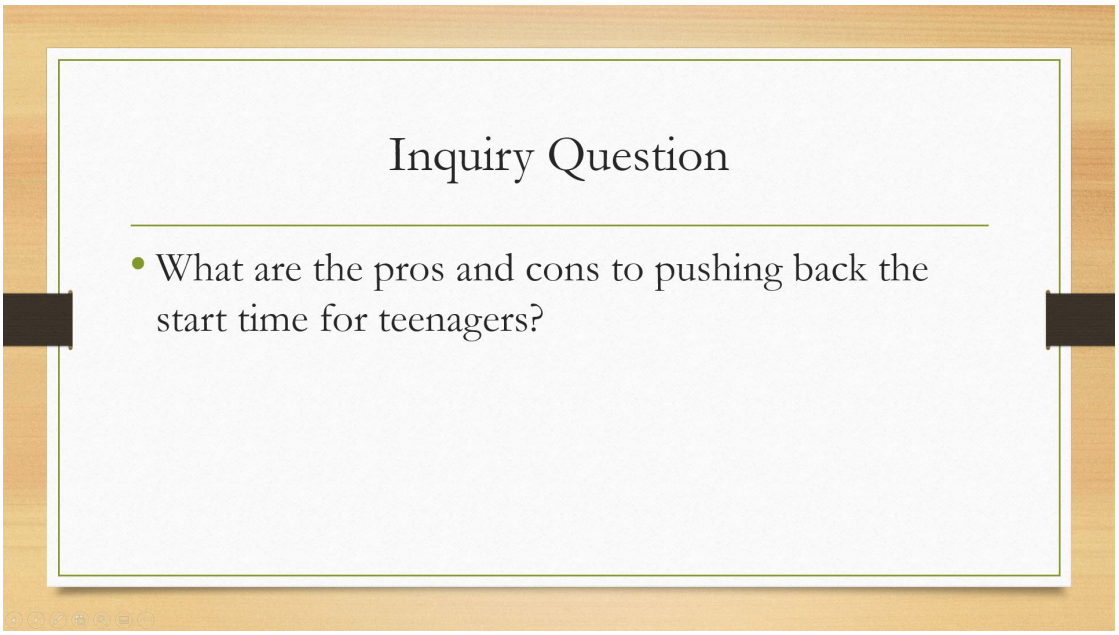
Appendix B.5 Day 7 & 8 – Activity 4 – Evaluating a Source Without Guided Questions and Finding Another Source That Was Stronger

Students were put in groups and evaluated a source that was provided on a Google Doc on the topic of "Eliminating Physical Education Class." The students did not have guided questions. The group not only had to evaluate the provided source, but they also had to search and evaluate a source on their own that they believed through justification to be a stronger source.

Appendix C Slide Presentation Rubric

Category	Below Standard (0-6 pts)	Meets Standard (7-8 pts)	Exceeds Standard (9-10 pts)
Use of guiding question within presentation –	The slide provides an inquiry question, but the question is closed-ended, not allowing multiple viewpoints.	The slide provides an inquiry question. The question is focused on a specific topic and invites minimal viewpoints.	The slide provides a well-written inquiry question. The question is complex, focused on a specific topic, and invites multiple viewpoints.
Effectively evaluate 3 online sources for credibility and reliability	Slides briefly explains evaluation and use of online sources within presentation. Slide provides only 1 or no accurate detail on each source's credibility and reliability.	Slides partially explains evaluation and use of online sources within presentation. Slide provides 2 accurate details on each source's credibility and reliability.	Slides fully explain evaluation and use of online sources within presentation. Slides provide 3 or more specific details on each source's credibility and reliability.
Provide 1 reason from each source that helps answer the inquiry question	Reason, if stated, barely provides information from source(s) to answer the inquiry question and does not support a claim	Reason provided on each slide that partially ties reason(s) from source(s) to inquiry question and may support a claim	Reason provided on each slide that directly ties all 3 reasons from sources to inquiry question and will directly support a claim

Appendix D Model Slide Presentation



Claim

- Based on the sources I found, I believe middle schools should have later start times because later start times produce better grades, provide health benefits, and provide more energy throughout the day.

Reason 1 - A later school start time produces better grades.

- A study from 2016 from select middle and high schools in Seattle moved their start times up by one hour and noticed a 4.5% increase in final grades (Anderson).
- Anderson, Casey. "Here's What Happens When Schools Start Later." – This source is current, posted on February 2019, with a NEA Today writer. The URL is .org and from the National Education Association, which makes it credible and reliable being from a national organization. The article is written from the actual study from Science Advances, who carried out the study; therefore, the data and study are reliable.

Reason 2 - A later school start time has many health benefits.

- Interviews conducted during the Wake County study found that earlier start times caused students to skip breakfast because they would try and sleep longer and wouldn't have time for breakfast, as opposed to getting an extra hour of sleep and eating breakfast after the time change. The researchers also learned that by starting later, students felt they had more energy throughout the day and didn't feel that they needed an after-school nap, which led to being more productive (Edwards).
- Edwards, Finley. "Do Schools Begin Too Early?" – This article has an author who is a visiting assistant professor of economics at Colby College; therefore, the author is reliable being a professor at a college. The article is an actual study written after the time change happened at Wake County Schools. The author is writing this first-hand as a primary source and carried out the study, which makes the data credible and reliable.

Reason 3 – Sleeping later is better than going to bed earlier for teens.

- According to researcher Amanda MacMillan, "The sleep-inducing hormone melatonin does not occur in teen sleep until late in the night and research suggest that sleeping one hour longer has more benefits for teens than going to sleep early
- Source 3 - MacMillan, Amanda. "Teens May Do Better When Schools Start Later." – This article has an author who writes for the national magazine *Time*. The article is fairly current, being written three years ago in 2017 and updated months later, which allows for revision of information. The articles quotes and data are from reliable sources, such as the American Academy of Sleep Medicine and makes references to the Seattle schools' study from 2016.

Works Cited

- Anderson, Casey. "Here's What Happens When Schools Start Later." *NEA Today*. 27 Feb. 2019. neatoday.org/2019/02/27/what-happens-when-schools-start-later/. Accessed 26 June 2020.
- Edwards, Finley. "Do Schools Begin Too Early?" *Education Next*. Volume 12, Number 3, Summer 2012. pp. 1-7, educationnext.org/do_schools_begin_too_early/. Accessed 26 June 2020.
- MacMillan, Amanda. "Teens May Do Better When Schools Start Later." *Time*. 4 Sept. 2017. time.com/4741147/school-start-time/. Accessed 26 June 2020.

Appendix E Student 1 Example of Final Slide Presentation

Research Question :

How can changing our ways of transportation help the environment?

Conclusion :

Based on all of the information I have found on researching, cars and other gas based vehicles are bad for the environment. Transportation through electric powered vehicles, bikes, or walking, can help lower air pollution, save you money, and reduce greenhouse gases.

Reason 1 - Using an electric vehicle or bike to get to your destination can reduce air pollution

From an Article about pollution published in 2019, I found that studies show less gas powered vehicles can cut down on global climate change. This could also help with more plant life, more oxygen can be emitted into the atmosphere. A better environment can improve health benefits for everyone.

“Walking and cycling; Two great ways to help the environment.” Karabo Meyer, a wildlife conservationist, posted a relevant article about pollution on September 17, 2019. Karabo supports all of the topics she talks about, she includes times and results about all of the information. Karabo includes other peoples traditions to help the environment, such as “European Mobility week.” The URL is from a .com, published on a site called “Tired Earth.’

Reason 2 - walking, or using electric based vehicles can save you money.

Fuel for gasoline powered cars isn't cheap at all, and they are not good for the environment. The information that I have gathered from; "motorbiscuit.com" shows that gas prices rose by 143.4 percent since 2000. Electric powered vehicles are cheaper and more affordable that gas powered cars.

Justin Lloyd Miller, a creator of multiple car articles, published an article on October 29, 2019 making this a relevant source titled; "7 Ways Electric Cars Can Help You Save Money." The site that Justin published his article on is MotorBiscuit.com. This site's URL is a .com. The author provides specific information on the topic. Justin is bias towards the topic he is writing about.

Reason 3 - walking, or using electric based vehicles can reduce greenhouse gases

Burning one gallon of gasoline creates about 20 pounds of CO2, which means the average vehicle creates roughly 6 to 9 tons of CO2 each year. The information that I have gathered, Just switching from a vehicle that gets 20-mpg to a vehicle that gets 25-mpg car reduces your greenhouse gas emissions by 1.7 tons annually.

"Reducing Your Transportation Footprint" an online article posted by an organization called C2ES. This article is a very reliable source with links to other studies that the organization has found. A lot of tests and information is listed on the site, showing the numbers and studies on how CO2 is affecting greenhouse gases. The URL of the site is a ".org".

Works Cited Page

Meyer, Karabo, "Walking and Cycling Two great to help the environment." Pollution. 27 Sep. 19. TiredEarth.com /2019/9/17/ walking-and-cycling-two-great-way-help-environment. Accessed 10/25/2020

Lloyd, Miller, Justin, "7 Ways Electric Cars Can Help You Save Money." Hybrids and Electrics. 29 Oct. 19. motorbiscuit.com /2019/10/29/ Accessed 10/25/2020

C2ES, "Reducing Your Transportation Footprint" Climate Solutions. C2ES.org/reducing-your-transportation-footprint. Accessed 10/25/2020.

Appendix F Unit Lesson Plan

The Online Unit Plan – students were online all 15 days of the unit

Day 1: The Launch

SWBAT: individually answer questions relating to source credibility and reliability

SWBAT: discuss questions and answers orally with the class on source credibility and reliability

Formative Assessment: I collected each person's questions and answers through a Google Form to assess prior knowledge of source credibility and reliability.

Students answered a set of warm up questions dealing with source credibility and reliability, authorship, published dates, refining searches, and URL endings. These multiple choice and open-ended questions have offered a precursor to vocabulary of the unit, a means for discussion, and a way to gage prior knowledge. Half of the period was spent answering the questions individually, then the second half of class was spent conducting a whole class discussion.

Days 2 & 3: Classwork Work and Generating Evaluation Criteria

SWBAT: evaluate and justify two sources with opposing claims

Formative Assessment: I collected the note-taking template from all students to assess their understanding to source evaluation.

I had the students work in small groups in Zoom breakout rooms. I used Forzani's (2019) suggestion of having the students look at two sources with opposing claims, realizing that both sources can't be right. On a note taking template, they answered guided questions, along with detailing the ideas presented in both sources and justifying which website they believed to be

correct and reliable. While the students worked, I observed student actions to the activity, along with audio recording the Zoom breakout sessions.

Days 4 & 5: Evaluating Multiple Sources and Generating Evaluation Criteria

SWBAT: evaluate multiple sources for credibility and reliability

Formative Assessment: I collected each groups' Google Doc form of questions and answers as to how they evaluated each of the three sources.

The students examined three web sites of varying reliability and credibility through links and guided questions on a Google Doc, as suggested by Forzani (2019) and Cho & Afflerbach (2015), with the idea of noting various characteristics about websites, authors, URLs, and page design that play a role with credibility and reliability of sources. After the activity, they brought back their evaluation to a whole class discussion, where they compared notes, and I asked additional questions relevant to their source evaluation.

Day 6: Evaluating an Online Source Without Guided Questions

SWBAT: evaluate a source for credibility and reliability without guided questions

Formative Assessment: I collected each groups' evaluation template of written notes on source evaluation that assessed students' understanding of the evaluation process while online.

The idea behind this activity is that after the last two evaluation activities, which the students were provided guided questions that helped their online evaluation process, I decided to take away the guided questions during this activity. The students used their prior knowledge and skills learned to evaluate the sources and record their notes. A whole class discussion at the end of class took place.

Day 7: Evaluating an Online Source Without Guided Questions and Finding a Stronger Source

SWBAT: evaluate multiple sources for credibility and reliability without guided questions

Formative Assessment: I collected each groups' evaluation template of written notes on source evaluation that assessed students' understanding of the evaluation process while online.

Students not only evaluated a given online source without the use of guided questions, but they also had to search and evaluate an online source they felt was stronger and more credible and reliable than the one that was provided. Lastly, they provided reasoning why their found source was the stronger of the two. A whole class discussion on day 7 took place.

Day 8: Discussion on Final Project Directions

SWBAT: Comprehend and understand discussion on final project directions

I discussed the direction sheet for the final slideshow presentation, as well as the rubric and what was expected, I also presented a model slideshow presentation.

Day 9: Creation of Open-ended Research Question

SWBAT: write a complex and focused research question for a topic

Formative Assessment: I collected the students' research question to assess whether it would allow open research to provide a claim.

As suggested by Cho & Afflerbach (2015) and Hoch et al. (2018) is the strategy of developing critical research questions that will guide the students with a specific topic focus in mind. After modeling how to write a research question, through a model example, the students worked independently to create a well-written inquiry question that was complex and focused on a specific topic and invites multiple viewpoints, which was submitted to me through a Google doc.

Days 10 - 12: Online Research and Evaluation of Sources for Slide Presentation

SWBAT: evaluate multiple sources for credibility and reliability and choose three of the strongest to make a claim and provide reasons from the three sources to justify the claim

SWBAT: create a slide presentation incorporating criteria from sources found and evaluated

Formative Assessment: Students used an open-ended inquiry question to research their chosen topic. They used this time to make a claim and find three credible and reliable sources that they used as reasons on their slides to justify their claim.

I provided an exemplar slide presentation along with the rubric, through a Google Doc and provided directions and my expectations for the slide presentation. The students had two days to create a slide presentation, using Google slides, on their topic of seven slides, which included: title slide, inquiry question, claim, reason/support 1 slide, reason/support 2 slide, reason/support 3 slide, and works cited slide.

Days 13 -16: Slide Presentation on Student Topics

SWBAT: present their slide presentation to the class

SWBAT: evaluate and discuss classmates' slide presentations for key components

Formative Assessment: Each day, several students presented their slide presentations to the class through sharing their screen on Zoom. I devoted the last ten minutes of class each period to a whole class discussion on the presentations of the day. The presentations were assessed through the rubric, but I also took notes during each presentation for future discussions and for future reference.

Bibliography

Academic standards for English language arts (2013). *Pennsylvania Department of Education*, PDF, p. 1-65.

Appleman, D. (2015). *Critical encounters in secondary English: Teaching literary theory to adolescents.* (3rd ed.). Teachers College Press.

Astleitner, H. (2002). Teaching critical thinking online. *Journal of Instructional Psychology*, *29*(2), 53-76.

Blakeslee, S. (2004). The CRAAP test. *LOEX Quarterly*, 31(3), 6-7.

Buss, R. R., & Zambo, D. (2016). Using action research to develop educational leaders and researchers. In J. A. Perry (Ed.), *The EdD and the Scholarly Practitioner* (pp. 137-152). Charlotte, NC: Information Age Publishing.

Castek, J. & Manderino, M. (2017). A planning framework for integrating digital literacies for disciplinary learning. *Journal of Adolescent & Adult Literacy, 60*(6), 697-700.

Cho, B.-Y. & Afflerbach, P. (2015). Reading on the Internet: Realizing and constructing potential texts. *Journal of Adolescent & Adult Literacy*, *58*(6), 504-517.

Coiro, J., Coscarelli, C., Maykel, C., & Forzani, E. (2015). Investigating criteria that seventh graders use to evaluate the quality of online information. *Journal of Adolescent & Adult Literacy, 59*(3) 287-297.

Dwyer, B. (2013). Developing online reading comprehension. In K. Hall, T. Cremin, B. Comber,

& L.C. Moll (Eds.). *International Handbook of Research on Children's Literacy, Learning, and Culture* (1st ed., pp. 344-358). John Wiley & Sons, Ltd.

Forzani, E. (2019). A three-tiered framework for proactive critical evaluation during online inquiry. *Journal of Adolescent & Adult Literacy*, *63*(4), 401-414.

Fox, E. (2009). The role of reader characteristics in processing and learning from informational text. *Review of Educational Research*, *79*(1), 197-261.

Freebody, P. & Luke, A. (1990). Literacies programs: Debates and demands in cultural context. *Prospect: An Australian Journal of TESOL*, *5*(3), 7-16.

Gee, J. (2001). Reading as situated language: A sociocognitive perspective. *Journal of Adolescent and Adult Literacy*, *44*(8), 714-725.

Hoch, M., McCarty, R., Gurvitz, D., & Sitkoski, I. (2018). Five key principles: Guided inquiry with multimodal text sets. *The Reading Teacher*, *72*(6), 701-710.

Kong, S. (2014). Developing information literacy and critical thinking skills through domain

knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy. *Computers & Education*, *78*, 160-173.

Leeder, C. & Shah, C. (2016). Practicing critical evaluation of online sources improves student search behavior. *The Journal of Academic Librarianship*, *42*, 459-468.

Leu, D.J., Zawlinski, L., Forzani, E., & Timbrell, N. (2015). Best practices in teaching the new literacies of online research and comprehension. In L.B. Gambrell & L.M. Morrow

(Eds.), *Best Practices in Literacy Instruction* (5th ed., pp. 343-364). The Guilford Press.

Melrose, M. (2001). Maximizing the rigor of action research: Why would you want to? How could you? *Field Methods*, *13*(2), 160-180.

National Governors Association Center for Best Practices & Council of Chief State School

Officers. (2020). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects*. Washington, DC: Authors.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Hillsdale, NJ: Erlbaum.

Smith, M.D. (2017). Arming students against bad information: In the age of fake news, teachers in every subject area should redouble their efforts to help students distinguish between credible and deceptive sources of information. *Phi Delta Kappa*, *99*(3), 56-58.