

Digital Reader: Using A Cell Phone to Explore and Engage with Informational Texts

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Abstract

This study explored the use of a cell phone to search for informational texts while using different websites. This study investigated a student's critical thinking process as she engaged in discussion with the researcher regarding her research findings. This study was conducted for five weeks, and was implemented for two days per week with a seventh grade student. Qualitative data were collected through field notes, student artifacts, and audio recordings. Findings were then derived from the research related to student behavior and engagement, choosing appealing and appropriately challenging texts, and utilization of critical thinking skills. The student's interests influenced her research, topics were chosen based on her Funds of Knowledge, and her critical thinking skills evolved as she engaged with informational text.

Keywords: cell phone, informational texts, and critical thinking

Introduction

Have you ever noticed your children or your students are more engaged in activities and conversations that are focused on different types of technology? Perhaps you see them focused on video games, surfing the web on a computer or smartphone, listening to music on any device, or even texting and messaging friends on media sites. Children today are engaged in activities that were not in existence twenty years ago. Due to these changes in technology, student interest, choice, motivation, and engagement have influenced their learning patterns. How have these changes in technology impacted student performance in the classroom? How can teachers use new technology in the classroom to engage and motivate students?

“Miss Fostano, can I use my cell phone now since it is almost dismissal?” While working with a class of fifth grade students as a substitute teacher, I heard this question everyday as the kids were getting ready for dismissal. As the class prepared for dismissal, I watched as the students checked their notifications on Facebook, texted family and friends to make plans for the afternoon, looked up videos and music on YouTube, checked recent tweets on Twitter, watched movies or television shows on Netflix, and a few used Class Dojo as a game to interact with one another to give or take away points.

As a teacher, I am always telling students to put their phones away because it is a device that is seen as a disruption in the classroom and is often banned in schools (Thomas & Muñoz, 2016; Nowell, 2014; and Grant et al., 2015). However, are we asking our students to put away a technological device that can be used to their advantage in terms of their educational gains? For my research study, I wanted to explore what happened when a seventh grade student used her phone to search and discuss informational texts. Most students I have encountered dread the idea

of reading informational texts because they see them as boring sources of information. I want my teaching practices to have an impact on this viewpoint. Which is why my study aimed to answer the question: What happens when a student uses her cell phone to explore and engage with informational text?

Topic and Research Problem

A review of the literature indicated there is an abundance of research that examines the ways in which cell phones are being implemented in classrooms. Most of the studies that implemented cell phones in the classroom were conducted with adolescent students or college students and advisors (Gong and Wallace, 2012; Grant et al., 2015; O'Mara and Laidlaw, 2013; and Thomas & Muñoz, 2016). However, each of these studies identified need for further research to be conducted when using cell phones in the classroom. Gong and Wallace (2012) suggested future research that examines student behavior when using their device. For example, what is the potential of the device, and what are the distractions from personal entertainment during instructional time? Grant et al. (2015) recommended further research to determine effectiveness of learning performance when using the device inside and outside of the classroom. O'Mara and Laidlaw (2013) advised childhood teachers to use digital devices in the classroom and to value children's freedom to explore and investigate independently. Thomas & Muñoz (2016) suggested research to explore how mobile phones are utilized in the classroom, and how negative consequences of using mobile phones are addressed. This means the rules, expectations, and classroom/school policies need to be created or enforced when using mobile phones. This study incorporated the use of cell phones when accessing educational websites to search for informational texts with a seventh grade student.

Significance of Problem

This study is significant because it informs my future instructional practices. There is a need for further research to be conducted, especially with students in elementary school. Through the use of mobile devices, teachers introduce their students to multiple opportunities for communicating and collaborating with one another. According to O'Mara and Laidlaw (2013), "The affordances of touch screen devices offer new possibilities for children, providing opportunities for students to create, modify and use their own multimodal texts in multiple ways, and to share in collective endeavors" (p. 158). Due to today's digital generation, more students are gaining access to these devices at a young age. Teachers could implement cell phones in the classroom to help students become aware that they are digital citizens when using these devices. Children should also learn at a young age that they do leave a digital footprint when interacting online through their devices.

Rationale

I was interested in researching the use of cell phones in a child's home setting because I have experienced different forms of technology as I was growing up. Students today constantly have their nose in their cell phones, and I wanted to find a connection to how students can use their phones in the home for educational research while searching for informational text. I believe this will keep students engaged in a lesson and they will demonstrate an eagerness to participate and learn. Students' interests have changed over time through the use of technology. I have noticed this has had an impact on their focus, thought processing, and option of free choice. This matters to me because I have grown up in a digital era. I view myself as a teacher capable of being able to connect with my students through digital experiences. I wanted to know

how incorporating mobile phones at home affects student learning when focusing on searching for informational texts.

Purpose for the Study

The purpose of this study was to investigate a student's use of her cell phone as she researched informational text in relation to topic interest. This study explored the student's critical thinking process as she engaged in discussion with the researcher regarding her research findings. The student searched for her own articles rather than being provided with informational text. As a teacher, I have seen the use of technology change from when I was a young student. I want to go beyond the use of computer programs and internet websites that are used to reinforce different concepts. Through my study, I wanted to explore the impact of a student using a cell phone to search for informational texts. I also wanted to figure out how I can use smart phones in the home environment to incorporate student interest during discussions. My participant, Mia, freely explored informational texts by searching a topic of her choice through different educational websites.

Research Question

The research question for my study is:

What happens when a student uses her cell phone to explore and engage with informational text?

Literature Review

Through mobile learning, teachers and students can access a variety of information inside and outside the classroom. Gong and Wallace (2012) identify mobile learning environments as a way to support student-facilitated collaboration to complete assignments. This means that students can be in charge of their learning by taking control of discussing topics with peers in the classroom. Ehret and Hollett (2013) describe mobile learning as the use of wireless, Internet driven, mobile devices to move between physical and digital settings. Mobile learning depends on the use of devices that incorporate mobile technologies (Gong & Wallace, 2012). Through the use of cell phones in any setting, students will access information through multiple digital environments. This encourages an atmosphere that is student centered and student led.

Digital Natives

Our students today are of the twenty-first century generation called “digital natives” (Prensky, 2001). Marc Prensky (2001) describes digital natives as “native speakers” of language used when engaged with digital tools like computers, game systems, and the Internet. Digital natives are individuals who are born within the time period of the technological boom that we have experienced through the past two decades. According to Jukes et al. (2010), “Because they have grown up in this new digital landscape with constant exposure to digital devices, and because of this chronic digital bombardment, digital is their first language---their native tongue” (p. 15). Digital natives are surrounded by technology that they are able to use naturally because of early exposure and experiences.

Teachers are constantly encouraged to use technology in the classroom through the use of district provided devices, such as laptops or tablets. Are students truly engaged when using these same technologies every year, or do they yearn for other devices? Teachers are trying to discover

new ways to engage their students in daily lessons, and perhaps it may be through the integration of technology that students find appealing. Due to changes in communication from technology, cell phones have become a necessity for digital natives because they provide live communication (Prensky, 2004). Something that is viewed as a necessity in the lives of digital natives should be considered for educational purposes.

Sociocultural Theory

Sociocultural experiences influence a child's literacy development every day. Social and cultural experiences influence how children understand, value, and construct their language and literacy. Owocki and Goodman (2002) explain the sociocultural perspective involves learning as a progression of developing, which children learn literacy from different dynamic forces happening around them. These forces happen within the child, or through different interactions that the child experiences. Further supporting learning is social experience; children are able to learn when they interact with a variety of people, such as parents, siblings, family, teachers, and peers. McGee and Richgels (2012) claim children interact with others to build conceptual knowledge by the feedback for their hypotheses, or by helping children achieve a task that was not attainable on their own. In the same way, McGee and Richgels (2012) support Vygotsky's zone of proximal development, which is a child's area for growth that is reliant on the help of a more knowledgeable individual. Through the support and guidance of a more capable being, a child is constantly practicing different activities, behaviors, and tasks until he or she feels comfortable to complete a task on his or her own. Children need constant interaction with others in order to support new learning experiences, especially from those who provide opportunities to observe and participate in activities of their culture.

Funds of Knowledge

Funds of knowledge can be described as the “historically accumulated and culturally developed bodies of knowledge and skills essential for household or individual functioning and well-being” (Gonzalez, Moll, & Amanti, 2005, p.72). It is used to portray a child’s understanding of skills, tasks, and abilities that are taught by knowledgeable individuals. Funds of knowledge are obtained from people, activities, events, and other influential situations. Children learn through scaffolded procedures that are memorable and meaningful to them, or even knowledge that can be passed on from generation to generation which becomes a part of their history (Owocki & Goodman, 2002). Funds of knowledge however, are not passed on just from person to person; they are also passed on by print, accomplishments, actions, events, and other experiences. Children develop their funds of knowledge from the influential people in their lives. Parents and caregivers are a vital support to children’s growth and development. Teachers are also a source of knowledge for students, especially since they are “the bridge” that can connect the students’ home life to the classroom (Gonzalez et al., 2005, p.82). When children enter the classroom they bring their own range of knowledge, and it is important for the teacher to consider and apply different funds of knowledge in the classroom to support student growth and success.

Barriers and Supports of Disruptive Technology

When incorporating different technologies in the classroom, there will always be pros and cons attached to the device or technology that is being utilized. Due to strict policies enforced by school districts, teachers may be refused the opportunity to use a device that may positively impact student engagement and motivation in the classroom. The use of cell phones in the classroom is a controversial topic because most districts view cell phones as a disruptive

device, and are therefore forbidden to be used in the classroom by staff and students (Thomas & Muñoz, 2016; Nowell, 2014; and Grant et al., 2015). Although districts have set strict policies to keep these “disruptive” devices out of the classroom, teachers may allow the banned technology in their classroom with special permission from their school district with the purpose of teaching new skills to students for educational connections and gains.

“Mobile phones have an abundance of instructional features that provide students with access to anywhere, anytime learning” (Thomas & Muñoz, 2016, p. 21). Thomas & Muñoz (2016) examined the perceptions of high school students in an urban district when using mobile phones. Through their research, mobile phones provided a benefit of allowing students to learn anywhere because of constant access to the Internet, text communications, and the camera for audio/video recording. Although cell phones are viewed as a disruptive technology, having anywhere access to the Internet allows anytime communication, collaboration, and research.

Grant et al. (2015) conducted a qualitative study to describe the use of mobile devices to support teaching and learning in nine K-12 classrooms. Grant et al. suggests students’ Internet use when using cell phones is not regulated because their cell phone network is capable of working beyond school provided networks. This makes it difficult for teachers to monitor, filter, and protect students when accessing the Internet. Through the study, Grant et al. discovered that network capacity and reliability was the greatest issue for participants, which depended on their cellular network. Although there are limitations, Grant et al. also identify the opportunities for collaboration and building relationships with peers when using mobile devices. Students are able to collaborate and communicate their learning through their personal devices. This not only opens the door for student collaboration, but the teacher also becomes a partner in the collaboration process while using mobile devices.

Nowell (2014) led a qualitative study that focused mostly on teacher-student interactions and relationships to answer the question, “How do secondary teachers and students utilize disruptive technologies and for what purpose?” (p. 113). Nowell’s findings revealed students did not view reading online as reading because they were unable to connect their everyday media use to their educational use. Through the use of different media platforms, participants were unable to “describe sites as educational or discuss any educational uses for these social networks” (p.116). However, Nowell suggests that teacher-student relationships are positively impacted through the use of digital technology because teachers are able to communicate with students through a digital platform that is of interest. When teachers are media literate, they are using language that students find familiar and comfortable.

Building Relationships in the Digital Classroom

Today, teachers should make the effort to know and understand technology and devices kids find interesting. When teachers are able to make connections with students, then students will feel understood and appreciated in the classroom. Jukes, McCain, and Crockett (2010) suggest teachers should take the time to catch up to current technology use of their students in order to understand the skills needed to “navigate, understand, and create in the online digital environment” (p. 52). Jukes et al. believe that there is a growing divide between teachers’ and students’ technology use. This is due to teachers not being able to make academia relevant to students because teachers are not connecting to students’ current knowledge. Thomas & Muñoz (2016) identified that teachers influence their students’ use of technology for school related assignments. However, a majority of teachers who were surveyed revealed that they had an average knowledge of using and implementing cell phones. Teachers need to take the step

forward to acquaint themselves with devices and technologies that they are not normally comfortable with using.

As stated above, there are potential benefits to using cell phones in the classroom by building relationships in the classroom among peers and with the teacher. Nowell (2014) states that teachers take risks in the classroom when incorporating technology that allows access to media sites, such as Facebook and Twitter. However, teachers demonstrate a capability of connecting with their students by showing trust in their students when employing digital technology in the classroom. The value of trust in the classroom supported positive teacher-student relationships, and therefore student engagement in the classroom increased (Nowell, 2014). When using technology and language that students use every day, teachers are able to connect with their students in a way that makes learning relevant and relatable. Teachers can then step away from the traditional stage of the classroom of informing students and expand their classroom environment. By expanding, teachers allow a classroom environment that is open to more talk and collaboration among groups of students as they freely search and navigate information digitally (Jukes et al., 2010).

The goal of this study was to help Mia connect her home digital literacies to her classroom literacies by allowing her to access information through her cell phone. Through this “anywhere” learning device, the focal child will be comfortable using her cell phone to expand her academic knowledge wherever and whenever needed.

Methodology

This study focused on the use of a cell phone to search for informational texts using several educational websites. Mia had the freedom to explore multiple topics through her research to discover her informational interests. She used her chosen articles to collaborate and discuss with the researcher while critically analyzing the text. Data were collected for a period of five weeks. Data were collected from teacher observations, field notes of Mia's discussions, and Mia's written work including reflections in a journal.

Participant

The participant in this study was selected as the focal child because she is a family member that I work with often. I worked with Mia twice a week after school during one-hour tutoring sessions. Mia was thirteen years old and is a Caucasian female. She and her family members speak English as their first language, and she attended a suburban school in New York State. I was the sole instructor during the tutoring sessions, and I provided academic instruction in Mathematics, Science, Social Studies, and English Language Arts.

Setting

This study was conducted in the focal child's home in a suburban neighborhood. The home environment was welcoming with student work and academic posters displayed throughout her bedroom. Mia's bedroom also displayed posters of her favorite bands and actors. Mia's home is also family oriented and child centered because her siblings range from baby, to toddler, to a young child.

Positionality

My race, class, gender, education, and personal beliefs affect who I am as the teacher researcher. I am a single, white woman in my 20's who attended The College at Brockport to

complete my master's requirements. English is my only language. I have the privilege of teaching at a school that I attended when I was a child, and I am literally teaching in my old third grade classroom. I have the benefit of being able to connect with my students' living environment because I also grew up in the same neighborhoods they are coming from. I am a constant reminder to my students that anything is possible, and that we can improve our living situation if we continue to pursue higher education. My parents did not complete high school, and I am the only one in my entire family to receive a college degree.

This is my second year as a long term substitute teacher at my school. I enjoy using technology in the classroom, and exploring the many potential and beneficial possibilities technology can offer in the classroom. However, my experiences have been focused around the use of a Smart Board, student Chrome-books, and iPads.

Data Collection

Field Notes

As the teacher researcher, I observed Mia's interactions in her home as she discussed the texts that she searched independently in my presence. I wanted to observe how Mia's talk progressed through discussions, and what connections she was able to make independently. I tracked my observations and my thinking process through a double entry journal (Tovani, 2000). I made instructional choices from reflecting on my observations to address Mia's need for support when critically discussing her chosen text.

Artifacts

The artifact I collected from Mia was her journal. Within the journal, Mia tracked her chosen articles, how she chose her topics, and how she reflected on her article before talking with the researcher. Mia then had a chance to reflect on this process during each tutoring session in her journal by responding to a teacher provided prompt.

Audio Recordings

As Mia discussed her chosen articles and research process, I audio recorded and transcribed these conversations. This process allowed me to go back and reflect on parts of her discussions that I may have overlooked during our face-to-face meetings.

Procedures

According to Koltay (2011, p.216), digital literacy is used to define the ability of reading and comprehending hypertext. Koltay also identifies four main competencies of digital literacy:

1. Internet searching-searching for information is connected to critical thinking
2. Hypertext navigation-knowledge of tools when accessing information
3. Knowledge assembly-collecting reliable information from multiple sources

4. Context evaluation- communicating and publishing information learned.

By using cell phones, Mia independently explored her reading interests, and evaluated, understood, and discussed the texts that she chose to read to build her digital literacies. Mia accessed websites, newspapers, and magazines through the Internet. She then used what she learned during the tutoring sessions to research her own texts. Mia had time during the tutoring sessions to talk about her chosen article, and analyzed and discussed further with the teacher researcher.

Plan for Cell Phone Use

I met twice weekly for one hour for approximately five weeks with Mia. During this time, I had her browse one website a week to search for articles of interest. My expectations for Mia's research were open ended so she could search for texts that were of interest to her. She kept track of her articles and thinking in her student journal.

Weekly websites that were used:

1. **<http://newsela.com>**: provides leveled reading nonfiction and current event articles
2. **<http://tweentribune.com>**: multiple topics are featured in different journals written by students and teachers
3. **<http://wonderopolis.org>**: provides access to new daily content through a variety of texts
4. **<https://www.dogonews.com>**: short articles for students on a variety of topics
5. **<http://sni.scholastic.com> (Scholastic News)**: access to nonfiction and current event magazines

At the end of the project, Mia wrote a final paper reflecting on the process of analyzing her chosen articles. She identified and described which website she preferred using the most compared to the others, and she explained why she preferred that website. Mia also identified her

favorite topic of research. Although she did have a favorite topic for research, she did not always focus on that one topic while researching. She then created an informational poster about the website of her choice with her topics of interest displayed.

Trustworthiness

This study's trustworthiness was established by the practice of triangulation.

“Triangulation is the use of multiple and different sources, methods, investigators, or theories (at least three) to confirm findings” (Shagoury & Power, 2012 p. 144). I had Mia review my transcribed notes to ensure my notes contained her correct responses, which is called a member check (Shagoury & Power, 2012). My work was also examined by a research partner and my advisor to ensure my preconceived notions did not impact my findings.

Data Analysis

While analyzing my three data sources, I used a process of constant comparison. Constant comparison allowed me to develop themes after coding the three data sources in order to answer my research question (Clark & Creswell, 2015). As a result of this research study, three findings were discovered as the student used her cell phone to search for articles. The first finding centered around the student's behavior and engagement while interacting with the websites. The second finding revealed the student consistently chose texts that appealed to her, and that were appropriately challenging. The third finding revealed that the student utilized critical thinking skills while engaged in searching and discussing articles using her cell phone.

Behavior and Engagement While Interacting with the Websites

I began my study with Mia by allowing her to have full control of how we approached her research by letting her choose which websites we would use every week. Mia chose to approach her research by searching the Scholastic News website first, because she remembered reading articles when she was in fourth grade. The second week she chose Dogo News because she read it originally as "Dog on News", which she hoped would be about dogs. Mia then chose to search Wonderopolis for the third week because she liked the sound of the website. NewsELA was Mia's choice for the fourth week because NYS ELA testing was coming up and she hoped she could review before the test. The final week Mia chose Tween Tribune because it was the last on the list.

Gong and Wallace (2012) suggest future research that examines student behavior when using their device. For example, what is the potential of the device, and what are the distractions from personal entertainment during instructional time? Since I allowed Mia to choose the websites, I was able to observe her reactions and behaviors toward each website based on her

preferences each week. While engaging with the different websites, I began to notice Mia's body language as she searched through the different websites for articles. When she was truly engaged, she had her body leaning toward her phone as she held it in her hands at the table, as demonstrated in figures one and two. The screen was always bright because she continually kept her finger on her screen to eagerly read and scroll through the content.



Figure 1: Mia has her phone in her hand and is consistently browsing and reading.



Figure 2: Mia is leaning toward her phone as she reads "Are you Scared of Bugs?".

When Mia was disappointed or bored with the content of her chosen article, the phone remained on the table as she nonchalantly tapped or flicked the screen to read through the article. Figures three and four depict Mia's boredom with one of her chosen articles. During one of our sessions, I was able to capture Mia playing with a homemade stress ball as she read an article through Tween Tribune. The article was about a ski resort receiving ten feet of snow (Joling, 2017). She chose to read this article because she had just recently finished participating in her

school's ski club. Mia shared that she was interested in learning how people could ski in ten feet of snow. When she learned that people were not able to ski because the resort had to be closed she started to lose interest. After further discussion, Mia realized that it was necessary to close the resort because ten feet of snow would be dangerous since it would be well over a person's head.

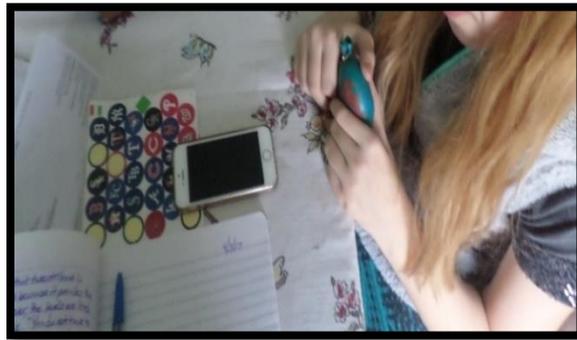


Figure 3: Mia is playing with a stress ball while reading an article, and her phone dims.



Figure 4: While still holding the stress ball, Mia dispassionately flicks her screen to read further.

There are many factors that can impact a child's behavior, and shape who they are as an individual. One of the factors that can influence a child's behavior is identity. According to Owocki and Goodman (2002) children's identities develop their behaviors when interacting with print. Children's identity can set a purpose in motivation and goals, and can positively affect their attitudes and values. Children's identities can influence how they demonstrate and construct

knowledge. Especially when they are engaged in different learning experiences that are meaningful and challenging. Before searching for informational texts using the websites, Mia immediately identified herself as a student who preferred to read narrative texts rather than informational text. Since Mia was able to take charge in choosing the websites she preferred to search, she demonstrated eagerness and motivation when completing the task. She approached each website with a positive attitude with hopes of finding articles related to topics that she found interesting. Mia stated, “If I choose an article it is because I like it, or it’s something I am interested in trying to find out or learn.” However, when she had preconceived notions of what the websites or articles would provide, that is what she hoped or expected to read as demonstrated in the conversation below:

Me-Why did you choose “Spotting New Species” (Scholastic News Editors, 2017)?

Mia-I want to know what species are out there because there are so many new animals that they are finding, and I want to know what else could be hiding out there.

Me-How did you find “Flying Art Gallery” (Denatale, 2017)?

Mia-I chose to search for a different topic other than animals and I saw this article about a flying art gallery. I am really good at art and I like to create and put things together. It was talking about how (scrolls through article) the art is being flown across the world.

Me-What made you change topics?

Mia-I could not really find any more articles about animals so I went on to a different topic and this one seemed more interesting than any of the other articles.

Me-Why was this more interesting?

Mia-Because the picture popped out to me, and flying art gallery told my brain “Why do they call it that?” People wanted to see people’s art, and they were being sent to different states and countries.

Me-Did the article match your prediction?

Mia-Not really because flying triggered my brain to think it was art flying in a plane. The article was about people transporting their art to different places all over the world.

When the website or article did not meet her expectation she demonstrated a detachment from the website or article, and her discussions were generally short with little to no enthusiasm.

Texts that are Appealing and Appropriately Challenging

The majority of Mia’s research was focused around animals when using the different websites because that is her favorite topic for nonfiction. However, during some of the sessions Mia decided to change the topics. She looked up the article about flying art from Scholastic News. While searching Wonderopolis, Mia came across an article about sign language and chose that article because she takes ASL at her school as a language requirement. She also found articles about tornadoes and volcanoes on NewsELA to help her prepare for testing. Finally, Mia found an article about a ski resort and discussed it because she was part of the Ski Club at her school this winter. I have noticed Mia attempts to be flexible in her topics in hopes that she might expand her learning rather than sticking only with the topic of animals. Consider the following example: while using Dogo News, Mia demonstrated the most excitement when she came to the realization that sharks can have tracking devices that are man-made in order to collect data about their living patterns (Shao, 2017).

Me-What information did the article provide you as a reader?

Mia-(took time before responding) It gave me information about the Mako Shark, and how they swim very fast. They used this device to put on one of the shark's fins to track where the shark is, and the scientists can see how much the shark swims. The shark in the video swam farther than any other shark that they knew of.

Me-What did you learn from the video?

Mia-I learned that they have these really cool devices, and I did not know that they had devices to track sharks. Without killing or hurting them, they can track them under water and I thought that was cool.

Me-Why did you like having the video attached to the article?

Mia-It gave me more background information and basically helps me picture the information from the article in my head.

Me-What made you choose this article?

Mia-The title made me think about how far a shark can swim, and at first I did not believe that it was true. I learned that shark is a powerful fast moving shark, and that the scientists learned about the shark by tracking it with the device.

Me- As you were looking through the grade 7 articles I noticed you were scrolling through quickly. Do you remember the article topics?

Mia-There were a few about animals and I also saw one about space and Mars. I kept scrolling and found articles about animals, but I wanted to find something different and interesting.

Me-Why did you want to find something different?

Mia-I saw basic smaller animals, but then as I came across the Mako Shark the title caught my attention and made me want to read it.

Me-What did you like about using Dogo News today?

Mia-There are articles that have videos that go along with them, and having the videos provides you with more information about the topic. I really liked learning that a big shark, like a Mako, can swim 13,000 miles in less than 2 hours.

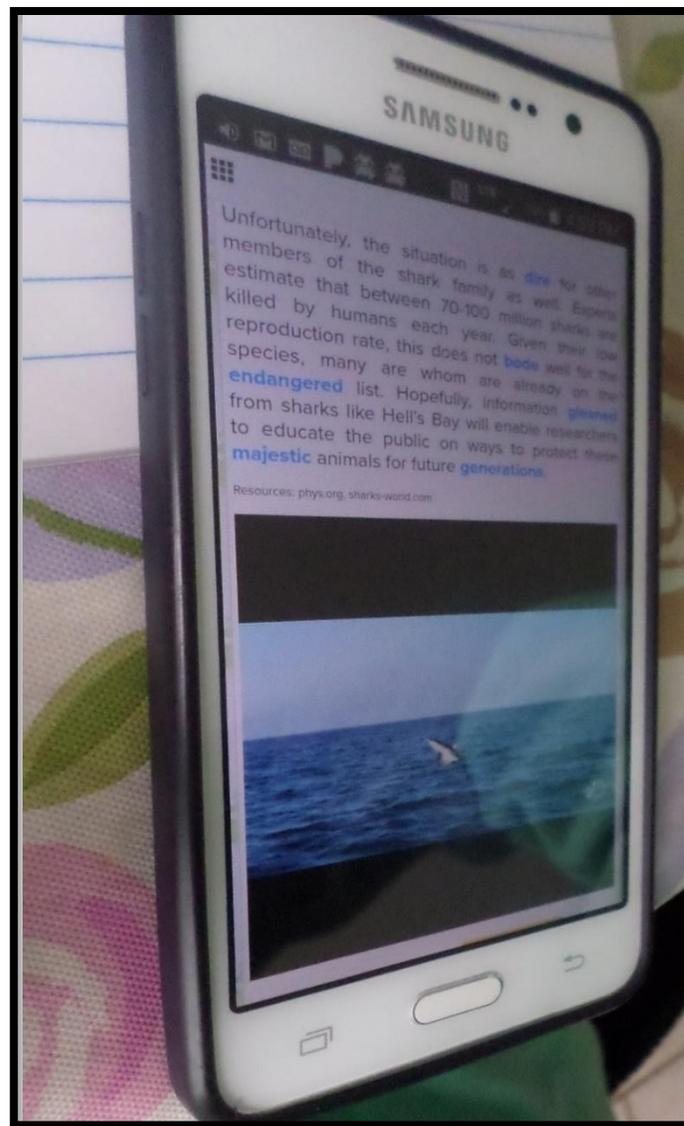


Figure 5: Mia watched the video at the end of the article about the Mako Shark.

Dogo News was the start of Mia questioning and considering if the articles she was choosing to read and discuss were appropriate choices for her age and grade. She really liked that Dogo News, NewsELA, and Tween Tribune provided her that opportunity to choose higher level texts, or texts that were specific to her grade. “Dogo News allowed me to search articles that are related to my grade level and age group. I was not able to do that on Scholastic News, so I don’t know if I was reading articles that were meant for kids younger than me or my age.” Since Scholastic News and Wonderopolis did not provide a clue to the level of difficulty of their articles, Mia was not confident of her chosen articles being appropriate for her age. O’Mara and Laidlaw (2013) advise childhood teachers to use digital devices in the classroom and to value children’s freedom to explore and investigate independently. By allowing Mia to explore and search the different websites, she was able to develop her own questioning and understanding of the importance of choosing texts that are appropriate to her reading level.

Utilized Critical Thinking Skills while Engaged in Searching and Discussing Articles

Grant et al. (2015) recommend further research to determine effectiveness of learning performance when using cell phones inside and outside of the classroom. While progressing through this study, I saw that Mia struggled with demonstrating critical thinking at the start. As she discussed her chosen articles she relied heavily on going back for text details to provide a summary of her learning. Mia mostly provided details from her chosen text rather than putting her learning in her own words. The only time she was close to providing her own response was when I asked her for the main idea of the article. She also relied on prompts from the teacher before she provided a summary of her learning. Over the course of the five weeks of being

engaged with informational texts, I observed a change in Mia's critical thinking and discussion of the texts she chose.

Tilus (2012) identifies interpretation, analysis, inference, evaluation, explanation, and self-regulation as the six main critical thinking skills necessary for student success. Interpretation is understanding new information and relaying that information to others in your own words. Analysis is making connections of information to determine meaning of information. Inference is making a conclusion or hypothesis from information that is presented. Evaluation is identifying credibility of information being presented. Explanation is restating information with clarity and new perspectives to the information while recalling information. Self-Regulation is being aware of your thinking while approaching new demands and information.

The following discussion demonstrated Mia was able to explain the article and make connections without teacher prompt or guidance. Mia also had her own thought process to explain her chosen articles.

Mia- The first article I read was "What is a Volcano?" (Newsela) and the second article was "What is a Tornado?" (Newsela). These articles are similar because they both talk about natural disasters that are dangerous, and how they both destroy lands and homes. I chose these two articles because state testing is coming up soon for the Science exam, and reading these articles were a review of information that I have learned about. I was able to learn a bit more information than what I had learned in my science class. For example, plate tectonics are what move and shift in the Earth, and hot spots are where magma is located. These two things work together to cause the eruption of lava from a Volcano. Since "What is a Volcano?" is a level 870, it was definitely easier for me to

read than it was to read “What is a Tornado?” which is a level 1120. This article was a little harder because it had more challenging words in the article, and some of the information made me really think about it. From this article I learned that a tornado is “a violent rotating column of air that extends from the base of a thunderstorm to the ground”. I also learned that winds come from different directions during the wind storm, and the winds traveling in different directions cause a tornado when they come together.

Me-Before reading the article about volcanoes, what did you remember about volcanic eruptions?

Mia-I remembered that magma is when it is still in the volcano, and lava is when it erupts.

Me-Did you learn about plate tectonics before?

Mia-I am not sure. I don’t remember learning that word though.

Me-Before reading the article about tornadoes, what did you remember about tornadoes?

Mia-I just know that they are powerful winds that destroy things. I did not know they were referred to as columns of air. I guess that makes sense since they come down to the ground from up in the air. I also thought it was cool that tornadoes form from different directions of wind. I thought the wind would be moving in one direction.

Mia’s critical thinking abilities are developing further because she was capable of demonstrating interpretation, analysis, explanation, and self-regulation through her discussion of her chosen articles. Mia took charge of the discussion without my prompting. However, she did not demonstrate the ability to make inferences or evaluate the information presented in the articles. Gong and Wallace (2012) identify mobile learning environments as a way to support

student facilitated collaboration to complete assignments. Mia experienced the freedom to search and discuss the different articles that demonstrated her facilitation of her own learning.

Discussion

Conclusions

The student's interests influenced her research

Mia's interests influenced her engagement when she researched through the different websites. When she was able to find article topics that are interesting she shows through her body language that she is engaged. When Mia was interacting with material that was not interesting, she demonstrated disengagement by flicking through the webpage. She also shared in one of her reflections that she does not like to read. Mia's attention was not maintained when she read something that did not capture her interest. Most of Mia's chosen articles were centered around different animals. However, she did venture into topics that were related to things she was engaged in while in school. Mia's article choices spanned from skiing, science related topics, and American Sign Language articles. She also chose to research why people are afraid of bugs because while at a party she experienced a mother being petrified of a bug in the kitchen. This experience spiked her curiosity to explore potential reasons as to why people would fear a creature that is much smaller. "Mobile phones have an abundance of instructional features that provide students with access to anywhere, anytime learning" (Thomas & Muñoz, 2016, p. 21). No matter Mia's experiences and learning inside and outside of her classroom, she had the ability to expand her knowledge further by searching and reading different articles.

The student chose her topic for research based on her Funds of Knowledge

Mia focused most of her research around her main interest of animals. When she comes across an article with any title that involves an animal, she is immediately excited and interested to dive right into reading. At the start of working with Mia on this study, she shared with me that her parents have been a great influence in developing her interest of animals. They would

provide her with different books, toys, games, and activities that would develop her understanding further of her favorite animals. While researching articles through the different websites, she still continued to expand her learning of her favorite animals by specifically searching for information by topic. When she was not successful in finding an article about her favorite animals that is when she would expand to different subject areas in school and after school activities. This process demonstrated Mia's ability to independently utilize her different funds of knowledge.

Funds of knowledge is the idea that a child's household is encompassed with different opportunities for language acquisition (Gonzales et al., 2005). Fundamentally, the people that surround a learner have an immense impact on the way they learn, and these people guide them to experiment with different forms of reading and writing (McGee & Richgels, 2012). Children's households, wherever they may be, contain resources that are intellectually and culturally stimulating. These resources allow children to relate to one another and provide teachers various opportunities to connect in the classroom (Gonzales et al., 2005). By searching based on her funds of knowledge, Mia was able to share her experiences and understanding through discussing and analyzing different texts that expanded her prior knowledge.

The student's critical thinking skills evolved as she engaged with informational text

Mia exhibited progress during our last session because she was able to begin researching based on her own questions. She did not need my prompting or encouragement to start researching. This displayed her independence in her thinking based on the practice received with my support and guidance throughout the study. According to Koltay (2011), digital literacy is used to define the ability of reading and comprehending hypertext. Hicks (2013) identified,

“...strategies are best suited to locate, critically evaluate, and synthesize diverse online texts is likely to foster a deeper understanding of the texts they encounter on the Internet” (p.30).

Mia has the potential of becoming successfully digital literate because she is able to search the Internet, navigate websites and webpages, and she is learning about reliable sources/websites to use when researching on her phone. However, she needs further support when discussing and writing about her new learning to successfully demonstrate her ability as a critical thinker when inferring and evaluating the texts she chooses to read.

Implications

Teachers should encourage students to read texts that are interesting

One way teachers can ensure that their students are engaged in their reading is by allowing them to read texts that have topics that are interesting. Before my research, Mia shared experiences that have deterred her love of reading. While experiencing a new form of research through her mobile device that she enjoys using, she found a new love of reading. Through my study, Mia had the freedom to explore endless possibilities in her research topics because she was able to type specific topics she wanted to read. She had full control every week of how the study progressed by choosing the website and article topic. As the instructor, I did not tell her what website to use or what to research. I wanted Mia to explore her informational interests as freely and naturally as possible. By allowing Mia to choose what she wanted to read, she approached her research with enthusiasm and was highly engaged.

Teachers should value children’s freedom to explore and investigate independently

When students have the freedom to explore and investigate independently, they are able to choose what they explore. Exploration is centered around decisions of the individual. Having a choice holds students accountable for their thinking because they will be further capable in

sharing their learning of their choice. The value of trust in the classroom supported positive teacher-student relationships, and therefore student engagement in the classroom increased (Nowell, 2014). Trusting Mia to be accountable for her research encouraged her to approach her research with motivation. Having the knowledge that our discussions together would be based on what she discovered allowed Mia to be dependent on her own thinking process. Her self-esteem was also demonstrated throughout the study because she believed in her reading and discussing abilities.

Teachers should engage students in mobile technology to allow students' reading choice

Jukes et al. believe that there is a growing divide between teachers' and students' technology use. This is due to teachers not being able to make academia relevant to students because teachers are not connecting to students' current knowledge. It's important that teachers are aware of what it means to be a critical thinker and digital literate today so that they can successfully educate students in these skills. "Texting, posting on social media sites, emailing, pinning photos on the web, and sharing information with one's friends take up a larger and larger part of our children's lives. We need to find ways to ensure that our children continue to become critical, successful users of these technologies, operating in safe environments throughout our schools and at home" (Serafini, 2015, p.5). Technology is ever expanding and so is the critical thinking process of current and future generations. We are doing a disservice to our students when we are not able to fully prepare them with these skills. Teachers are also a source of knowledge for students, especially since they are "the bridge" that can connect the students' home life to the classroom (Gonzales et al., 2005, p.82). When children enter the classroom they bring their own range of knowledge, and it is important for the teacher to consider and apply different funds of knowledge in the classroom to support student growth and success.

Limitations

The first limitation of my research study was the fact that my study only involved one student participant. Working with Mia allowed me to work closely with one student to receive an in-depth view of her experiences throughout the study. I however wonder what else I could have learned through my study had I had the opportunity to have more participants. I also wonder if my findings would have changed or remained the same had more participants been involved.

The second limitation of my research study was the amount of time I had to collect my data. I was only able to work with Mia for a period of five weeks, and I was only able to meet with her two times each week for one hour. I would have liked to have had more time to meet with Mia each week to have a better understanding of how she was utilizing the websites we worked with each week. I also would have liked to have spent maybe two weeks while using each website rather than just spending one week per website.

Suggestions for Future Research

One suggestion I have is to conduct this study while using narrative texts. My study focused on reading informational texts using different websites. How can the use of narrative texts change students' thinking while using their cell phone? How would data change while accessing narrative texts at home and perhaps in the classroom while using cell phones? Due to cell phones becoming so easily accessible to students today, teachers will not have to take the time to prep students on the use of cell phones. Teachers will only need to take time to research resources and websites to ensure the successful use of cell phones while exploring narrative texts.

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Appendix A: Double Entry Journal

DATE:

FIELD NOTES

QUESTIONS/REACTIONS/INFERENCES

