



Reimagining the Traditional Pedagogy of Literacy

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Abstract

This case study examined the perceptions of a pre-service teacher during the implementation of critical literacy with the integration of digital technology into a kindergarten classroom setting. A formative experiment (Bradley & Reinking, 2010) model was used to understand the perceptions of the pre-service teacher better while implementing critical literacy in a kindergarten classroom setting. The teacher-centered, continuous mentorship focused on critical literacy, and technology integration served as the intervention. This case study showed how teachers could fit critical literacy through technology integration into the literacy block by engaging students in shared or interactive reading activities with predetermined critical literacy questions as discussion points throughout the story. The results of this study also indicated that teaching critical literacy appeared to affect elementary grade students positively. The pedagogical goal is for teachers to modify mandated curriculum so that they build learning experiences about students' lives in engaging multiple, multimodal, and multifaceted ways.

Critical literacy is the "new basic," a necessary life

skill. Our youngest learners are able to start thinking critically at an early age. Despite popular belief, literacy, is not taught in isolation-it involves social and political acts that can be used to influence people and can lead to social change (Comber & Simpson, 2001). Readers and consumers are bombarded with text daily that usually include underlying messages, and stereotypes. This is especially true with technological communication in which electronic media often carries no accountability, and many texts are unedited, heavily biased and are not attributed to any named or even credible author(s). Because of this, teachers should be aware of the text that they are using to teach students literacy skills and they should teach students to critique texts instead of merely accepting them, as early as elementary age.

Critical reading as a manifestation of critical thinking has become significant in living a more competitive life in the 21st century and beyond. Critical thinking involves higher order thinking skills and more complex cognitive processes necessary in the 21st century to achieve success in life (Greiff, Niepel, & Wustenberg, 2015). This form of reading develops the student's

ability for “problem find” and becoming better observers which enables the scales to fall off their eyes.

What Is Critical Thinking?

Critical thinking, as defined by Fisher (2001), is a reaction to something we have seen or read and which results in examination, intellection, and reflection. Through reflection, the reader will decide whether to accept or to reject the text as a course of action. Furthermore, rejection can then lead to pursuit for a greater dissemination of additional information at the classroom level through discussion and debates. This provides students with opportunities to question and scrutinize many meanings and insights. McNulty (2013) states that of paramount importance, however, is that, if teachers want to develop their students’ critical knowledge they must then provide texts from which students can extrapolate meaning then expound and challenge attitudes and suppositions.

What is Critical Literacy?

All forms of communication are social and political acts that can be used to influence people and can lead to social change (Comber & Simpson, 2001). Critical literacy occurs when readers inspect the social, political and cultural purposes and values of a text. It encourages readers to question, explore, or challenge the power relationships that exist between authors and readers and promotes reflection, transformative change and action. It is important to understand that critical literacy is not the same as critical thinking. The approach that a reader takes on when interacting with a text is what differentiates critical thinking from critical literacy. When a reader approaches a text with a number of biases and strives to apprehend the meaning of the text by abandoning his or her prejudice, that reader is involved in critical thinking. A reader who, on the other hand, starts with the assumption that all varieties of text, from print to multimedia, have a goal of transmitting knowledge and power are engaged in critical literacy practices. Critical literacy aligns with the social critical theory, as it characterized by the reader asking the following questions while interacting with the text: Who wrote the text? Why and for what consumers was it written? Is there any distortion or falsification or even missing voices within the text?

Evolution of 21st Century Education

The United States is becoming more diverse. In 2015, enrollment in public elementary and secondary schools was 66.8% White, 15.3% Black, 25.1% Hispanic, 4.5% Asian/Pacific Islander, and 1.1% American Indian/Alaska Native (National Center for Education Statistics, 2015). Despite this diversity among the student body, the teaching profession remains largely homogeneous with 83.1% of public school teachers were White (National Center for Education Statistics,

2015). Accordingly, it is important that teachers are prepared to teach children from cultural backgrounds different from their own. By applying critical literacy in the classroom setting, children and teachers can explore and begin to understand and appreciate the similarities and differences that they have and share these with each other (Clarke & Whitney, 2009). Our research has shown that even kindergarten students are ready to examine multiple perspectives, writers’ motivations, and how a text compares to their own reality.

Since the early 1990s, schools, districts, and the federal government have invested heavily in instructional technology. Teacher and student access to technology in schools has improved dramatically. Today, all public schools are connected to the Internet, with 97% connected via high-speed connection. The student-to-computer ratio dropped from 4.4 in 2003 to 3.8 in 2005 (Wells & Lewis, 2006), and hundreds of schools and districts are experimenting with or have put in place one-to-one laptop programs that provide each student with their own laptop. Today, many students are able to type at least 60 wpm in 2nd grade. There are students using twitter, facebook, instagram, and text messaging instead of emails. These students are managing networks of hundreds of people, publishing creative work, and even earning a salary in their spare time online.

Additionally, critical literacy explores media texts, such as advertisements. In the world that we are living in today, these kinds of texts flood readers and consumers daily and usually include underlying messages, prejudices, and stereotypes. This is due to the fact that electronic media does not carry accountability, is heavily biased, and is not attributed to any named or even credible author(s). Because of this, teaching students to critique texts and not merely accept them uncritically as early as elementary age is paramount.

Since education is about adapting to a changing world, how and what we teach has to change as well. Today’s pen and paper has changed and will continue to change. Therefore, we must keep pace and stay relevant to keep students engaged.

21st century education must be student centered and personalized. These educational experiences must provide students with opportunities to apply knowledge. 21st century students will use a multitude of technology to access content, demonstrate mastery, publish their work, maintain a portfolio of their skills and interact with the world.

While there is a great deal of research on the positive

effects of implementing critical literacy in the classroom setting with secondary education students, there is not a lot of research available on the impact of using this strategy in elementary grades and the perception of teachers while using this practice with younger grade students. Furthermore, there is very little research on the effects of using technology to enhance the critical literacy skills of elementary age students in order to prepare them for the 21st century. This study will add to the body of research in the context of the implementation of critical literacy through technology integration in the elementary setting, by encouraging teachers to modify mandated curriculum so that they build learning experiences about students' lives in engaging multiple, multimodal, and multifaceted ways.

The 21st-Century Literacies

The International Literacy Association (ILA, 2017) and the National Council of Teachers of English (NCTE, 2009) published position statements on new and 21st-century literacies that provided a foundation for our work. The NCTE defined 21st-century literacies as the following abilities for teachers and students:

1. Develop proficiency and fluency with the tools of technology.
2. Build intentional cross-cultural connections and relationships with others to pose and solve problems collaboratively and strengthen independent thought.
3. Design and share information for global communities to meet a variety of purposes.
4. Manage, analyze, and synthesize multiple streams of simultaneous information.
5. Create, critique, analyze, and evaluate multimedia texts.
6. Attend to the ethical responsibilities required by these complex environments

ILA's (2017) position statement complements this definition by focusing on paradigmatic shifts in pedagogy and curriculum development to help understand the following:

1. Digital tool use requires new social practices, skills, strategies, and dispositions for the tools' effective use.
2. New literacies are rapidly changing as defining technologies change.
3. New literacies are multiple, multimodal, and multifaceted; thus, they benefit from multiple lenses seeking to understand how to support our students in a digital age better.

Furthermore, this position supports research on connecting pedagogical practices to meaningful life experiences (Hammond, 2014). Research shows a correlation between connecting students' lives and cultural norms to classroom learning and

achievement (Hammond, 2014). Contrary to the research that supports the need for meaningful connections, schools continue to use the traditional one size fits all pedagogical approach to teaching and learning. Historically, learners from different cultural backgrounds and experiences have not been acknowledged in the schooling process and resulted in differential outcomes (Banks, 1987, 2001; Delpit, 1993; Sleeter, 1987). This resulted in the disconnect and disengagement experienced by these students (Gay, 2010), which is why culturally responsive teaching is necessary.

Critical literacy is culturally responsive teaching and is characterized as a pedagogical approach that builds on what students already know while encouraging them to embrace their culture and develop a love of learning. This pedagogical approach helps students to understand that there is more than one way of knowing. It is an approach that empowers students, intellectually, socially, emotionally, and politically by using cultural referents to impact knowledge, skills, and attitudes. There are a variety of terms used for teaching that connects students' lives and experiences with curricular materials and daily instructional practices, some of which are culturally sustaining (Paris, 2011), culturally relevant (Ladson-Billings, 1995), culturally responsive (Gay, 2002), critical literacy (Freire & Macedo, 1987), and social justice (Lipman, 2004). These approaches are common due to the critical paradigm that they operate in order to support student achievement, affirmation, and success through the utilization of children's backgrounds and experiences. The increasing diversity in schools and national changes in the demographic makeup of citizens dictate that teachers develop a better understanding of critical literacy practices in order to be culturally responsive in the classroom setting. It is important that teachers engage in explicit preparation that emphasizes the importance of honoring children's culture and critically examining their own positionality in order to increase student learning opportunities (Emdin, 2016). The research on culturally responsive teaching, while limited to mostly small case studies, shows promise for increased academic outcomes for children (Paris & Alim, 2017).

Lipman's (2004) framework for social justice is a useful heuristic for teachers to reflect on ideologies that undergird the school curriculum, question how decisions are made and who benefits, and attend to factors that lead to systemic inequities in schools. Lipman's model frames social justice as the pursuit of equity, agency, cultural relevance, and critical literacy.

The publication of *A Nation at Risk* (1983) has prompted national movements towards modifying

and heightening expectations for student learning that are more aligned with college and career readiness because of concerns about United States school system's global competency. These changes are the root of rethinking the delivery of instruction and the utilization of technology in classrooms as a way to meet those rising expectations and standards. "Digital literacy" is now essential to the success of students in the global economy and falls into at least three areas (Bussert-Webb & Henry 2016)-basic, intermediate, and advanced levels. Students on a basic digital literacy level is characterized as possessing keyboard skills and is able to navigate different apps and software on the computer. Students on the intermediate skill level is proficient at conducting digital searches on-line in order to obtain information or complete research assignments assigned by the teacher, and even for leisure. Students on an advance digital literacy level are able to evaluate the information obtained through a critical lens for biases and accuracy. Historically, the role of technology and its impact on student learning has changed and will continue to change. In the past, technology was used to improve work productivity and promoted lower level learning through flashcards, drills, and visual presentations. The function of computers in schools have shifted gradually in order to help students develop higher level cognitive based skills (Delgado, Wardlow, O'Malley, & McKnight, 2015). Jonassen (1995) argues that a technology supported learning should be used not only as productivity software, but also as tools to construct knowledge. A recent technology plan released by the federal government (U.S. Department of Education, 2016) states:

Technology can be a powerful tool for transforming learning. It can help to form and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps and adapt learning experiences to meet the needs of all learners (p.1).

Developing a curriculum that builds on students' funds of knowledge (Moll, Amanti, Neff, & González, 1992), provides access to digital tools, explores social issues, and creates a platform for sharing information with others reflects how we merged this theory into practice. "Funds of knowledge" is defined as the skills and knowledge that have been historically and culturally developed to enable an individual or household to function within a given culture (Moll, Amanti, Neff, Gonzalez, 1992).

This theoretical framework, along with NCTE's (2009) and ILA's (2017) position statements, support the researcher's commitment toward providing pre-service teachers with professional development and mentorship for reimagining the traditional pedagogy

of literacy. The pre-service teacher explored how to integrate topics such as social justice and diversity within the state curriculum while incorporating digital technologies such as X-Ray Goggles in order to provide a learning environment that promotes critical thinking, problem solving, and collaboration while navigating through literature. The pre-service teacher's case could provide insight into how a 21st-century literacies perspective could support literacy practices in elementary classrooms while attending to elements of social justice through the integration of technology.

Purpose

The purpose of this case study was to gain a better understanding of the perceptions of a pre-service teacher as she implements critical literacy practices into kindergarten classroom settings. The researcher would like to add to the literature base on the benefits and challenges pre-service teachers encounter when planning and implementing critical literacy through the integration of digital technology. The following are the research questions:

1. What do pre-service teachers anticipate they would encounter when implementing critical literacy through the incorporation of technology in their current and future classrooms?
2. What are the perceptions of pre-service teachers on how teaching critical literacy appears to be affecting their students?
3. What are the benefits and challenges of implementing critical literacy practices with the incorporation of technology in a classroom?
4. How do teachers integrate critical literacy piece into school curricula?

The anticipated findings would be that the pre-service teacher reports how she integrates critical literacy and technology into the elementary school curriculum and the projects she was able to implement.

Methodology

The researcher used a formative experiment model (Bradley & Reinking, 2010) to understand the perceptions of a pre-service teacher better as she implements critical literacy in a kindergarten classroom setting. For this study, the teacher-centered, continuous mentorship focused on critical literacy, and technology integration served as the intervention. The pedagogical goal was for teachers to modify mandated curriculum so that they build learning experiences about students' lives in engaging ways (i.e., multiple, multimodal, and multifaceted).

This study took place in a school district located in northeast Georgia. The participant of the study was a pre-service teacher who is currently placed in a

kindergarten classroom for her year-long clinical experience. As part of this project, the researcher mentored the pre-service teacher as she implemented critical literacy read-alouds to her kindergarten students and implemented a digital technology project with them. For the digital technology project, the pre-service teacher was trained by the researcher to use the X-Ray Goggles computer application. X-Ray Goggles is a computer coding application provided by Mozilla Firefox. It allows users to see the building blocks that websites on-line are made of. Once downloaded onto the computer, this application can be activated to inspect the coding behind webpages and affords users the opportunity to code in alternate versions of the webpage. For this research study, the pre-service teacher used the X-Ray Goggles as part of her critical literacy lessons by engaging students in the process of computer coding of online fairy tale stories in order to provide alternate viewpoints or missing perspectives.

The researcher, currently serving as a literacy faculty member at the University the pre-service teacher attends, provided the pre-service teacher with an online pre-questionnaire about her own perceptions of teaching critical literacy through the integration of technology to kindergarten students. During the beginning of the semester and throughout the implementation of this study, the researcher mentored, provided resources, and observed the pre-service teacher implement the new strategies learned during the literacy block of the day with her kindergarten students. At the end of each lesson, the pre-service teacher would meet with the researcher to answer some reflective questions regarding the lessons implemented.

One of the lessons implement by the pre-service teacher was through a read-aloud of a book titled, *Freedom Summer*, by Wiles (2005). This story is about two boys who are friends, one White and one African American, and live in Mississippi during the 1960s. During this era, segregation laws were prevalent, keeping them from being able to play together in the public pool because African Americans were not allowed. The story ends with the boys being excited on the day the Civil Rights Act is enacted because they are now able to go to the public pool together and dive for nickels. In order to build the students' background knowledge on fair versus unfair, the pre-service teacher engaged her students in making personal connections using a smartboard. The pre-service teacher asked students to come sit on the rug with her. While they were all facing the smartboard, she explained that there is an important decision they must make today. She showed them a column labeled red and the column labeled blue on the smartboard

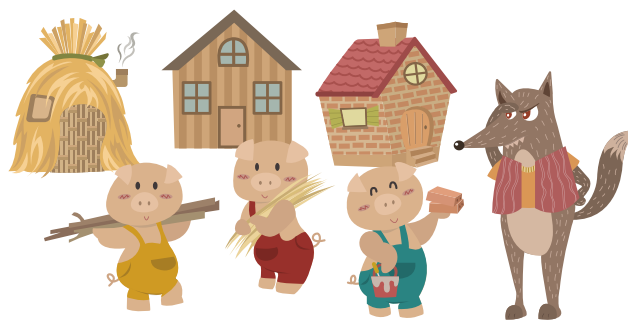
with each student's name underneath the t-chart. The students were told to come up and move their individual names to the column that was labeled with the color they liked more, red or blue. When the students were finished, the pre-service teacher told them that the blue side was going to get extra recess because that was her favorite color. She also told the class that the red column would not get any extra recess.

In the beginning of the lesson, she asked the students to make some observations about the illustration on the front cover. They, then, discussed who the author and illustrator are. When the pre-service teacher began to read, she made observations about how the first couple of pages were making her feel. She also thought aloud about who was talking in the pages of the book. Then, as she continued reading, the pre-service teacher asked the students the following questions:

1. "Who is not talking?"
2. "How would you tell the story?"
3. "How does this book make you feel?"
4. "If you could change the ending, how would you change it?"

At the end of this lesson, she engaged her students in a writing activity focused on something they would change in the story.

Another critical literacy lesson implemented through the integration of technology by the pre-service teacher happened during a read-aloud of *The True Story of The Three Little Pigs* by Scieszka (1989) (see Appendix A). This is the story of the three little pigs



told from the perspective of the wolf. The beginning of the story starts with the wolf baking a cake for his grandmother's birthday and runs out of sugar. He decides to go to his neighbors to ask for some sugar. While at each of their doors, he sneezes because of a cold that he has and accidentally blows down the first two houses. At the end of the story, the wolf is arrested when he arrives at the third little pig's house sneezing because of what the community perceives him to be, and his grandmother does not get a birthday cake. To activate students' prior knowledge of common stories, the pre-service teacher asked how many students

had read the story *The Three Little Pigs*. She, then, discussed the summary of the story and key elements of the story, including all of the key elements of the story. The students were scaffolded to think about whose perspective is missing in that classic and what that character may say or think about during the events in the story. This led into introducing the book titled, *The True Story of the Three Little Pigs*.

As the pre-service teacher read *The True Story of the Three Little Pigs* to students, she stopped to question them throughout the story. She asked them the following questions:

1. "How are you feeling about the wolf right now?"
2. "Does he seem to be mean and scary?"
3. "What are some words and descriptions they have used to describe the wolf?"
4. "What about the pigs?"
5. "How does this story make you think about what has happened compared to the three little pigs?"

There were other applicable questions that required students to think of the story critically.

To summarize their discussion about different perspectives, the pre-service teacher leads a whole-group X-Ray Goggles activity, the computer application that allows users to see the building blocks that make up websites on the Internet and inspect the code behind any webpage. In this lesson, it was used to code and remix the text and pictures on the story Rapunzel to offer a different perspective. The pre-service teacher had a fairytale summary of Rapunzel pulled up on the smartboard. The students and the pre-service teacher, then, worked together to identify another character in the story whose voice was missing and, then, rewrote the story from the different character's perspective by coding through X-Ray Goggles. At the end of the study, a post questionnaire was completed by the pre-service teacher.

The researcher collected information from a pre- and post questionnaire (see Appendix B and C), collected and observed the pre-service teacher implement lesson plans, and conducted individual coaching interviews about her experiences.

Results

The results in the pre- and post questionnaire completed by the pre-service teacher indicated that, upon beginning the study, she anticipated that the students would react very well to critical literacy through the incorporation of technology in her current classroom. The pre-service teacher had been exposed to critical literacy theory and methods in a literacy course taken a few semesters before the implementation of this study. She practiced utilizing this strategy with

the students she tutored during the field experience component of the literacy course. During this research study, she received mentorship along with additional resources from the researcher, in order to implement critical literacy through the integration of technology with her kindergarten students.

Prior to the study, the pre-service teacher felt very confident in her ability to incorporate technology into critical literacy lessons because of her level of proficiency with the utilization of technology. It was not until she began implementing this strategy that she also realized that technology incorporation would be a difficult process. The pre-service teacher stated,

I thought it might be difficult because I was unsure of how to incorporate technology in new and effective ways. But, I encountered success in engaging students with the technology. Although the X-Ray Goggles worked while I was practicing, but not during the lesson, the students still thought they were awesome and they were encouraged to participate.

When asked in the pre-questionnaire if there were any topics she thought were inappropriate to discuss with her students, she responded, "Yes, of course." Her response after the study changed to the following:

Students are in no way too young to have critical conversations. I used to think that critical literacy had to be intense and overwhelming and sometimes sad. But, I know now that it doesn't always have to be that. It can be more light-hearted conversations about perspective. Overall, I learned that it is necessary and totally doable! I think my background certainly used to affect my book selections and classroom discussions because it's easy and comforting to read the same books you were read and discuss what you've heard and seen all your life. But now, I feel that I can better represent other backgrounds through discussions and books, and even challenge myself to think critically in the process.

One of the lessons implemented by the pre-service teacher was through a read-aloud of a book titled, *Freedom Summer*, by Wiles (2005) through the incorporation of smartboard technology which was used to build student's background knowledge of fair versus unfair. The pre-service teacher engaged the students in a discussion of the difference between fair and unfair by displaying a t-chart and on the smart board (see Appendix A), and questions that promoted critical literacy development while reading the story aloud to the students.

At the end of this lesson, she engaged her students in a writing activity focused on something they would

change in the story. The students were instructed to write about an event to change, who is talking that could change, and so forth.

The following are some of the writing responses shared by her students (all pseudonyms):

Ava: "This is a picture of me helping my friend; she had a scratch, but it was bleeding."

Laura: "We were swimming in the pool. They were playing Marco Polo, and they were splashing, and then they went home."

Landon: "They went to get ice cream together."

Emma: "They were both going to dive in the pool. And the nickel's right there."

At the end of the lesson, the pre-service teacher reflected and completed a one-on-one interview about her observations. The following are some themes that were pulled from reflections and interviews.

Her observations on her kindergarten students' ability to have critical conversations:

"They were able to talk about how unfair it was and explain a different ending better than I anticipated. They were reacting intently while I was reading, more than expected. That was really encouraging because they were reacting to what was going on, even if I wasn't asking a question. So, that ensured me that they really grasped the unfairness."

Book choice: "This book was introduced to me at a multicultural literature conference that I attended, and I loved it. I can make it developmentally appropriate and have them grapple with those ideas."

What went well or what she would change related to the incorporation of technology:

"I think the students did really well with this lesson. They were attentive during the story and engaged while writing and drawing an alternate ending. The activating activity, using the SMART board really made them think and made them sad. So, I think it was an appropriate activity before reading the book. I should have thought of a better way to have the students move their name because that got very chaotic. I loved hearing them share what they wrote and drew. It was so sweet!"

Advantages for implementing digital technology into her critical literacy lessons: "It's more engaging for students. It shows them that it can be used for other things other than watching TV and playing."

Another critical literacy lesson implemented through

the integration of technology by the pre-service teacher happened during a read-aloud of *The True Story of the Three Little Pigs* by Scieszka (1989). To activate students' prior knowledge of common stories, the pre-service teacher engaged the students in a discussion about *The Three Little Pigs*. The students were scaffolded to think about whose perspective is missing in that classic and what that character may say or think about during the events in the story which led into introducing the book titled, *The True Story of the Three Little Pigs*.

As the pre-eservice teacher read *The True Story of the Three Little Pigs* to students, she stopped to question them throughout the story. She asked them critical literacy questions about the wolf's feelings, the wolf's appearance and whether he seemed mean and scary, adjectives and descriptors commonly used to describe the wolf.



To summarize their discussion about different perspectives, the pre-service teacher leads a whole-group X-Ray Goggles activity which is a computer application that allows users to see the building blocks that make up websites on the Internet and inspect the code behind any webpage. In this lesson, it was used to code and remix the text and pictures on the fairytale *Rapunzel*.

The pre-service teacher had a fairytale summary of *Rapunzel* pulled up on the smartboard. The students and the pre-service teacher, then, worked together to identify another character in the story whose voice was missing and, then, rewrote the story from the different character's perspective by coding through X-Ray Goggles.

At the end of the lesson, she reflected and completed a one-on-one interview with the researcher about her observations. The following are some themes that were pulled from reflections and interviews.

Her reflection was,

This lesson seemed to be very engaging and effective for the students! Although they were hyper and excited for break, they were responding during both the book and the X-Ray Goggle discussion. They understood and discussed why the wolf maybe wasn't the bad guy and that it just mattered who was telling the story. Then, they applied this to the witch in the Rapunzel story, even though

the goggles weren't working correctly.

Student's response to questions explicitly addressing critical social issues outside the context of the stories, "They didn't want to believe it at first. They thought that I was trying to confuse them. They didn't understand the concept of perspective until we got into the story."

Student's response based on lesson topic:

"Once I began reading the story and asking them questions about what was happening, they started to understand that maybe the wolf wasn't the bad guy and maybe that they hadn't thought about how the wolf felt or what he was doing although some of them still thought the wolf was big and bad."

Book Choice: "This book was recommended to me by one of the researchers and I love the book and it is developmentally appropriate."

Student's ability to have critical conversations: "Students are not really there yet, but could be if this was a common occurrence. Since the concept of critical literacy was just introduced, there was a lot of support and scaffolding necessary. However, they were able to think critically when asked important questions about the book and perspectives."

Technology choice for this lesson: "I've used it in previous lessons and really enjoyed it. It was really effective."

What went well or what she would change related to the incorporation of technology? "I think the story itself and the conversations during the story well."

The X-Ray Goggles didn't go well because they began to glitch, but the conversations did."

Barriers for implementing digital technology into her critical literacy lesson: "The X-Ray Goggles worked right before the lesson, but didn't work during. Also, having every student use the SMART board at the same time requires a well thought out plan of action."

Discussion

This case study examined the perceptions of a pre-service teacher during the implementation of critical literacy with the integration of digital technology into a kindergarten classroom setting. A formative experiment (Bradley & Reinking, 2010) model was used to understand the perceptions of the pre-service teacher better while implementing critical literacy through the integration of digital technology. During the course of this study, the researcher provided mentorship and resources to the pre-service teacher.

This teacher-centered continuous mentorship focused on critical literacy, and technology integration, served as the intervention.

Once the pre-service teacher was well versed in the meaningful context and pedagogical goals of critical literacy, she implemented the critical literacy through the integration of technology with her kindergarten students. The lessons were planned with guidance from the researcher; they were also observed by the researcher.

The researcher and the pre-service teacher found that students, even as young as kindergartners, are able to think and speak critically. The kindergarten students also enjoy using technology, especially in a meaningful context. The pre-service teacher found that critical literacy does not have to be another add-on to the daily schedule; it can easily be integrated into the literacy block and can be implemented with high quality children's literature. Although the pre-service teacher had her doubts about squeezing yet another thing into her instruction, she found that implementing critical literacy was an enlightening way to engage students in meaningful literacy experiences through questioning and critical conversations. The researcher and pre-service teacher also found that kindergarten students were positively interacting with the website during the X-Ray Goggles activity, learning that everything that is on the internet doesn't have to be taken as an absolute. This revealed that the technology integration provided a very broad and meaningful experience for students, as predicted.

These findings should, certainly, give educators insight into teaching students to think, read, and discuss critically. Educators should be encouraged to empower their students; to help them realize that they are more than just passive consumers of text and media, but active participants in it. Thinking and reading critically should not be left for the post-secondary students, it should begin as soon as students can see, hear, and interact with the text they are exposed to.

A limitation of this study is that one class was studied, rather than a multitude of differing classes. Having multiple grade levels, socio-economic statuses, and teaching styles, would allow the researcher to compare and analyze the results of each, observing whether the findings would reign true for each group. However, this provides an opportunity for future research studies utilizing the same research model and methods.

Conclusion

Our knowledge of the world is constructed through the lens of our individual life experiences. In this sense, every classroom is multicultural, and the life stories of

our students are all different. Children feel emotionally secure when they find themselves and those they love positively represented in curriculum materials. When teachers are culturally responsive, they create learning environments that reflect each child's home culture respectfully while inviting children to accept and explore cultures that are unfamiliar to them. By teaching critical literacy through the integration of technology with the use of high-quality, multicultural literacy materials as part of regular classroom activities during the reading block, teachers model interest in and acceptance of differences. Technology is a valuable educational tool that should be used as a way to create new and meaningful connections to lesson content, expand students' understanding of lived experiences of others, and help to promote the development critical literacy skills that will create an inclusive learning environment.

The results of this study indicated that teaching critical literacy appeared to affect students positively. The students were able to engage in the critical thought processes necessary to analyze character perspectives, make connections, and draw from their own experiences while engaging in critical literacy activities. Although some challenges were presented while implementing technology into the critical literacy lessons, the students were extremely engaged and had an avenue to express higher level of understanding by creating products that identified and solved the critical issues presented in the text that they were engaged in by going against the status quo or by giving a voice to a character whose perspective was not included. This case study showed how teachers could fit critical literacy through technology integration into the literacy block by engaging students in shared or interactive reading activities with predetermined, critical literacy questions as discussion points throughout the story. Students could use the technology as a way to respond to the discussion points discussed throughout the critical literacy lesson and as an avenue for becoming change agents. An example is how the students in this study were able to rewrite a story that their teacher read in the perspective of a different character by using a computer-coding application (i.e., X-Ray Goggles).

This research study seeks to add to the literature base on the benefits and challenges pre-service teachers encounter when planning and implementing critical literacy through the integration of digital technology during the literacy block. This case study provides insight into how a 21st-century literacies perspective could support literacy practices in elementary classrooms while attending to elements of social justice through the integration of technology.

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APPENDIX A

Sample Lesson Plan

Teacher Candidate: _____

Student(s): Whole Group

Session Date: _____

Grade Level: Kindergarten

● Standard(s):

ELAGSEKSL1: Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.

ELAGSEKSL6: Speak audibly and express thoughts, feelings, and ideas clearly.

● Objectives/Goals:

The students will identify and discuss different perspectives that can be examined in common stories.

● Assessment(s):

Students' verbal responses during reading and hacking online fairytale to change perspective.

Activation:

To activate students' prior knowledge of common stories, the teacher will ask how many students have read *The Three Little Pigs*. The teacher will then discuss with students what the story is about and who it is written by. The teacher will scaffold students to think about whose perspective is missing, and what that character may say or think about the events in the story. This will lead into introducing *The True Story of the Three Little Pigs*.

Teach:

The teacher will read *The True Story of the Three Little Pigs* to students, stopping to question them throughout. The teacher will ask them "how are you feeling about the wolf right now?", "does he seem to be mean and scary?", "what are some words and descriptions they have used to describe the wolf?", "what about the pigs?", "how does this story make you think about what has happened compared to *The Three Little Pigs*?", and other applicable questions that require students to think of the story critically.

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APPENDIX B

Pre-Questionnaire

Question

What do you anticipate that you will encounter when implementing critical literacy through the incorporation of technology in your current and future classroom?

Are there any topics you think are inappropriate to talk about with young students?

How do you feel about young students questioning their world? What is your role in helping students work towards changing their world?

What strategy would you use to teach multiculturalism, diversity, or social issues to young children?

How do you think that your background, race, gender, class, culture affect book selections and classroom discussions?

How do you think the incorporation of digital technology will affect student engagement and learning in the context of critical literacy?

What would you like to see happen as a result of your participation in this study?

Answer

I anticipate that students will react very well to it and that it will be effective! I also anticipate a strong learning curve for me, as the implementer.

There are topics that are inappropriate to talk about with young students.

I love when students question their world because it makes them critical thinkers and encourages them to rise above standards they don't agree with. My role is to teach them to question respectfully and to help them not only question but also analyze and interpret answers/ findings.

I would use a variety of resources that students can analyze and interpret on their own. I would scaffold their thinking and encourage them to form their own opinions based on the knowledge they are acquiring.

I think that it can definitely sway book selections and classroom discussions to reflect my own background. It is very important that it doesn't reflect my background though, and that they reflect each students' (and some of their backgrounds may be very similar to mine).

Students love technology and are more technologically fluent than ever. So, it certainly engages students more than more traditional instruction I believe. Using technology in literacy is not only engaging, but also practical, considering the amount of literacy that is in the form of blogs, articles, e-mails, and so forth.

I would love to see critical literacy effectively used in the classroom. And, of course I want to be able to use technology to effectively implement critical literacy!

APPENDIX C
Post-Questionnaire

Questions

What did you encounter when implementing critical literacy through the incorporation of technology in your current classroom?

Answers

Incorporating technology was at first difficult. This was because I was unsure of how to incorporate it in new and effective ways. But, I also encountered success in engaging students with the technology. Although the x-ray goggles worked while I was practicing, but not during the lesson, the students still thought they were awesome and they were encouraged to participate.

What do you think about literacy as being a social practice for teaching young students?

I think it can and is extremely effective and is a great way to teach social justice.

How do you feel about young students questioning their world?

I believe it is great that students learn to question their world and change perspective. It shapes them into critical thinkers and good citizens.

What is your role in helping students work towards changing their world?

My role is to expose them to differing perspectives and social issues, and guide their thinking and questioning. This will then promote the critical thinking they will need to change the world.

What strategy would you use to teach multiculturalism, diversity, or social issues to young children?

I would certainly use critical literacy to teach these issues because stories are something they enjoy and can get a lot from. It's also a great way to transition into having them respond to the issues through speech and writing.

How do you think that your background, race, gender, class, culture affect book selections and classroom discussions?

I think my background certainly used to affect my book selections and classroom discussions because it's easy and comforting to read the same books you were read and discuss what you've heard and seen all your life. But now I feel that I can better represent other backgrounds through discussions and books, and even challenge myself to think critically in the process.

Did the incorporation of digital technology affect student engagement and learning in the context of critical literacy? If so, how?

Yes, I certainly think so. In my first lesson students were excited to come move their name on the smart board. In the second lesson, the x-ray goggles got students excited to change the story.

What would your read-alouds look like without the use of critical literacy?

They would most likely just be seasonal books or books related to a current letter of the week or standard.

How will your participation in this study influence your literacy practices in the classroom setting?

This study has certainly encouraged me to broaden my book selections and classroom discussions.

How has your knowledge of critical literacy evolved from the beginning of this study?

It has taught me that students are in no way too young to have critical conversations. I used to think that critical literacy had to be intense and overwhelming and sometimes sad. But, I know now that it doesn't always have to be that. It can be more light-hearted conversations about perspective. Overall, I learned that it is necessary and totally doable!