Bringing The Outside In: Connecting Literacy Practices In A Layered, Technologically-Driven Seventh Grade Honors English Curriculum

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DEDICATION

This dissertation would not have been possible without the love and support of many groups of people in my life. My family, including my parents, sisters, and in-laws, never wavered in their faith in me. My husband and son listened to me vent, grumble, and cry, but always offered hugs, smiles, and support despite how many late nights and weekends this work took me away from them. My best friends cheered me on (with dessert when necessary), and my colleagues in Grosse Pointe (shout out to 2 North) always lent an ear whenever I updated them on my progress (or needed to talk through an idea). Thank you all for being the best cheerleaders ever.
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CHAPTER 1 – THE STUDY

Introduction

Recently in my seventh grade English classes, we read a young adult novel entitled *Nothing but the Truth* by Avi (1991), a multigenre novel that incorporated diary entries, letters, memos, and scripts of conversations to tell a story from multiple perspectives. Many of my students found the author’s choice of genres outdated and voiced their concerns during class discussions. I reminded them the novel was published in 1991 when many of these genres were more prevalent in written expression. “But Mrs. Scully,” one student complained, “no one keeps a diary anymore.” I smiled. “Maybe not. But, let’s consider, what’s a diary’s purpose?” I posed the question to many skeptical faces. One student piped up, “It’s a place to get out your feelings and opinions.” A second student added, “Yeah, a place to vent your frustrations.” I moved to my Smart Board to note these two observations, and said, “Okay. Where do *you* get out your feelings, opinions, and frustrations now?” Their eyes lit up, and their answers came easily and readily.

“Facebook!”

“Twitter!”

“My blog!”

“In my YouTube videos!”

“Podcasting!”

I scrambled to keep up with their shouts and noted these new genres on our board. When their comments lulled, I replied, “Take a look at how many different genres you
use to communicate and express your thinking.” After a brief silence, one student offered, “I guess that’s what Avi was trying to show us.” I smiled again. “Yes, I think so.”

I offered this anecdote from my classroom for two reasons. First, it demonstrates the many different ways my students are engaged in social media on a daily basis as a means to express their thinking, share ideas with others, and communicate. Social media is a vehicle for communication and self-expression; one that engages my students constantly in their lives outside the classroom. It enables them to express how they feel and what they think about things that are important to them. However, once they enter school, many teachers require students to turn off, disable, and abandon their technologies and expressive forms of literacy.

Second, it demonstrates how schools and teachers do not embrace students’ out-of-school literacies in their school environments. As a result, we teachers often forsake the necessary twenty-first century literacies our students need in order to be successful in our ever-changing world. Rather than ignoring their use of technological tools and social media in out-of-school settings, we must teach students how to use these tools to become more critical and independent thinkers. We must teach students why using these tools in a more critical manner is necessary in our increasingly global, technological world.

As I reflected on the conversation about Avi with my students, I realized I was one of those teachers who were not honoring students’ out-of-school literacies in the classroom. I, too, would ask students to disable their electronic devices upon entering my room, only allowing them for “special occasions.” Our conversations about their alternate forms of expression and communication, such as Facebook or Twitter, were
limited to a funny picture someone posted or a witty comment someone shared. This experience pushed me to consider how social media forums and technological tools, such as blogging, podcasting, or creating YouTube videos, could be utilized as more than a platform for a fun activity.

Students’ out-of-school literacies are gateways to larger, global communities who expect and sometimes demand an ability to construct knowledge and contribute to the identity of the group. For example, *Facebook* offers invitations to other applications within its platform. One of these is *Goodreads*, a site enabling its members to find and critique books. As members participate, they track the books they read while writing critiques and recommendations. While they engage in this activity, members are constructing knowledge and participating in a larger community of readers. The group expects members to provide quality information and justifiable critiques. This type of activity is different than how our students currently approach social media forums. We must move students beyond posting the fun picture or making the witty comment to activities like these where they gain and construct knowledge while participating in a larger, global community. This is the kind of literacy that will be most relevant in their lives; it will enhance their ability to participate in the global marketplace, further their careers and their ability to connect and communicate on a grander scale. Students need to understand *how* to shift from utilizing their current out-of-school literacies as fun diversions to utilizing them as tools enabling critical and creative thinking and their participation in larger, global communities. This study intended to help students make this shift.
This study explored how an English classroom that strives to be technologically innovative engaged students’ abilities to use twenty-first century literacies as a means to build both critical and creative thinking as well as construct and negotiate meaning in collaboration with one another. The study also explored classroom literacy events when one of the curricular outcomes was to help students better understand the significance of these literacies in their lives now and in their futures. That is, one intention of the English unit plan presented in the study encouraged students to appreciate the ways in which their transactions with these literacies are more than just activities. Rather, they are, as are all literacies, social events which have implications for perceptions of self as well as other’s perceptions of them. In an increasingly globalized world, it is my contention that students’ appreciation for the impact of twenty-first century literacies on their lives must extend beyond merely the knowledge of how to navigate their way through technologies or use them primarily as social tools. Rather, it is increasingly important that English teachers provide students with an understanding of twenty-first century literacies as Discourse (Gee 1999).

Discourse and sociocultural theory (Gee, 1999; Vygotsky, 1978) understands literacy as social practice, one in which every transaction with literacy engages various social tasks and patterns. When viewed through a sociocultural perspective, students’ use of digital, or twenty-first century, literacies can be explored for how their practice impacts students’ ability to know and understand the global society, beyond their own community. As the teacher-researcher in this study, it was my intention that as students learned how and why to use digital tools in a more critical manner, they also began to understand how these new social literacy practices enabled them to contribute to
society as more critical communicators and evaluators of information. Students already utilize many of these digital literacies outside of school; this study hoped to provide the classroom link between students’ out-of-school literacy practices and traditional literacy practices by demonstrating how and why these tools are critical to students’ worlds now.

The honors seventh grade English Language Arts (ELA) curriculum presented in the study was a six week unit focusing on the genre memoir. Two classes of seventh grade honors students were involved in the study; one class had thirty-two students and the other had twenty-seven. I was the teacher in both of these classes.

Although there are other studies that incorporate the teaching of technology and twenty-first century literacies into instruction in the English classroom, this study was unique because the strategies employed were intentionally scaffolded to draw upon the zone of proximal development (Vygotsky, 1978) as students collaborated and challenged one another. As students progressed through the unit, the strategies became more and more complex, calling for higher levels of critical and creative thinking. As students mastered each strategy, their ability to utilize technological tools to learn and connect their outside and school literacy practices was strengthened. Another unique aspect of this study was the emphasis with the curriculum on helping students to better understand twenty-first century literacies as a form of Discourse with implications for identity construction of self and others.

In a policy brief entitled “The Definition of Twenty-First Century Literacies,” the Executive Committee of The National Council of Teachers of English (NCTE), recognized that as society and technology progresses and transitions, so does what constitutes literacy (NCTE, 2013). In their statement, they proposed that “technology
has increased the intensity and complexity of literate environments; the twenty-first century demands that a literate person possess a wide range of abilities and competencies” (NCTE, 2013, p. 1). For example, students today must:

- utilize a variety of technological tools, such as tablets and smart phones, for collaboration and problem solving.
- critically examine sources of information in technological environments as well as become ethical participators in them.
- navigate online environments that incorporate various modes of expression into one piece of text.
- be knowledgeable about what twenty-first century literacies are – technologically driven, multimodal in nature, and very malleable.

Given the changing complexity of our society, it is essential to explore the ways in which technology informs literacy instruction in the English language arts classroom. Twenty-first century literacies can no longer be ignored by schools and teachers. The research study described here intends, in part, to address NCTE’s call.

Swenson, Young, McGrail, Rozema, and Whitin (2006), in their position paper at the Conference on English Education Leadership and Policy Summit, stated that “an examination of literacy practices involving technology deserves special attention, not because they are separate, but because they are central to effective English education in a rapidly changing world” (p. 353). They insist English educators in the twenty-first century must not only familiarize themselves with technology, but also create meaningful opportunities in classrooms for students to interact with and create meaning from new forms of technology. Furthermore, Swenson et al (2006) expressed concern at the number of educators who disdain technology as a lesser form of expression. The study presented in the following chapters demonstrates how the scaffolded introduction
of technological tools paired with increasingly complex intellectual activity contributed to developing students’ twenty-first century literacies as well as their levels of critical and creative thinking and interpretation in the English language arts curriculum.

Many studies (e.g., Kadjer, 2006; Ertmer and Ottenbreit-Leftwich 2010; Miller, 2010) demonstrate how twenty-first century literacies are about more than operating a piece of technology. Instead, the technology becomes the vehicle for learning literacy. For example, in Kadjer (2006), seventh grade students used podcasting as a way to participate in literature circles, and in Miller (2010), pre-service teachers used digital video projects to synthesize their understanding of teaching practices. Ertmer and Ottenbreit-Leftwich (2010) believe teachers must “use technology to facilitate meaningful learning, defined as that which enables students to construct deep and connected knowledge, which can be applied to real situations” (p. 357). Merely using technology as a delivery method does not facilitate twenty-first century skills. Furthermore, students’ use of technology throughout school curriculum as a purposeful, meaningful tool will develop twenty-first century literacies, such as moving students beyond the printed text and collaborating with audiences beyond the classroom. The curriculum implemented in the study illustrated how using technology as more than a delivery method fortified students’ twenty-first century literacies.

If we leave the notion of twenty-first century literacy at merely application or practice of technology skills, or worse, as only an at-home literacy, we shortchange students. As we continue to evolve as a digital society, it is imperative that education evolves as well by offering opportunities for students to learn strategies to address the changing needs of today’s global society with technologies they already use at home.
Furthermore, ignoring the emphasis on technology in today’s society only serves to put our students at an extreme disadvantage. Wilhelm (2010) argues students who are unable to use the technologies of their time to read, compose, and interpret are illiterate in the context of their lifetime. Ignoring twenty-first century literacies disserves our students greatly; we must find innovative ways to address the use and application of technology in our classrooms if we intend to fulfill our goal of preparing students for today’s world. The study fulfilled this goal through its innovative approach to embedding technological tools in the English language arts curriculum.

Going forward, the traditional ways of literacy learning do not have the advantages they once possessed. A one size fits all instruction template will not address the needs of today’s students. They possess increased diversity in their backgrounds, experiences, and learning styles, all of which require a different approach. We must recognize students’ literacies out-of-school are embedded in various form of technology and bring these into our classrooms. Doing so will teach students to connect their academic and out-of-school literacies. They will become active interpreters of texts able to make thoughtful, critically analytical connections, which will serve them in an increasingly global, technologically driven world. Finally, they will learn to move fluidly between their out-of-school and in-school literacies, a strategy requisite of today’s global world.

**Significance of Study**

Today’s students possess an increasing number of ways to communicate and express their ideas and personalities through technology. Most of this expression occurs outside of school, leaving students in my seventh grade honors classroom
disengaged with instruction. This spills over into their attitudes toward reading, and as a result, their interpretations of reading lack critical thought and abstraction. Because they are accustomed to traditional methods of instruction, their responses do not delve beyond the surface. This study examined how teaching students to utilize twenty-first century literacies inside the classroom impacted their engagement and ability to think more critically and creatively both in and out of the classroom.

Empirical studies (e.g., Applebee 2002; Bailey, 2009; Cowan & Albers, 2006; Smagorinsky, 2010; Whitin, 2009) demonstrate students need increased opportunities to respond to literature through technology. These studies demonstrate how the use of new literacies, specifically those imbedded in technology, increase engagement and elevate the level of student interpretations. Most students, when given the choice, gravitate toward multimodal and technological tools. They enjoy the opportunity to employ their out-of-school literacies in school while expressing themselves and their knowledge of literature in different ways.

In the past decade, the shift in literacy research demonstrates the belief that students benefit from the incorporation of twenty-first century literacy practices into the curriculum. The practices are necessary to student success in today’s society, including critical thinking, problem solving, as well as the ability to understand multiple perspectives and synthesize various types of texts. The study showed how the technological tools students engage in outside of school helped them become more critical and independent thinkers. It demonstrated why literacy instruction in education must incorporate technological tools in the English language arts classroom curriculum in order to prepare students for our global society.
Purpose and Research Questions

The purpose of the study was to examine how the purposeful layering and scaffolding of technological tools in the English language arts curriculum of a seventh grade honors classroom, including multimodal projects, may engage students more deeply in the study of literature while concurrently helping them reach increased levels of abstraction and interpretation. A second purpose was to show how strategies that incorporate technological and multimodal literacies develop social awareness through dialogic discourse, helping students link their home and school literacies. The use of these literacies has the potential to further meaning construction, raise critical thinking, and allows connections between students’ lives, literature, and the wider community. These strategies encourage students to elevate their level of interpretation by using technological and multimodal literacies to create new types of text across modes, a skill crucial to preparing literate students for today’s society. The questions guiding this research are:

1. In what ways can a new literacies curriculum, which purposefully layers and scaffolds technology throughout a literature unit in a seventh grade honors English classroom, enable students to critically interpret texts and demonstrate complexity of levels of abstract thinking?

2. In what ways does this layered curriculum support students in connecting the use of these literacy practices to their lives both in and out of school as participants in the larger, global community?
CHAPTER 2 – CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

Introduction

In Chapter 1, I described how today’s students are absorbed in a range of twenty-first century literacy practices outside of school, such as creating and downloading media or social networking. Yet their school literacy practices often do not recognize the importance or necessity of new literacies. As students’ out-of-school literacy practices shift, schools and educators must rethink how to incorporate twenty-first century literacies into classroom curriculum. To support students’ engagement in a dynamic and continuously shifting global world, students must learn how and why technological tools can lead them to higher levels of critical thinking. In addition, as students engage in such new literacies, they will begin to understand how these practices, which are social in nature, enhance their ability to take part in a more global community. When students engage in social media, their activity becomes visible to a larger audience. As we engage students with technology, we must teach them how these practices impact their ability to take part in this wider community. Literacy research of the past decade (Luke, 2000; Damico, 2006; Miller, 2007, Whitin, 2009) demonstrates the value of encouraging students to approach texts using various technological tools lies in their ability to navigate forms of literacy continuously changed by new technology. This research also demonstrates the importance of a cultural and global awareness; as students are impacted by new literacies, their experiences within a global community will shape their ability to be global citizens. These new technological tools, then, must take center stage if students are to be prepared for engaging critically in today’s global world.
As stated in Chapter 1, this study explored how a technologically innovative English language arts classroom engaged students’ abilities to use twenty-first century literacies as a means to build critical and creative thinking. The seventh grade honors curriculum presented in the study purposefully scaffolded technological tools, each becoming more complex as the unit progressed, thus becoming more challenging and calling for higher levels of critical thinking. As will be described later in this dissertation, the findings of this research indicate that the use of these tools, coupled with meaningful discourse facilitated by the teacher, helped students connect their in-school and out-of-school literacy practices. This chapter presents the theoretical foundation for the study as well as relevant research that is informed by the theories of new literacies, discourse analysis, semiotics, constructivism, and transactional theory.

**New Literacies**

Educators began investigating the field of new literacy as early as the 1990s (Willinsky, 1990; Suhor, 1992) Many educators recognized how literacy was changing in light of the new forms of technology and media rapidly becoming available to students outside the classroom. New literacies can be defined as and includes online text, such as blogs, social media events, and texting (among others). These digital engagements emerged in conjunction with new forms of technology, such as computers, the Internet, and smart phones. In turn, these were redefining the socio-cultural nature of students’ literacy practices by giving them new ways to express their thinking, and consequently, reshaping the nature of literacy.

**History and Definition.**
As theorists’ and researchers’ understanding of what constitutes literacy shifts, so must the field of education and the teaching of new literacies in schools. The New London Group (2000) asserted pedagogy, or the relationship between teaching and learning, must begin to incorporate the genres of new literacies into the classroom in order to address the changing nature of literacy. According to The New London Group (2000), there are two crucial aspects of new literacies that educators must address in the classroom. First, as noted above, these new literacy practices are redefining students' social and cultural practices. Second, new literacies also incorporate diverse types of textual forms, such as the fusion of visual and written texts. These points are very closely related; new literacy sources account for the spaces made available through new technology and media, like Facebook, a social networking site allowing members to connect with friends and family, or Pinterest, a social community that helps its members organize and collect ideas across various topics using message boards. Diverse text forms can be found in both those media; one who navigates either must have an understanding of how to post, check a news feed, find friends, create a pin board, or repin another’s post. These actions constitute new social literacy practices. Students are not merely learning how to navigate these sites; they interact with others through these forums, creating new opportunities for social interactions and utilizing various tools within these forums as forms of expression. The New London Group (2000) suggested students are already aware of such new literacies made available by new media and technology, yet classroom literacy pedagogy does not capitalize on such media, nor does it teach students how to use them to be more critical of their increasingly digitized world. This study layered technological tools, such as Google
Drive, Subtext, and Edmodo applications, throughout instructional pedagogy in order to meet the criticism highlighted by The New London Group, including specifically teaching students to strategically use technological tools to convey their critical awareness and understanding of the world around them.

New literacy pedagogy should teach students “to develop the capacity to speak up, to negotiate, and to be able to engage critically with the conditions of their…lives” (The New London Group, 2000, p. 13). The work of The New London Group (2000) also focused on how the new literacies impact specific areas of our lives, such as our working, public, and personal lives. They defined each space according to the impact new literacies has made. In our working lives, increased multiculturalism and globalization call for a new way of communicating. Society grows increasingly diverse in our public lives, requiring new ways of communicating and thinking beyond what we know in our local communities. In our personal lives, information previously kept private is now made public discussion through new media. These changes to our lives create the need for us to know and understand the multiple modes present in new literacies, such as collaborative networks. As these changes take place, they create the need for new community spaces that address the demands of this new environment. In order to be relevant, literacy education must also mirror this change in order to be relevant to the students we teach.

Similar to the work done under the term new literacies, researchers have also coined the terms digital, technological, and twenty-first century literacy to describe shifts in literacy practices. Lankshear and Knobel (2006) offered a definition of the field of digital literacy as one that encompasses two parts: “the technical stuff and the ethos
stuff” (p. 80). Plainly, new literacies utilizing “technical stuff” incorporate a technological practice, such as clicking or dragging. More intricate is the “ethos stuff,” which focuses on how one understands cyberspace. In their view, this understanding must honor it as a space with different values, protocols, and norms than a physical space. As such, the practices of new literacies do not merely use technology to accomplish the same goal as a traditional form once did (e.g. using email to send a letter); instead, new literacies “are collaborative practices, involving distributed participation and collaboration, where rules and procedures are flexible and open to change” (Lankshear & Knobel, 2006, p. 81). As students today encounter and participate in these new digital environments, they will build different literacy experiences than in the past. One objective of the classroom curriculum in this study was to show students how to become critical participants in all areas of their lives in and beyond the classroom.

**Classroom Instruction and New Literacies.**

As The New London Group suggested (2000), and Cope and Kalantzis (2000) maintained, new literacies are based on utilizing new modes already available to students for making meaning. They agreed these new literacies combine multiple types of cues, including language, visual, audio, and spatial, thus creating spaces where meaning making becomes multimodal. In order to navigate these forms of new literacy, a student must be able to synthesize all types of cues to create meaning. Multimodal communication is important for students to become critically aware of the diverse messages they are confronted with during their daily interactions. As the field of new literacy multiplies, these new types of media will continue to restructure how we teach. As a result, students must be taught how navigating a multimodal space requires more
than just simple point and click techniques. They must be taught how to be critical examiners of the information presented: what’s presented, why, and by whom.

For example, Greenhow and Robelia (2009) believed incorporating new literacies in the classroom regularly helps shape practices that allow students more fluid opportunities to become critical examiners and creators of information. Students in this study were part of an after-school program and ranged from seventeen to nineteen years old. The researchers focused on those who utilized the social networking site, Myspace, as their primary source for connecting with others outside of school. Through interviews, surveys, and a think-aloud, students revealed how they utilized Myspace as a platform for learning several new literacy techniques, such as incorporating visual elements, crafting text, and creating and uploading videos. As students in the study experienced each technique, they became more comfortable creating, manipulating, and analyzing their own “space” as well as those of other Myspace users. One student, Bobbi, explained, “to attract attention….you gotta be creative on how to like make your layouts or what you’re going to post up for people on your page…the more creative you are the more you can….attract more people” (Greenhow & Robelia, 2009, p. 1150). It became important to participants how many others viewed and commented on their pages, and their desire for audience attention drove them to enhance their pages by learning new techniques through the use of technology. Their design and use of the technology was purposeful. Because new literacies can be easily changed and edited, students became more willing to experiment with new technology tools and take chances in sharing their thinking and creative processes. Another participant, Andrea, stated, “You could change so many things….And it’s so easy…because of that, I think
people do try to be more creative and alter things” (Greenhow & Robelia, 2009, p. 1150). They further noted this willingness to experiment led to learning new skills, including selecting and collecting images, music, layouts, and video elements each student viewed as crucial to their overall “space”. Through this experience with new media, the teens participated in a community that shifted as people commented on their pages and vice versa. The exchange of ideas present in social networking communities is a crucial form of new literacy for today’s students. The study examined how we can teach students to become more critical, purposeful participants in such spaces.

**Student Agency and New Literacies.**

Calling for the use of new literacies and the examination of these practices in a classroom setting is essential because design tools available today are strikingly different from previous generations, and therefore lead to new ways of engaging with both literacy practices and the larger world. In *The New Literacy: Redefining Reading and Writing in the Schools* (1990), Willinsky categorized common, traditional literacy practices such as dialogue journals, collaborative learning, and student-teacher conferences in a new light. He asserted traditional literacy practices are headed in a “radical” direction where “the historical, social, cultural, implications of literacy” will matter (Cited in LaBue, 1990, p. 539). In his view, traditional practices have had students move through derived curriculums that highlight skills according to a progression set by a state agency, rather than progressing at their own pace, through their own interests and self-selected tools. Willinsky’s view of new literacy places student agency at the center of learning, utilizing the tools and practices most comfortable for their learning; in today’s classrooms, many of these tools and practices
rely and build upon new literacies. Willinsky believed “the challenge raised by New Literacy is against a tradition which goes far beyond conventional teaching methods” (Willinsky, 1990, p. 22). The teacher would not be absent from the curriculum design; however, neither would the teacher direct a pre-determined set of skills and strategies. Instead, the teacher would provide an instructional framework, a number of new literacy tools, and facilitate student learning by focusing on students' strengths and interests. The curriculum presented in Chapter 3 enabled students to reach curricular objectives in a similar manner.

In *Black Issues in Higher Education* (1995), Spence recounted a business trip abroad which helped him realize the new skill set essential in the twenty-first century. During this trip, Spence met with bilingual colleagues and businessmen, rode mass transit while conducting business calls on his cell phone, mentioned utilizing a laptop to create and fax business documents, and visited local museums and restaurants in which he engaged in the culture and language of the area. As a result of this experience, he believed those who intend to succeed in twenty-first century America will need “essential literacy skills – computer literacy, a multicultural perspective, and multilingual literacy” (Spence, 1995, p. 104). He continued, stating those with the ability to communicate and collaborate through various types of digital modes, languages, and cultures, will be even more important in today’s business world. Spence believed the new goal for professionals will focus on their “capacity to synthesize and analyze information” through a variety of digital modes as quickly as they obtain information (Spence, 1995, p. 104). This ability relies on being able to think critically about information, how it’s related, and how it can be applied in new situations. Spence
recognized such skills are not the current focus of secondary education and believes it must begin to address this growing necessity. Doing so would build student agency and allow them to be more effective participants in society and commerce beyond the classroom. The design of the study demonstrated how rethinking traditional literacy practices utilizing new literacies will impact students’ ability to be successful beyond the classroom.

**Classroom Research in New Literacies.**

Coiro and Kadjer (2011) noted advances in technology permeate every aspect of life and allow students to integrate multiple skills in various, new ways. The challenge for educators is to “integrate these constantly evolving digital technologies into meaningful and motivating instruction” (Coiro & Kadjer, 2011, p. 1). Luke (2003) contended that digital tools profoundly changed the way we communicate, access, produce, and distribute information and while education recognizes this shift, it has yet to reconsider instructional design. Despite this reluctance, Luke (2003) stated, “the complex blends of “old” and “new” media are central to the experience of the everyday cultures of childhood and adolescence and are fundamental to the formation of young people’s cultural identities” (p. 398). Students must be able to participate in as well as create new literacies. As noted, much research demonstrates how and why we need to consider a pedagogy that includes new literacies. Likewise, there are many empirical studies to demonstrate how successful new literacy teaching is when incorporated into the classroom.

In one study, Beach and Swiss (2010) acknowledged many students already participated in one element of new literacies, digital video production, as a source of
entertainment. Armed with this knowledge, they wanted to study how high school students made aesthetic choices when using this strategy in a classroom setting. According to Beach and Swiss (2010), aesthetics “concerns all of the things that go into meaning – form, expression, communication, qualities, emotions, feeling, value, purpose” (p. 301). Simply using digital video production for fun may not lead students to consider how or why these choices are made; however, utilizing this new literacy in an English classroom could open this door.

After observing students create a variety of different projects, they discovered several key characteristics in the creation of the digital video products; however, two of the characteristics they revealed, interactivity and multimodality, are central to the discussion of new literacies. Beach and Swiss (2010) noted during the creation process, students continuously shared their videos. This created a constant stream of feedback between the students themselves and between the students and the teacher. The projects became interactive as students responded by revising and altering the videos to reflect the feedback they received, thus creating a truly collaborative environment where every observation impacted the creation of meaning.

Second, students were able to employ the use of multimodality throughout each project. Students combined images, language, music, and sound effects to create a desired effect. They worked to create a new literate space, like those they are often involved in online. In addition, they received instant feedback regarding how their choices impacted the meaning of other students in the classroom. If they had not achieved the desired effect, they could revise. This study demonstrated not just how one type of new literacy, such as digital video production, can impact classroom
learning as it did in the research of Beach and Swiss; rather, it demonstrated how multiple new literacies, intentionally layered throughout the curriculum in increased levels of difficulty, further impacts students’ abilities to create meaning as they did here with even more increased levels of interactivity and multimodality.

**Social Media**

Social media is a key form of expression and communication among students today. As noted in earlier sections, many theorists (Greenhow and Robelia, 2009; Cope and Kalantzis, 2000; Coiro and Kadjer, 2011; Luke, 2003) believe it constitutes a new form of literacy necessary and crucial in classroom curriculum today. It is also one of the main out of school literacies students engage in/with. Jenkins (2006) described this shift as a new participatory culture; that is, "a culture with relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's creations, and some type of informal mentorship whereby what is known by the most experienced is passed along to novices" (p. 3). Members of this culture feel a kinship with others through their connections, and therefore, feel their contributions matter. Participants care about what others think of them in these social media spaces and are encouraged to create more often when others compliment their contributions. Likewise, collaboration of ideas is rampant in this new venue. Those more familiar with the form of social media being used willingly assist newcomers. This type of participation and collaboration is absent from today's classrooms, as many traditional methods call for more individual forms of participation and expression.

Jenkins (2006) continued by describing the benefits of a participatory culture like the one encouraged by social media, such as "peer-to-peer learning, a changed attitude
toward intellectual property, the diversification of cultural expression, the development of skills valued in the modern workplace, and a more empowered conception of citizenship” (p. 3). He advocated that schools must begin to identify ways to teach these skills to students in order for them to be prepared to engage in today’s global society. Without these skills, he argued, our students will be blatantly unprepared for the workplace and life beyond the classroom. More specifically, Jenkins (2006) believed all new literacies, social media included, involve a new set of social skills that rely on collaboration and networking, including play, performance, simulation, appropriation, distributed cognition, collective intelligence, judgment, transmedia navigation, and networking. Some of these skills (play, performance, and simulation) rely on a student’s ability to adapt to new environments and find ways to problem solve within the new environment. Other skills he finds important (appropriation, distributed cognition, collective intelligence, and judgment) call for students to utilize several different higher order thinking skills, such as interpretation, compare/contrast, and evaluation of sources. The last two skills, transmedia navigation and networking, call for students to possess fluency across modes while building understanding about how to participate in multiple online communities in meaningful ways. Jenkins (2006) believed this new skill set requires a new approach to media education in our classrooms, and without these skills, our students will be unprepared for the demands of today’s global world. Ironically, many of these skills are cited by the new Common Core State Standards as new shifts in literacy; that is, skills currently under taught in schools. What Jenkins (2006) suggested our students must be capable of doing to be prepared for today’s global world can be accomplished by infusing their in-school and out-of-school literacies
in classroom instruction; he contended social media would be an excellent tool for bridging these skills.

As educators, Jenkins (2006) believed we can utilize social media to encourage participation in modern culture. As students engage in new creative forms through social media, they are changing the vocabulary of the landscape to include new terminology, such as skinning (applying decorative features to existing spaces) and modding (modifying content of existing spaces). Jenkins (2006) contended such actions involve students in creation of content and problem solving within a participatory culture. Gee (2004) identified these new spaces as affinity spaces, defined by their informal nature. He believed affinity spaces:

> offer powerful opportunities for learning...because people can participate in various ways according to their skills and interests, because they depend on peer-to-peer teaching with each participant constantly motivated to acquire new knowledge or refine their existing skills, and because they allow each participant to feel like an expert while tapping the expertise of others. (p. 9)

Unlike formal education, Gee (2004) found these new spaces offer students today more options to be part of the participatory culture. For example, social media spaces offer a more experimental environment where trying new ideas is encouraged whereas formal education is more conservative. Likewise, social media spaces evolve according to the needs of their participants, while formal education is slow to change despite numerous reform efforts. Last, Gee (2004) noted participants of social media spaces can fluctuate their participation according to their interests and needs, while in formal education students are not afforded this luxury. All of these qualities of social media could inform classroom instruction as we seek to incorporate new literacies.
Discourse Analysis

Gee (1999) identified four tools of inquiry: Discourses, social languages, intertextuality, and conversations. To understand, Discourse (with a big D), we must first recognize discourse (with a little d) as the language we use every day in conversation and storytelling. Discourse, then, incorporates all of the other parts of language, such as thinking, valuing, acting, or interacting, that help us belong to a particular group or make it easy for others to recognize that we are part of a particular group. When we participate in a Discourse, we use all the necessary tools of a person in that group. For example, a lawyer can be recognized as one who wears a suit, carries a briefcase, writes legal documents, and attends court proceedings. A Discourse group can include those from the same profession, family, school, classroom, etc.

Gee (1999) continued by stating within every Discourse are various social languages. Social languages are the different kinds of language we use to serve various purposes. For example, a student may speak very differently to a teacher about an argument with a classmate than they would to a close friend. Imbedded in social languages is the inherent understanding that we adjust our speech according to the situation. This links to Gee’s (1999) idea of intertextuality as well. Within one Discourse, several social languages may be in place, and some may borrow qualities from other texts written in a different social language. This act of borrowing creates intertextuality, or a combination of forms.

Last, Gee (1999) defined Conversations (big C) as discussions that recognize the societal implication of language in our words. Conversations center on debatable topics, such as politics, education, or government, and those who participate in them
understand their Conversation is only a small piece of a larger discussion, also held by others at other times. Each Conversation is colored by the values and beliefs of its participants, which can be influenced by various texts and media (intertextuality). As those within a Conversation find common ground, they may become part of a Discourse, where beliefs and values are shared by the group.

Gee (1999) suggested identity is shaped through our interactions in various Discourses. As students engage in their out-of-school literacies, they also engage in various Discourses. As noted above, when students participate in social media, their Discourse includes a new set of social skills as well as an ability to adapt easily to new environments and find new ways to problem solve. This study was designed to allow students to participate in various Discourses through the technological applications and tools. Throughout these interactions, students actively participated in constructing new understandings of the literature by drawing upon the knowledge they gain from interacting with the technological tools in various Discourses.

**Semiotic Theory**

As discussed, new literacies can make an impact on classroom instruction. As teachers design new curriculum to meet the needs of today’s students, drawing from the field of semiotics will enhance the efficacy and productiveness of such a curriculum. Suhor (1992) defined semiotics as the study of signs. A sign is a symbol for an object and can be organized according to systems of behaviors. They are often impacted by an individual’s experience or interpretation; for example, a person’s concept of snow might differ according to their experience with snow. These systems can be culturally
biased, such as how people set their tables for formal dinners. Certain systems are more complex than others, such as the system of language.

Suhor (1992) stated the system of language is full of intricate signs, where new meaning is generated as we learn and grow. Language is a sign that has many subtleties, such as semantic and pragmatic interpretations. Semantic interpretations encompass the meaning of cultural definitions of signs while pragmatic interpretations deal with inferential meanings. For example, a gesture made in one culture may mean something semantically different in another. Likewise, the same gesture may have one pragmatic meaning among strangers and another among friends. Suhor (1992) asserted the semantic and pragmatic meaning of language has the most influence on the teaching of English language arts because reading and writing are “complex response processes in which the readers and writers cooperate in creating meanings” (p. 229). A student’s cultural and personal experiences as well as their background knowledge help determine a meaning derived from a text. The signs of language mediate this process and help students understand all other sign systems they encounter, such as those found in new literacies. This study explored ways to help students how to better read and understand such sign systems.

As noted above, semiotics is part of the meaning making process a student experiences when reading and writing. The New London Group (2000) described the role of semiotics in the meaning-making process as the concept of design. Design includes both the creation and analysis of text. In design, individuals, conjointly with their cultural experiences, build relationships between their understandings and new experiences with text. Currently, many students accept cultural lessons through a
traditional viewpoint in the classroom; the teacher delivers the knowledge students will need. The notion of design suggests students would benefit from learning through other means, such as new literacies, highlighting the intention that “meaning-making is an active and dynamic process, and not something governed by static rules” (New London Group, 2000, p. 20). Students must not merely be the focus of instruction; they must be able to alter its course as their growth dictates.

Vygotsky (1978) believed in allowing students to dictate the course of their learning. He also expressed concern with how students’ cultural development is affected by the forms of discourse they encounter through school. He believed that traditional schooling did not allow students adequate opportunity to apply their meaning making processes, which he described as their zone of proximal development. Vygotsky (1978) described this transformation of learning as a spiral; as students acquire new literacies, their previous thinking advances to a higher level. This zone is relative to a student’s individual pace of learning, impacted by their experiences and culture. Vygotsky (1978) believed students were not allowed enough time to develop their own meanings before schools dictated a particular view in an effort to keep to a timeline. The New London Group’s (2000) notion of design addressed this fault in learning by allowing students to construct meaning within their own time frame, making students more active participants in their learning through the use of design. Design allows students to change the time frame and revisit ideas; in short, it allows more flexibility in the curriculum and classroom activity. Throughout the curriculum presented in this study, design is a major contributing factor; as the technological tools are layered into student
learning, students should increase their participation in meaning construction as well as their understanding of design.

Much research in the field with semiotic theory demonstrates its significance and impact on classroom learning. In one case study, Damico (2006) studied a fifth grade classroom throughout a unit focused on the themes of freedom and slavery. Students read several texts together, including the biography *Freedom Train: The Story of Harriet Tubman* (1954). Then, students were asked to extend their understanding of the themes across the time period through an inquiry project focused on the varying perspectives and relationships of power they learned about. Whole class brainstorming sessions helped students think about what they learned and begin questioning what else they would like to know. Once students settled on topics, the teacher guided their use of resources, incorporating various modes (video, film, songs) and genres (books, articles, lyrics).

Damico (2006) noted the entire project allowed students to research a topic they were passionate about and reflect on their experiences to extend their research. Once students compiled their research, they decided which digital medium to use to present their work. As students crafted their projects, they made connections between the time period they were studying and the world now. Damico believed the digital modes increased student interest in the project and encourage self-directed learning. The teacher noted many students put forth more effort on this project than any other project completed that year. Damico believed this is the effect of incorporating multimodal projects into the curriculum. Allowing students to create and apply their learning through the use of various signs enhanced their investigations, their ability to evaluate
information, and helped them develop deeper understandings about a complex topic. These skills are encompassed in constructivist and transactional theories, the next theories to be examined to support the ideas of the study.

Cope and Kalantzis (2000) believed semiotic theory and the notion of design presented by The New London Group (2000) were strong supports for the use of new literacies in the classroom. They further asserted the use of these theories responds to several concerns raised in the previous decade: a heavy focus on linguistic-text relationships, the reader as consumer of information, and societal changes. The conceptualization of semiotic theory in the classroom incorporates multiple modes working together to create new meaning, thus considering language as well as audio, spatial, gestural, and visual cues. All must work together to formulate a holistic, student-centered meaning-making process. Through semiotics, meaning-making can happen across modes or only with a select number of modes. No one person creates meaning the same way, and each of us can shift our process at any time to include or eliminate any mode. Social semiotics also considers the world around us, our culture. Culture impacts how we create or transform meanings through any of the modes. Together these ideas create the basis of new literacy pedagogy, evident in the curriculum outlined in this study.

As noted in Chapter 1, the changing nature of technology and the globalization of our world, demands a new perspective of literacy in today’s classrooms. Cope and Kalantzis (2000) believed semiotic theory and its concept of design will help educators address three, important aspects of literacy today. First, design and its product, transformation, or the application of new meaning, are indeed literacy practices. As
students learn, they draw on what they know, add new information, and create new meanings. Education must begin to address and include new technological tools, such as those found in new literacy theory, to add information to student learning. Second, literacy is inherently multimodal. The use of language with visuals is not new; however, with the increasing availability of technological tools, the combination has taken on new heights through the web and social media. Education must begin to incorporate new technologies into student learning. Third, correctness is overrated. Traditional forms of grammar are not displaced, but appropriate forms and usage are reconsidered in new modes. Students must be taught to recognize how form and function should match the desired mode through critical questioning. They must understand which technological tool is best for the circumstances presented and how to express why this is so. Incorporating semiotic theory into a new literacy curriculum like the one designed for this study enabled students to learn and comprehend text with these ideas in mind.

**Constructivist and Transactional Theory**

Constructivist theory upholds the idea that students learn best when they construct their own knowledge rather than relying on the teacher to supply endless facts. This theory of learning acknowledges learners draw on a variety of sources, such as prior experiences, ideas, knowledge, and culture, when they create meaning. When students learn a new concept, they must decide how to internalize it. If their sources confirm the new concept, it may be internalized more easily; however, these sources may also lead students to change their beliefs or even discard the new concept. If the new concept is discarded, students may be more likely to disengage from the learning experience.
Dewey (1938) conceptualized this theory as learning from experience. He believed students learn by building onto their prior experiences and knowledge, and an educator’s role is to create a learning environment filled with a variety of experiences in which students can test this knowledge. Thus, in Dewey’s (1938) view of learning, inquiry plays a key role, starkly contrasting the traditional model where the school and teacher hold all knowledge and power. Vygotsky (1978) agreed the teacher’s role was to facilitate learning rather than monopolize it. He focused on the social nature of learning inherent in the constructivist model. As noted in the previous section, Vygotsky (1978) presented zones of proximal development (ZPD), or the difference between a child’s actual development levels and the level achieved under guidance or in collaboration with more capable peers. A student’s ZPD might put them behind others in a traditional model of learning, but would be positively affected by the social nature of the constructivist model.

Vygotsky (1978) also emphasized the use of signs and tools as important factors in learning. As in semiotic theory, Vygotsky (1978) recognized signs as symbols that are culturally mediated. He also believed they arise from a student’s psychological development and participation in transformative activities, like literacy. He defined tools as external objects that help transformative activities take place. For example, traditional learning tools are pen and paper while constructivist and new literacy tools are digital. As students engage in literacy experiences with digital tools, they gain new insights and information, which become part of their sign systems. When they interact with others in this digital environment, their sign systems are also impacted, creating an
opportunity to expand their literacy. One goal of this study was to teach students to be critical examiners of the digital tools they use.

Rosenblatt (1978) presented transactional theory and asserted humans are in constant interaction with their environments. As we interact, we interpret signs differently. No sign means the same thing to every person. Rosenblatt (1978) believed this process impacts the way we interact with text. She described reading as a constructive act based on the text and the reader’s negotiation of the text where “the text is not interpreted alone, but in the context in which it appears” (p. 135). The construction of knowledge through this act is different for each reader and can be impacted by their signs. Rosenblatt (1978) asserted what readers really identify with are their connections to the text, called relational reading, rather than to the text alone. She continued by stating this meaning may be impacted by cultural, social, and personal history or experiences. It may also be impacted by the reader’s stance, or purpose. When we read efferently, we seek to examine a text for its structure. When we read aesthetically, we examine a text based on its attitude, sensations, or feelings. As such, Rosenblatt (1978) believed what might be described as unconventional teaching methods, such as those incorporating new literacies, can no longer be dismissed as irrelevant to understanding a text’s meaning. A classroom teacher’s approach to teaching reading should include multiple ways of knowing a text, another goal of the curriculum presented in this study.

understandings of text. Through such experiences, students become apprentices in their learning. Smagorinsky (2010) focused on reading as a process in which every reader creates new text as they read based on their cultural experiences and relationships with others. This process requires students to reflect further during their search for meaning, because what the text stands for is different for each reader based on their background and experiences. A constructivist and transactional model for literacy, then, requires school curriculum to consider the transaction between the text and reader, which has been significantly impacted by the rise of digital texts.

When reading digital texts, the reader must take perspective into account somewhat differently than with printed text. Printed texts have authors, experts, or distinguished academics behind them brought forth by reputable publishing houses, which demonstrate the text’s reputation to the reader. Digital text, however, can be created by anyone with any credentials, or none at all. Students must be able to distinguish the perspective of these texts in order to understand their purpose and message. As students explore digital texts, they must draw on personal experiences and a variety of signs and tools unnecessary in the exploration of printed text. For today’s students, this includes new literacies. As students continue to increase their use of technological tools, their internal sign systems expand to accommodate these new literacy practices. This change in the landscape of literacy calls for a change in instructional practices. Miller (2010) noted, “the underlying trend toward multimodality is not local and adolescent but global and multigenerational” (p. 255). This shift requires a new perspective in curriculum design and implementation, such as the one in this study.
As the landscape of literacy shifts, student interactions with text will shift as well. A study by Coggeshall and Doherty (2004) demonstrated how traditional literacy skills can translate to digital texts, helping students construct and express meaning in new ways. In an effort to increase engagement in a seventh grade class, three teachers incorporated several new technologies into the curriculum to help translate their instruction into students’ digital world. One technique entailed using the program Trackstar, where the user can collect multiple sites under one theme or topic for easy searching. Coggeshall and Doherty’s (2004) goal was to focus students’ reading when using the internet while activating prior knowledge, thus incorporating a traditional skill through use of digital text. Students used the site to study maps of the novel’s setting, learn about historical references, and understand the impact of hurricanes, a central conflict in the novel. Coggeshall and Doherty (2004) found students were able to attain substantial knowledge in just forty-five minutes of focused reading on the web. Furthermore, they reported student engagement significantly increased with the inclusion of technology, and students’ ability to recall the information once the class began reading the novel was significantly increased from years past because “in their view, we were letting them have a fun period, but we knew they were internalizing knowledge vital for full comprehension” (Coggeshall and Doherty, 2004, p. 25). They believe this resulted from teaching the students how to transfer their literacy skills when constructing meaning online, an instructional practice necessary in today’s classrooms.

Kymes (2005) also addressed the need for educators to reconsider the types of literacy practices students engage in as they read. She believed the skills traditionally taught through print literacy will not equip students with the appropriate skills to tackle
text within digital literacies. For example, print text is linear while digital text is not; in print text there’s a standard convention to address format; in digital text this format may vary by design. As Burke (2002) noted, simply moving around the internet does not mean students can read or comprehend the information that lies within. Kymes (2005) addressed this concern through the use of an online think aloud strategy. Traditionally, the think aloud is used to study a student’s reading process; Kymes (2005) utilized this strategy to understand how students tackle digital text as well. Through modeling and scaffolding, students learn how to translate their traditional literacy practices, such as identifying their purpose, skimming or scanning text, and activating schema, to digital texts. As a result of employing an online think aloud, students “are in control of their own information-seeking behaviors and are able to obtain, process, and disseminate ideas” (Kymes, 2005, p. 494). Students need to experience reading as a meaning making process no matter what type of text they encounter. Once we teach students how traditional literacy skills are relevant when reading digital texts through a change in curriculum, we can ensure their comprehension and meaning making will continue to grow in the digital environment.

Conclusion

Adolescent literacy practices must begin to bridge traditional and digital literacy practices if we are to adequately prepare students for today’s global world. Students are turning to digital media tools to create, collaborate, connect, and publish at increasing rates, yet their learning environments remain focused on traditional modes for accomplishing similar tasks. When students are absorbed in new literacies outside of school, yet their school literacy practices do not recognize the importance or necessity
of such practices, learning suffers. The review of literature presented in this chapter demonstrates the value of encouraging students to approach texts using various technological tools. Layering the use of technological tools throughout the curriculum presented in this study impacted each student’s transaction with text as well as built comprehension and critical thinking. Such a shift in curriculum design is necessary if students are to be prepared for engaging critically in today’s global world.
CHAPTER 3 - METHODOLOGY

Introduction

Classrooms today must incorporate new literacies into instruction in order to better prepare students for today’s global world. Students must be taught how and why technological tools can enhance their ability to become more critical thinkers and creators. This research explored two sections of a seventh grade honors classroom engaged in a literature unit focused on memoir as the genre of study and designed to layer the use of technological tools to build creative and critical thinking. The questions guiding this research were:

1. In what ways can a new literacies curriculum, which purposefully layers and scaffolds technology throughout a literature unit in a seventh grade honors English classroom, enable students to critically interpret texts and demonstrate complexity of levels of abstract thinking?

2. In what ways does this layered curriculum support students in connecting the use of these literacy practices to their lives both in and out of school as participants in the larger, global community?

The purpose of this chapter is to describe the research design of this study as well as the methods of data collection and analysis. The research setting, participants, researcher, and curriculum will be described. Ethical and validity considerations will also be addressed.

Research Design

Qualitative Research Paradigm.
This introduction is meant to provide an overview of the design and methodology (e.g., case study, focus group interviews, and discourse analysis) that was used in this study. Detailed descriptions of each will follow later in this chapter. A qualitative research design incorporating participant-observation with myself as the teacher-researcher and case study methodology best suited the purposes of this study. It allowed for observation of the student participants in their everyday classroom setting as well as the opportunity to focus on select students for case study analysis. LeCompte and Schensul (1999) noted this type of research allows “us to assess and describe what really is happening after all, as well as what has been happening over time” (p. 83). I selected a qualitative design because it reinforces the importance of observing my students over a period of time as they learned new technological tools and developed their knowledge and understanding of memoir.

Stake (1995) described case study research as a way to examine a complex issue by adding new ideas and understanding to what is already known from previous research. Case studies focus on detailed analysis of a specific event and its relationships through a real-life context using multiple sources of data. In this case study of two classes of seventh grade honors students, I explored how students built their critical and creative thinking skills through a curriculum that deliberately layered the development of these skills by employing increasingly more complex technological tools and strategies. I also explored to what extent this approach to the curriculum helped students connect their in-school and out-of-school literacy practices, making them more cognizant of their participation in a wider, global community. The research occurred during six weeks and covered one unit of literature study. Each class met five days a
week for fifty-six minutes. Because I analyzed both whole class and small group discussions as a way to analyze students’ thinking about texts as well as their understanding of the relationship between new literacy practices and their participation in the larger, global community, I employed discourse analysis as a research method.

Stake (1995) also discussed the importance of the type of case selected for study. Based on my initial analysis and coding for emerging themes that addressed the research questions, I selected three students for in depth analysis. Each student agreed to be part of one follow-up, semi-structured interview. In addition to the interview questions submitted (Appendix A), I also used students’ reflections on each of the applications to examine themes that contributed to the goals of the objectives and the outcome of the entire study as explained in the curriculum section. When applicable, I supported this discussion of themes from other students in the class whose reflections demonstrated similar ideas. These reflections occurred in writing and focused on their experiences using the technology, both in terms of the technical aspects and each of applications (e.g., learning how to use and navigate the tool) as well as how the technology helped students better understanding themes and our curricular goals.

**Researcher Background**

As the teacher-researcher of these classes, I took on the role of participant researcher in this study. I am a married, white female of a middle class background. For the past thirteen years, I have taught English in the Williams Public Schools (all names are pseudonyms) and during this time, I have taught every grade level of my certification, six through twelve. As a result, I became very interested in curriculum design early on because I was constantly changing grade levels and challenged to
create new instructional activities for each course I was assigned to teach. In a workshop I attended, I was first introduced to the idea of incorporating technology into my teaching, albeit at a surface level. The workshop only discussed how to use a device as an instructional tool, not as a tool for students' learning.

As a doctoral student, Kahn and Kellner (2006) and Wilhelm (2000) were among the first researchers I read who challenged traditional notions of literacy and noted the rising use of new media. During a course on semiotic theory and the use of multiliteracies, I was introduced to The New London Group (2000) and Cope and Kalantzis (2000) whose research explores how literacy is impacted by new forms of technology and how it changes the way we communicate, create, and share text. I began to connect these theories to the ideas of constructivism and transactional theory, the work of Vygotsky (1978), Dewey (1938), and Rosenblatt (1978). Consequently, I am interested not in the mere incorporation of technological tools into classroom instruction or solely the understanding of literacy as a meaning-making process. Rather, I am interested in how we can teach our students to become more critical thinkers through the use of technological tools and why this is an important skill in their world beyond the classroom.

**Setting**

This study was conducted at a middle school in an affluent district in a suburb of a Midwestern city. The district's webpage describes the community as one that draws generations back to raise their families. The entire district contains fourteen schools: nine elementary, three middle, and two high, divided by the neighborhoods, plus two non-traditional elementary schools that offer special programs. The district prides itself
on two features: it is a walking district, and it offers a wide range of academic options, such as elementary magnet programs, advance placement courses, and dual enrollment. They also offer a wide variety of athletics, clubs, extracurricular activities, and superior fine and performing arts programs.

The middle school where the study took place enrolls approximately 600 students in grades six through eight. The population is 80% Caucasian and 16% African American. The remaining 4% of the population are Latino, Asian, and Native American. Free and reduced lunch is offered to 18% of students. While the district describes itself as affluent, in the past five years there has been a significant change in the socio-economic status of the population, particularly at the middle school where this study took place. In 2012, it was named a focus school by the State of Michigan because of its widened achievement gap. It remained on that list when this study took place.

The students in this study were members of two sections of seventh grade honors English meeting daily for fifty-six minutes. There were a total of fifty-seven students across these two sections, thirty-two in one section and twenty-seven in the other. As will be explained in the Participants and Ethical Considerations section later in this chapter, not all students were expected to participate in this study; in fact, forty-two consented to participate. To qualify for honors placement, students must meet three qualifications: 1) a score of Proficient or Advanced on their Reading MEAP 2) an average of 15 over three years on the district’s writing assessment 3) maintenance of a B- or higher every quarter. The course encompasses the same curricular objectives as the traditional seventh grade course offered but utilizes advanced reading materials and progresses at a quicker pace.
The classroom is located on the second floor of the building. The chalkboards run along the front (west) wall of the room, and there are bulletin boards along the north and east sides of the room. The boards highlight reading strategies, the writing process, and a school-wide vocabulary initiative. One board is reserved for student book reviews to help students select independent reading books. The teacher’s desk is situated in the southwest corner at the front of the room, and along the east wall below the bulletin boards are a line of bookcases filled with reading books of all levels. The south wall is full of windows that let in a lot of natural light, and above the bulletin boards and chalkboards inspirational posters are hung. The student desks are divided in two halves along the north and south walls with a wide space down the middle for the instructor to move. When engaging in group work, the desks are easily reconfigured, and there’s enough space to move around them.

Participants and Ethical Considerations

I introduced students and parents to the study two weeks prior to its inception by sending home a parental supplemental information letter, with the option for parents to decline participation for their child (Appendix B). After two weeks passed, I re-introduced this information to students directly during class time. In this introduction, I explained the purpose, curriculum, and methods involved in the study and allowed for any questions students had. I believe I am the best person to deliver this information and address questions, as I am the designer of the study. At this time, it was made clear to students that I would not know whether or not they chose to participate until the study was completed, and grades had been determined. Each student received an information and assent forms to sign if they so desired to participate (Appendix C).
While I delivered this information, a school counselor was present, and I explained to students that she would hold all assent forms for them. I chose this person because she was familiar to students, and in an effort to minimize bias, only she knew who assented and consented until after the study was completed and grades were determined. The counselor collected and held all forms in her lockable office. Although I did not know the individual names of students who agreed to participate in the study or receive any identifying information, the counselor informed me that at least five students in each class returned signed assent forms.

I recognized that my role as teacher-researcher in the study afforded me some advantages that must be addressed. Because this unit was not the first unit in the course of the school year, I had time to build relationships and rapport with students before the study began. While this was definitely an advantage because it helped me know what types of learners they were, it may also have created some bias. While LeCompte and Schensul (1999) noted “interpretative, constructivist, and phenomenological approaches are inherently participatory because meaning can be created only through interaction,” it also important to note that no research is value free (p. 49). In the design of this study, I took this into consideration and included these strategies to help me minimize bias:

1. A school counselor held all participant forms. I did not know who agreed to be part of the study until it was complete, and grades were determined, although I did know at least five students from each class returned signed assent forms.

2. Participation in the study was voluntary, and parents had the right to refuse their child’s participation by returning the form to decline participation.

3. Grades were based on rubrics provided to students at the beginning of the study, whether they participated or not.
4. I performed a member check on analysis of small group transcriptions and interviews.

5. I kept a reflective journal on Google Drive to help me recognize my own bias.

As teacher and researcher in this study, I was part of the learning community. Students influenced my own interpretations of the text; however, I believe taking on this role was consistent with the ideas of constructivism supporting this study.

Curriculum

Because the research questions, particularly question two, are concerned, in large part, with analysis of curriculum, I am presenting an overview of the design of this unit. The study focused on a six-week memoir unit, a literary genre required for seventh grade by the State of Michigan. Students were first introduced to the definition of a memoir and its characteristics, which included the several types of relationships an author may focus on when writing a memoir, such as with a specific person, place, object, or experience in their lives. The primary text the fifty-seven students across the two classes read was *Warriors Don’t Cry* (1995) by Melba Patillo Beals, who describes her experiences integrating Central High School in Little Rock, Arkansas in 1957. At sixteen years old, Melba was one of nine African-American students chosen to be part of the integration, and she described her experiences with honest, and sometimes brutal, detail. As the students read about her life, the objective was that they came to understand what “separate, but not equal” really meant at this crucial point in our country’s history. As noted, the State of Michigan requires the memoir genre in seventh grade, and the district selected *Warriors Don’t Cry* (1995) by Melba Patillo Beals for its rigorous reading level and complex themes. As the instructor, I was free to supplement our study of the novel with other texts.
The supplemental texts were chosen in two ways. First, the informational texts aid students’ understanding of the historical events relevant during the time period of the main text. Second, the other memoir selections listed each highlight one type of relationship built by an author in a memoir included in the definition of memoir noted above. The texts, authors, and purposes are listed in the table below:

<table>
<thead>
<tr>
<th>Title of Text</th>
<th>Author</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown v. Board of Education</td>
<td>Official court</td>
<td>Historical context for <em>Warrior</em></td>
</tr>
<tr>
<td>(1954)</td>
<td>document</td>
<td><em>Don’t Cry</em></td>
</tr>
<tr>
<td></td>
<td>NAACP website</td>
<td>Historical context for <em>Warriors</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Don’t Cry</em></td>
</tr>
<tr>
<td>The Monkey Garden</td>
<td>Sandra Cisneros</td>
<td>Memoir relationship: place</td>
</tr>
<tr>
<td>How to Eat a Guava</td>
<td>Esmerelda Santiago</td>
<td>Memoir relationship: object</td>
</tr>
<tr>
<td>Baby, run on</td>
<td>Glenda Hatchet</td>
<td>Memoir relationship: person</td>
</tr>
<tr>
<td>Eleven</td>
<td>Sandra Cisneros</td>
<td>Memoir relationship: singular experience</td>
</tr>
</tbody>
</table>

*Table 1: Texts, Authors, and Purposes.*

As mentioned earlier, one goal of this study explored how the purposeful layering of technological tools enabled students to reach advanced levels of abstract thinking and critical interpretation of text. For this purpose, five technological applications were
chosen: Google Drive, Subtext, Draw Free for iPad, Edmodo, and iMovie. The table below outlines a description and purpose of each application used in the study.

<table>
<thead>
<tr>
<th>Application</th>
<th>Description</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google Drive</td>
<td>File system enabling cloud storage, file sharing, and collaborative editing</td>
<td>A virtual notebook and backpack for students</td>
</tr>
<tr>
<td>Subtext</td>
<td>An e-reader with annotation and discussion grouping capabilities. Teachers can also embed questions &amp; quizzes</td>
<td>E-reader, comprehension tool</td>
</tr>
<tr>
<td>Draw Free for iPad</td>
<td>Platform for creating and sharing artwork</td>
<td>Visual Literacy tool, used two assignments</td>
</tr>
<tr>
<td>Edmodo</td>
<td>A safe, social media-like platform for students and teachers</td>
<td>Online discussion tool</td>
</tr>
<tr>
<td>iMovie</td>
<td>Digital storytelling and film making tool</td>
<td>Multimodal tool</td>
</tr>
</tbody>
</table>

*Table 2: Applications and Purposes*

Each student had access to an iPad in class, which was made possible through a grant I applied for and received that was funded by the district’s Foundation for Public Education. I applied for the grant specifically with the goals of this study in mind, and I outlined those goals in my application for funding. The Foundation awarded me $15,000, which was used to purchase 30 iPads with protective cases, a lockable charging cart, and an Apple TV, which will remain in my classroom as long as I remain in the district. Through this design, the iPad was both a technological tool itself, with its
portability, ease of use, and included tools like a camera, as well as a vehicle for other tools, such as applications like Google Drive or Edmodo.

Access to technology outside of class varied by student. Some had tablets or desktop computers at home, and some had nothing. For this reason, some of the applications were chosen in part for their accessibility on multiple platforms. I wanted students to be able to engage in the work of the unit outside of class and not have to worry about being able to access materials. Also, there were times when students did not finish their reading or work in class and needed to finish for homework. Having these applications accessible on multiple platforms allowed students an opportunity to access their homework in various ways, either at home or at a local library. The iMovie application was utilized for a final project, and several days in class were devoted to this work to allow students to finish in class. Before and after school times were also available to students, so that accessibility to this final application was not an issue.

Each application mentioned above was introduced separately and was independently implemented throughout various points in the unit as described in Chapter 4. I did not want the students to become so overwhelmed learning the new technology that they neglected the learning at hand. Each tool was thoroughly demonstrated and utilized before a new one was introduced in order to help students better understand how they worked together to help them become more thoughtful readers and thinkers. As a class, we paused to reflect on each new application and generate ideas about how they aid our classroom practice and discourse. Students were encouraged through informal writing and class discussion to share positive and negative aspects of using these tools. I also capitalized on teachable moments in which
students made spontaneous observations about the process of layering the technological tools throughout the study. I kept track of these ideas in my researcher journal and noted how these tools enabled students to construct, with intention, their participation in the larger, global community.

At the beginning of the unit, students were introduced to the first application, Google Drive. Google Drive is a file storage and synchronization service that uses cloud storage, file sharing, and collaborative editing. Up to this point, students had not been required to utilize Google Drive; however, upon beginning this unit, students were required to utilize Google Drive for all their note-taking and writing assignments. Google Drive enabled me to build a digital backpack for my students, complete with texts, websites, clips, etc. for their reference as we studied memoir. It served as an organization system, much like a traditional notebook or folder, thus making it a good first layer tool.

The primary assignments in Google Drive were quick writes, reflections, Stepping Inside, and a paragraph linked to one of the art assignments described below. Students were asked to write several quick-writes and reflections throughout the course of the unit. These were short responses, usually given at the beginning of class, either used as discussion starters or as a way for students to reflect on the events of the novel. In addition to quick writes, students completed an assignment entitled Stepping Inside, which focused on perspective, in Google Drive. Approximately halfway through the novel, students were asked to take on the perspective of a character chosen randomly and create a monologue describing the character’s feelings, thoughts, actions, and
reactions to the events of the novel. Students had the option to present these as dramatic readings.

Students each received a hard copy of the memoir. Additionally, it was uploaded on their iPad through the application Subtext. Subtext allowed students to engage in reading more thoroughly through the use of annotation and close reading tools. Once a text was uploaded in Subtext, students could highlight or make notes and comments as they read. It also functioned much like an e-reader, with built in text-to-speech, dictionary, and Google search capability. In addition, I added questions, quizzes, and links for students to engage in as they read. These functioned both as reading checks and discussion starters. During class, I used my teacher iPad to access student responses to enable whole group discussion. While students used Subtext to annotate their thoughts as they read, their notes provided the basis of our class discourse. This discourse began in the application itself, where students were only be able to see what their classmates thought after they submit their own comments, and continued in our whole class discussions, where we were able to use the application to draw our attention to multiple annotations, their comments toward each other, and any new reflections. This capability gave the application multiple layers. Students used Subtext throughout the unit to annotate each text we read, as close reading is a higher level curricular objective in our state standards. In addition, the embedded information focused on various types of critical thinking connections, such as text-to-self, text-to-text, text-to-world, and text-to-media, which the application enables easily with its embedded capabilities.
To further aid classroom discourse, the third application, Edmodo was introduced. This application is a Facebook-like environment in which students can post threads about a topic as well as create and post questions, quizzes, and polls. Edmodo is a social learning platform for teachers, students, and parents. The primary difference between Subtext and Edmodo is that, in Edmodo, students initiated discussions. This was the next layer of scaffolding, in thinking about texts and the ability to use technology within a larger community.

Throughout the unit, students were assigned a small reading group. This group engaged in discussions using Edmodo. Students were responsible for initiating discussions with each other by posting threads of conversation as well as trying at least one of the other types of posts listed (questions, quizzes or polls). Again, layering this tool allowed me to introduce students to critically responding to text using the previous application Subtext, then turning over the responsibility to them for duplication on Edmodo. Additionally, I controlled all of the comments, questions, quizzes, etc. in Subtext; students merely responded. In Edmodo, students were in control of creating all of these, supporting the study’s goal of using a technological tool to further meaning construction and critical thinking in a broader community of learners. It also allowed students increased agency in their discussions, which is important at this level.

To capitalize on another new literacy mode, students used the application Draw Free for iPad to create two visuals during the unit of study. Each of these visuals was assigned to the class to support curricular objectives as well as add another layer of experience to our technology applications. The first assignment, Character Symbols, asked students to select and create a symbol for one of the main characters, except
Beals, after reading through Chapter 3. Students designed their symbols in the application, uploaded it to Google Drive through the Camera Roll, and presented their ideas to the class upon completion. The second assignment utilizing this application, Literary Postcards, was assigned toward the end of the memoir. Students were instructed to draw what they felt was the most pivotal scene in the memoir. Students could draw this scene literally, or represent it abstractly. Students then wrote a short paragraph explaining why the scene was chosen and its significance in Google Drive. This assignment supported curricular objectives of analyzing one’s own interpretations of text. I incorporated this layer using art because I felt it was important to maintain opportunities in the classroom for students to participate in learning activities that may appeal to other learning styles or interests. By uploading these images into Google Drive, students had a record of their interpretations across modes through these assignments, which they could refer to for other assignments or assessments. Also, students had the option of uploading their images to Edmodo and using them as a point of discussion. Focusing on one of these assignments allowed students the opportunity to make richer text connections as well as more options for creating threads when it’s their turn to initiate a discussion in their Edmodo group. This supported the study’s goals of furthering meaning construction and supporting enhanced levels of abstraction, interpretation, and critical thinking.

Last, as a final project, students employed the use of iMovie to create a multimodal memoir, incorporating visual, auditory, and written reflections of their sensational seventh grade selves. iMovie allowed students to utilize technological skills they’ve learned throughout the other applications. Google Drive, Subtext, and Edmodo
all allowed for the embedding of visual, auditory, and written links. Through the creation of an iMovie, students learned how to synthesize these skills into one piece of their own creation. Further, students had full control over the design and layout of the piece, which supported the study’s goal of furthering creative thinking.

Data Collection

This study was based on new literacy, semiotic theory and discourse analysis, all of which posit that students construct meaning individually as well as socially by becoming members of a learning community (Gee, 2003; The New London Group 2000). With this in mind, data collection included: student quick writes and assignments, Subtext and Edmodo entries, collection of three literacy artifacts, one semi-structured interview of three selected focal students (each student was interviewed individually), transcripts of whole class discussions, and observation and field notes. A table below outlines the collection process, explaining the process and purpose for collecting each piece of data. Following the table are specific descriptions of each source of data.

<table>
<thead>
<tr>
<th>Data Source and Description</th>
<th>Purpose</th>
<th>Collection Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick writes, Stepping Inside assignment</td>
<td>Capture students’ perceptions/reflectons</td>
<td>Collected through Google Drive application, printed, stored in a binder.</td>
</tr>
<tr>
<td>Subtext and Edmodo entries</td>
<td>Capture students’ interpretations and understandings of texts Capture classroom discourse around texts Capture evidence of critical thinking/abstraction</td>
<td>Archived throughout study in each application During the study, I will read through entries as assigned. Entries will be printed and sorted by small and whole group discussion</td>
</tr>
<tr>
<td>Artwork for two assignments, Character Symbols and Literary</td>
<td>Engage students in other new literacies, such as art Once uploaded into Google Drive, provides a point for</td>
<td>During the study, these will be collected and graded as assigned. Photographed and uploaded</td>
</tr>
<tr>
<td>Postcards</td>
<td>critical reflection &amp; interpretation into Google Drive</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>
| Audiotaping of whole class discussions, transcribed | Capture students’ insights, perceptions, and thinking about each text  
Capture students’ thoughts about the use of technology applications in study | Audio taping during small group and whole class discussion  
Transcriptions completed within a week for follow up |
| Interviews | Clarification of students’ comments or writing during small group discussions | Arranged as small group discussions; 4 were transcribed semi-structured with 3 case study students, arranged post-study once grades were determined |
| Observation and field notes | Capture my thoughts, questions, or concerns about the research process  
Help me document emerging themes for analysis | I wrote in a daily journal after each session, noting thoughts, questions, concerns, and potential themes in Google Drive. |

*Table 3: Data Source Descriptions and Purposes*

**Data Source Descriptions.**

The quick writes and writing assignments were entered into Google Drive as students created them, printed, and kept in a binder for analysis during the course of the study. Subtext and Edmodo entries were flagged according to their use in whole class discussion, printed, and also kept in a binder for data analysis. All original entries into each application were saved until the analysis was completed for the purpose of data collection. The two art assignments in the application Draw Free for iPad were saved in Google Drive and graded as assigned. In this way, I had access to the work of students who volunteered for the study after the unit was completed, students had received their grades, and I was able to learn which students agreed to be part of the study.

Earlier in the year, students were introduced to the concept of recording discussions. The purpose here was two-fold: 1) it helped set the tone of the classroom
and 2) once the study was introduced, audio taping was a routine students were used to, which alleviated any distractions. As a teacher who regularly utilized the practice of group discussion, I recognized that not every student would choose to participate aloud with the whole group. Recording and transcribing whole class discussions along with analyzing entries in the applications over the course of the study provided a more accurate understanding of the students’ thinking and understanding, whether they chose to participate in discussion or not. As I analyzed their responses through the applications, I was able to help push students’ thinking about the main concepts of the unit forward. It also allowed me to interject ideas in order to raise questions to push the discussion and/or their interpretations to another level. These new developments are noted in my observation and field notes and in the analysis.

In addition, I kept observation and field notes regarding the use of critical thinking, interpretation, and abstraction levels during whole class discussions. As these discussions were occurring, these notes enabled me to continue to push students’ thinking forward. Once I transcribed these discussions and analyze student comments, I revisited some topics in order to challenge students’ thinking about concepts critical to the unit. Both of these analysis techniques enabled me to have greater understanding of how students respond as well as the critical nature of their interpretations. Last, my reflective journal helped me sort out any questions I had as we proceeded through the study as well as manage any bias that surfaced.

**Data Analysis**

When using technology applications and social media, students are aware they are part of a larger audience; however, we must teach them to appreciate how this can
help, hurt, and broaden their thinking; it’s not always “just for fun.” Through social practices in online spaces, students are mediating life; they learn, discuss, and challenge their thinking and that of others, as well as make connections. As participants in social media and through the use of technology tools, they become members of a Discourse community as they participate in the co-creation of meaning and reality. Gee (1999) explained that Discourse models “link to each other in complex ways to create bigger and bigger storylines. Such linked networks of Discourse models help organize the thinking and social practices of sociocultural groups” (p. 96). When students participate in the Discourse models of technology and social media, they become contributors to the construction of culture; their participation shapes how views and representations of the ways, issues, and ideas, etc. are viewed, understood, and represented in the world. Additionally, their participation shapes how others come to think or believe and how others come to know them. We can see the connection between the way Discourse in the classroom, which is mediated and constructed through the implementation of technology tools and applications and contributes to enhanced critical thinking, but also to new understandings of self and others. We can also observe how the processes that take place in their engagement with social practices in online spaces outside of the classroom do the same. For these reasons, which are directly related to the research questions, discourse analysis was a primary method of analysis in this study.

Gee (1999) stated a discourse analysis focuses on asking questions about how students used language in particular social situations and how their answers constructed meaning about the types of languages used. According to Gee (1999) this
included asking questions about the seven building tasks present in any social situation. They are: 1) building significance 2) building activities 3) building identities 4) building relationships 5) building politics (the distribution of social goods) 6) building connections and 7) building significance for sign systems and knowledge. All data collected from students (with the exception of the focal interviews) was coded according to these categories. Each category was examined using focused questions as devised in Gee (1999). For example, when examining how students are building significance, I considered what words and phrases seemed important in the situation and the situated meanings of those words. Similarly, when considering the building of activities, I examined all levels: the main activity, the sub-activities, and the actions within each. Once coding was complete, I looked for emerging themes across categories for analysis. At this time, I also selected three students whose cases were most interesting and conducted a semi-structured interview with each. The data from these interviews was added to the data emerging from each category as additional analysis.

As noted above, Gee (1999) described discourse analysis as a means for understanding how the use of language impacts the construction of knowledge. As this occurs in various social situations, Discourse communities are created. The new literacies curriculum presented in this study involved students in several different social situations through the use of small group discussion, whole class discussion, and technological applications. As students participated in each of these situations, they constructed knowledge according to the Discourse created in each community. Each of these social situations was analyzed according to Gee’s (1999) model, as described above. One aim of this study was to examine the levels of abstract thinking that
students demonstrated in each social situation, particularly through an analysis of how they built significance, activities, and identities. In addition, utilizing the discourse analysis method allowed me to analyze how students also build critical awareness and appreciation of their participation in the global communities represented in the technology applications in the study by examining how students built relationships, politics, and connections.

While discourse analysis was a primary method of analyzing data in this study, the constant comparative method described by Lincoln and Guba (1985) was incorporated in select situations. This method allowed for reformation of objectives and research questions as the study progressed as well as growth over time while maintaining the operation and data collection of the study. As a reflective practitioner, I noted when ideas and thinking emerged through class discussion and activities that would inform future lessons. I reflected on these observations and sometimes altered remaining lessons in the unit to reflect these ideas. In this study, these reflections were incorporated into my research journal, which became an artifact and helped me define categories of analysis. By utilizing this method, I returned to earlier portions of the study to compare data or use the categories as a way to frame collection of later data. This method also addresses how to handle inconsistencies in my research questions. If an inconsistency arises, the method dictates the researcher should note the inconsistency and consider how it alters the research question. This allowed me to modify my research question while continuing the research. It is important to me that the study was not interrupted by these adjustments as I did not want them to interfere in the classroom.
community. I believe both of these analysis methods sustained the underlying concepts of the study.

**Reliability and Validity**

Lincoln and Guba (1985) described four criteria of reliability and validity in research studies. First, internal validity focuses on the relationship between the dependent and independent variables of the study. In this study, this was the relationship between me as teacher researcher and the participants of the study, my students. To insure that this relationship caused no effect on the outcome of the study, I established my role as part of the learning community effectively from the outset of the study. I accomplished this through facilitation and understanding of the study and by using a support staff member to collect assent forms. Second, external validity is defined as the effect of the type of sample used in the study (participants) on the outcome of the study. The study must be a random sample in order to generalize findings across similar populations. In this study, the sample was random in that all students regardless of gender or ability level were invited to participate. The third facet is reliability, or the assumption that each application of the research objective will result in a similar outcome. The study used multiple technology tools that operated within closed environments. While students utilized the tools differently, the general outcome was the same as all students had the opportunity to use each application. The last factor is objectivity, or the consistency in the experience of a number of participants. In this study, student experiences were made consistent through the use of the same class texts, technology and tools, and the benefit of the same classroom structure regardless of what time of day they were enrolled in the course.
Summary

This chapter has provided an overview of the research design and methodology of the study. A case study approach (Stake 1995) was used as the methodological framework of the study. The study took place in an affluent, suburban middle school in a seventh grade honors literature course. The classroom structure was described thoroughly as well as the curriculum of the focus unit, which is aligned with Common Core State Standards. The curriculum of the classroom focused on the study of memoir, the layered use of technological tools, and the construction of meaning. Ethical considerations such as permissions, storage of documents and transcripts, and disclosures were attended. Data collection methods were described in accordance with the research objectives and questions. Data analysis methods included discourse analysis (Gee 1999) and the constant comparative method outlined by Lincoln and Guba (1985). Last, the four aspects of reliability and validity, as outlined by Lincoln and Guba (1985), are explained.
CHAPTER 4 - FINDINGS

Introduction

Timing is sometimes everything. As time inched toward Spring Break 2014, my students and I waited for something, anything to break up the monotony. Spring is supposed to be a cheerful portion of the school year; students and teachers alike look forward to brighter, longer days, sunshine overcoming the gray skies of Southeast Michigan, and the chance to be outdoors. In 2014, Spring Break was unusually late in the year, creating a stretch from February’s Mid-Winter Break almost equal to the dreaded beginning of the year stretch to Thanksgiving. We felt it: sluggishly and impatiently, we waited for relief. And it came: in the form of an approval from Wayne State.

The seventh grade students in my classroom knew I was awaiting approval to begin my study, and when it arrived just before Spring Break 2014, I think we all felt relief. Finally, we could get to the good part. The timing could not be more perfectly laid out. I could introduce the study to the students prior to break, and they could take time on vacation to think about it, talk it over with their parents, and decide if they wanted to participate. It gave families a full fifteen days to mull over the information. An ideal situation.

On April 15, I eagerly awaited my third hour class of thirty-two students, ready to explain the study to them. The counselor, Mrs. Anthony, was present to help me distribute and discuss how forms would be collected. I enlisted Mrs. Anthony to keep me blind to their identities and keep bias to a minimum, as outlined in Chapter 3. I would
repeat this process with my fourth hour of twenty-seven students, fifty-seven students total. I was beyond excited.

It is important to acknowledge how my rapport with my students may have impacted these procedures. I positioned myself as a teacher-researcher in this study, and I acknowledge that at this point in the year, the students and I knew each other very well. There was an ease and mutual comfort to our interactions. It was more than knowing their likes and dislikes; rather, I knew them collectively. I could anticipate how they would receive an assignment, or how a discussion would go based on the way I phrased the questions. I knew a discussion in fourth hour would take longer because of how much they liked to debate whereas third hour would prefer time to work in small groups. I knew these idiosyncrasies about them, and I planned for it. Similarly, they knew me; they knew I was a student at Wayne State, working on my doctorate. They asked questions about what that process entails, and they respected the hard work I put forth in this endeavor. In some ways, they were my greatest champions, and I would be remiss not to mention how amazingly supportive my students were as a whole. The mutual respect shared by my students and me may have impacted whether or not they chose to participate in the study, and I noted even the students who chose not to participate never complained about the changes this study imposed on our classroom. Even now, as I write up the findings, many of them stop in to see me just to ask how the writing is coming along.

Our classroom is an iPad classroom; every student has access to one in class as provided through the grant described in Chapter 3. Up to this point in the year, students chose whether or not they wanted to use their iPads in class. Students were allowed to
make this choice by assignment, meaning they could use the iPad for some assignments and not for others per their preferences, or as an overall approach to the class, exchanging the traditional notebook for a virtual one. I had a few students in each class who elected to solely use the traditional notebook for class up to this point in the year.

However, upon introducing the study, I explained to students this would no longer be possible; that is, in order for my study to successfully pursue the objectives I created, I needed all of them to use their iPads. In addition, I explained, I needed to remain blind to their personal choices to participate. A student who chose not to use their iPad during the study would be a clear signal that he/she had also chosen not to participate in the study, and I explained the reasons, as outlined in Chapter 3, why it was important for me not to know this information. The students accepted this request and explanation and asked few questions, something I believe was only possible because of the rapport we built together to this point in the year. They trusted me, their teacher, and they understood how important this project was to me. Even if they didn’t choose to do their assignments on their iPads initially, for purposes of this project, they went along with me.

One purpose of this study was to examine how the purposeful layering and scaffolding of technological tools in the English language arts curriculum of a seventh grade honors classroom, including multimodal projects, engaged students more deeply in the study of literature while concurrently helping them reach increased levels of abstraction and interpretation. A second purpose was to show how strategies that incorporate technological and multimodal literacies develop social awareness through
dialogic discourse, helping students link their home and school literacies. This chapter presents a narrative analysis of the day to day activities which best highlight the major findings of this study and introduces each of the three students interviewed upon its completion. I chose a narrative structure to describe these findings because, as Riessman (1993) notes, it allows me to honor our voices, mine as the teacher-researcher and those of the students, while presenting findings relevant to the research.

The findings were developed and guided by the two research questions:

1. In what ways can a new literacies curriculum, which purposefully layers and scaffolds technology throughout a literature unit in a seventh grade honors English classroom, enable students to critically interpret texts and demonstrate complexity of levels of abstract thinking?

2. In what ways does this layered curriculum support students in connecting the use of these literacy practices to their lives both in and out of school as participants in the larger, global community?

As the research questions point out, the use of technological literacies has the potential to further meaning construction and raise critical thinking. In part, and as the findings of this study will show, this is because they allow connections between students’ lives, literature, and the wider community. The strategies employed throughout this study encouraged students to elevate their level of interpretation by using technological and multimodal tools to create new types of text across modes, a skill crucial to preparing literate students for today’s society. The narratives presented here seek to attend to the research questions by describing and analyzing the results of this study through both a narrative of classroom literacy events and an analysis of students’ discussions and reflections as well as reflections from my own journal. In addition, the experiences of the three case study students selected for post-study interviews are chronicled and analyzed. Each student was selected for different reasons, which are
noted in their individual chronicles later in this chapter. This narrative discussion will also incorporate relevant information about each of the technological applications utilized in the study as well as any curriculum decisions that impacted the study’s design.

**Multiple Pathways for Expressing Voice**

As noted in Chapter 2, Rosenblatt (1978) described a process during reading in which every reader constructs meaning from a text in conjunction with their personal experiences. This process, different for each reader, can impact their interpretations of text, and Rosenblatt (1978) believed it was important for classroom teachers to allow students multiple pathways for constructing and expressing meaning from text. In this section, I describe how the applications utilized in this study encouraged students to express their interpretations of text in different ways, providing multiple pathways for students to share their voices. Romano (2004) noted, “Voice is the key to helping our students develop into writers. We must give them opportunities to use and hear their own written voices” (p. 20).

The day the study began, May 1\(^{st}\), 2014 dawned bright, and I was ready. The iPads were loaded and prepped; the anticipation was palpable. The first application, Google Drive, a file storage and synchronization service that uses cloud storage, file sharing, and collaborative editing was familiar to most students. The students familiar with Google Drive helped those who were experiencing the application and the iPads for the first time that day, and there were no noticeable hiccups getting everyone set up. The students and I created a new folder for the unit, titled Memoir, and I instructed them to complete their first Quick Write, which asked them to consider the question: What
does it mean to be a warrior? As we began this unit, I wanted students to think about the meaning of this word in particular because it was a concept Melba, the main character of our central text *Warriors Don't Cry*, revisited throughout her story. The students revisited this idea multiple times throughout the unit described in this chapter.

After giving students time to write, I gave them the opportunity to share their thoughts aloud. This was our first audio taped discussion during the study, although students were familiar with the process of taping our discussions from previous units. Many students in both classes were willing to share their responses to the Quick Write, and I noted these on the Smart Board. I explained to students how we would return to these definitions of a warrior as we read through the memoir. Students’ definitions ranged from the most simplistic interpretation of the term to those that interpreted the meaning in several ways. In Figure 1 below, Tom’s response shows a more literal interpretation of the term, focused on one who fights a physical battle while Figure 2, Amy’s response, extends her understanding to think about someone who also must be strong in their mind and how this might impact them as a warrior. This difference showcases the different levels of thinking and interpretation present in the classes at this early stage and what I was hoping to impact through the study and the use of the other applications. For instance, later in this chapter, other examples of Amy’s work are analyzed to further explore how her thinking developed over time through the use of the different applications included in this study.
I also introduced the e-reader application, Subtext, on the first day. Subtext allows students to engage in reading more deeply through the use of annotation and close reading tools. Once a text is uploaded in Subtext, students can highlight or make notes and comments as they read it. They can elect to share these comments with their class as well. It also functions like an e-reader, with built in text-to-speech, dictionary,
and Google search capability. On the first day, I previewed all the tools, made sure everyone could download their copy of the text to their libraries, and gave them time to begin reading and experimenting with the tools.

As we continued to use Subtext over the course of the next week, I began to embed questions and links for the students to engage in as they read *Warriors Don’t Cry*. For example, some of the imbedded questions were meant to insure students comprehended the reading, and the answers were readily available; for example, “What are Melba’s thoughts after the meeting with the School Board?” Over the course of the study, the questions progressively called for more analytical and evaluative thinking, such as, “Analyze the advice Melba receives from her grandmother” or “Evaluate the decision regarding Minnijean.” These functioned both as reading checks and discussion starters. During class, I used my teacher iPad to access student responses and to enable whole group discussion. While students used Subtext to annotate their thoughts as they read, their notes provided the basis of our class discourse. This discourse began in the application itself, where students were able to see what their classmates thought after they submitted their own comments, and continued in our whole class discussions, where we were able to use the application to draw our attention to multiple annotations, their comments toward each other, and any new reflections. This capability gave the application multiple layers in the scaffolded design of the curriculum. The following transcript from our classroom discussion is from after students read a particularly vivid section describing how the mob of community members blocked the path of the Little Rock Nine into the school and how they attacked the girls who got separated from the group.
**Me**: I saw a lot of you had comments in Subtext about the first day and how the mob---

**SS1**: I have a question about that!

**Me**: Okay, what’s your question?

**SS1**: Did she, like, exaggerate that part at all?

**Me**: She?

**SS1**: The author. Melba Patillo Beals.

**Me**: What makes you say that?

**SS1**: I’m having a hard time believing that’s how it happened. I mean, a whole community of people stood there in a line and wouldn’t let them through? That’s crazy.

**SS2**: Did you see the pictures?

**SS1**: You mean the ones in Subtext? Yeah.

**SS2**: Well, those are real. They show the mobs.

**SS3**: Yeah and there’s a picture in the middle section of the book too….I forget what page.

**SS1**: Okay, yeah, well, that’s crazy. I can’t believe people acted that way toward one another in our country. Like that happens other places but not here.

**SS2**: I know it seems hard to believe, but they did. She was there.

**SS3**: Yeah, and she writes about it in a lot of detail, so I think that means it must have happened pretty close to the way she remembers it. I mean, how could you forget something so awful? Wouldn’t you remember every detail of such an awful thing if it happened to you?

**SS1**: I don’t know. Maybe. Maybe I wouldn’t want to.

This transcript displays an excellent example of the discourse students exchanged during class discussions surrounding the text after noting their initial
comments in Subtext. Above, as Student 1 questions whether the details shared by the author are real or exaggerated, Student 2 reminds him of the primary source photograph links in Subtext. Similarly, Student 3 draws Student 1’s attention to the primary sources included in their copy of the memoir. Through this conversation, they push each other to delve deeper into the text and make connections to their own lives and experiences in class discussions. As students continued to use Subtext throughout the study to annotate each text we read, they continued to practice close reading, which is a higher level curricular objective in the Common Core State Standards we follow. In addition, the embedded information focused on various types of critical thinking connections, such as text-to-self, text-to-text, text-to-world, and text-to-media, which the applications enabled easily with its embedded capabilities. Figure 3 displays an example of a question I embedded into Subtext asking students to make a text to self-connection.

“Even when the battle is long and the path is steep, a true warrior does not give up. If each one of us does not step forward to claim our rights, we are doomed to an eternal wait in hopes those who would usurp them will become benevolent. The Bible says, WATCH, FIGHT, and PRAY.”

-From 1

Geneva Scully commented on May 2 1

How does this definition of a warrior compare to yours?

*Figure 3. Text to Self Question in Subtext.*

Figure 4 shows Stephanie’s response below, which identifies both similarities and differences between her definition of a warrior and the one the Grandmother character provides above. As Stephanie compares and contrasts in her reply, she demonstrates upper level critical thinking skills. For example, she explains how her
definition is similar first ("I believe you have to watch and fight), and she analyzes how the definition is written as well ("I think if one does not step forward is well worded and makes sense).

Figure 4. Stephanie’s response to the Text to Self Question.

Similarly, Figure 5 presents an example of a Text to Text Question embedded in Subtext that asks students to evaluate the advice of one main character to her daughter after time has passed.

“"A lot has changed in the two years since you signed up to go to Central. You were younger then," Mother said with a frown on her face. "Maybe it was a hasty decision—a decision we'll all regret." "I have to go," I said. "I've given my word to the others. They'll be waiting for me." "You have my permission to change your mind at any time. This has got to be your decision. No one can go into that school each day for you. You're on your own."

-From 4

Geneva Scully commented on May 7

Evaluate Mother Lois's thoughts here. Should she be encouraging Melba to stick with her decision, or should she be encouraging her to reconsider? Explain your thinking.

Figure 5. Text to Text Question in Subtext.

This time, Mary’s response, pictured in Figure 6 below, offers her evaluation of Mother Lois’ advice to her daughter, and in her explanation, she provides some possibilities of what could occur based on this decision. Mary considers what she has read thus far in
the novel and notes many of the “negative things” that should impact this decision.

Figure 6. Mary’s response to the Text to Text Question.

Responses like those featured here were characteristic of many students as they used Subtext and shows that students were able to demonstrate increased levels of critical thinking through the application. The embedded questions provided students opportunities to respond to the text as they were reading, reflect on important events, and make connections.

I also noticed student responses varied greatly in depth in Subtext. Many were thoughtful and insightful; in fact, some of the most thoughtful responses were posted by my quietest students who did not normally volunteer to share aloud in class. Many of them were finding a voice through the comfort of the application. In contrast, I found those students who were likely to talk during class discussions were writing much shorter answers. When I asked one such student, Gary, about this, he explained he knew he would have the chance to expound on his thoughts during class discussion and wasn’t worried about saying a lot in the app. Instead, he treated it as a place to make a note about what he wanted to say during discussion. Figure 7 below shows Gary’s response to the same question pictured above in Figure 6, asking students to evaluate the main character’s mother. His response in Subtext is simple and to the point:

I think she should be encouraging to reconsider. So much has changed since Melba had signed up. Many negative things have occurred, and Melba could possibly get killed and she’s also putting her race, friends, and family in danger.
Figure 7. Gary’s response in Subtext.

However, during class discussion on the same topic, Gary expands on his reasoning:

**Me:** Okay, next up, do you think Mother Lois should be encouraging Melba or discouraging Melba from pursuing integration? We had a lot of interesting responses to this one – who first? Gary?

**Gary:** I think she should be encouraging her to reconsider.

**Me:** What makes you say that?

**Gary:** Well, she could die. The whites are really seriously against this, and they have shown us already, with the mob, they’re not afraid of authority. They’re rioting and attacking; she could die. Is it worth that? If you were her mom, is she worth that?

(Transcript, 5/9/14)

Gary’s reasoning for his answer went far beyond what he expressed in Subtext, and because he was the type of student who enjoyed participating aloud in class, he treated Subtext as a place to record a note about what he wanted to say, not a place for expressing those deeper interpretations. In contrast, Amy’s responses steadily became more thoughtful over time. One of my quieter students, Amy was not likely to participate during class discussion unless asked to do so. In Subtext, however, she found it easier to share her thoughts about the text on a more critical level. Figures 8, 9, & 10 below demonstrate how her responses display increased thought and interpretation over time.
These three examples from Amy’s Subtext threads demonstrate how she was able to examine the text more critically over time, finding a voice through the application she rarely found aloud. In her first response on 5/7/14, Amy’s reasoning is straightforward, much like Gary’s, and provides a very clear explanation of her answer to the question. As time went on, Amy’s responses build in depth as she begins to interpret the text more critically and explain herself more thoroughly through the application. On 5/7, her first response (Figure 8) interprets the meaning of “mob rule,” a term used in the novel and infers why it might be important for the President to be...
concerned about it. Similarly, in her second response on 5/23, Amy confidently infers a reason to limit one soldier’s ability to defend the main character (“only one possibility”). She supports her inference with evidence from the text and correctly generalizes how it might impact the other soldiers. These three examples demonstrate how Subtext allows Amy the confidence to develop her critical interpretation of the text over time.

About halfway through the study, the students and I had an interesting discussion regarding their responses in Subtext. As we were discussing the text in class one day, the conversation took an interesting turn:

**Me**: Yes, what do you think?

**SS1**: Well, I actually wanted to ask something else.

**Me**: Oh, okay.

**SS1**: It’s about Subtext.

**Me**: Okay.

**SS1**: So, we’re answering these questions as we read, and you’re looking at them, right?

**Me**: Yeah.....

**SS1**: So, like, how are you grading them?

**Me**: What do you mean?

**SS1**: Like, are you grading if they’re right or written well, or just reading them?

**SS2**: Yeah, like does grammar and stuff count?

**Me**: Well, I hadn’t really thought about it.

**SS1**: Oh....I think you should just read them and see what they say.

**Me**: Why?

**SS2**: Well, let’s say you’re responding while you’re reading—
Me: Okay.

SS2: You might not pay attention to grammar and stuff because you want to get your thoughts out.

SS3: Yeah! We might just want to put down what we think before we forget.

Me: That makes sense.

SS1: So, we should be able to just respond without worrying about that affecting our grade. I mean, as long as you can figure out what we’re trying to say.

Me: That’s a great point. I’ll take it into consideration.

(Transcript 5/13/14)

One of the greatest advantages to developed rapport with students is the ability to have conversations like the one recapped above. As a reflective educator, I consistently try to consider how to create learning environments and experiences that are meaningful and authentic for my students. I also encourage my students to respectfully offer their ideas and suggestions about how we learn. I believe if students feel as though they have a say in their learning, it creates an environment of true inquiry and discovery where mistakes aren’t the end of the world, and what we learn is guided by true interest and collaboration. After my students brought up this point, I considered that allowing them the freedom to write and respond in the apps without concern about mechanical errors or “text-like” talk might impact their experience in a positive way, and I decided to grade them solely on whether or not they attempted to answer each question. In my analysis, I examine how this became another pathway to explore students’ voices.

Once relieved of the worry of correct grammar and mechanics, several of my students began to shape their responses with much more personality and voice,
characteristic of the individuals I see and hear in the classroom every day. Stephanie, a
smart, somewhat scattered student in my third hour class took advantage of this new
development, and the ensuing voice present in her responses is both insightful and
intriguing. Figure 11 shows one of Stephanie’s responses prior to the conversation
above. In this response, Stephanie is writing about why Melba might volunteer to
integrate aside from the reasons she mentions in the text.

![Figure 11](image-url)

Because she thinks that if she attends the white school, people will see her
as an equal. And her family wouldn’t have to be strong. Also she might
want to send a message across that what happened didn’t do anything to
her.

Figure 11. An example of Stephanie’s response prior to the conversation.

In her response, Stephanie writes her thoughts in complete sentences, with
punctuation and proper conventions. The only indicator of her somewhat scattered
personality in this response is in her sentence structure. The second and third
sentences each begin with transitional words, as though these thoughts came to
Stephanie as she was typing her response. This is very characteristic of her personality;
when she speaks in class, she adds thoughts as they pop into her mind without much
filtering. This demonstrates both her comfort with her own writing style and her voice,
but it isn’t something an observer would notice if they didn’t know Stephanie as I did at
this point in the year.

Figures 12 and 13 are both after the conversation in class recapped above. In
each of them, Stephanie has opted to utilize shortened versions of words and phrases
popular in text talk. Neither inhibits me from understanding her point; in fact, her
responses become even stronger in their conviction in her interpretation of events.
Figure 12. Stephanie's first response after the conversation in class.

Figure 13. Stephanie's second response after the conversation in class.

Figure 12 is in response to the question whether or not going to Central is worth all of the struggles. In her response, Stephanie succinctly points out the true purpose behind all the struggles the main character faces (“It’s to show the black r just as strong as white, and to show that they r both equal”) while staying true to her personality (“Duh…What king [sic] of question is this”). Similarly, in Figure 13, Stephanie responds to how the neighbors are reacting to the situation, and again, her response utilizes text talk, while supporting her opinion. Stephanie’s responses are just one example of how students began to write with increased voice after the pressure of proper mechanics and conventions were lifted. Stephanie’s response demonstrate that how a student chooses to write in the application, with or without text talk, abbreviations, etc., is not as important as what they have to say about the text. Students who can support their ideas in any format, without the need to focus on the mechanics of writing or language, offer as much critical interpretation of the text as students who prefer to write more formally.

As the study progressed, students continued to find multiple paths to showcase their voices. Some, like Gary, utilized the applications for notes about what they wanted
to say during class discussions. Some quieter students, like Amy, were more at ease expressing themselves in the application and shared thoughtful and insightful interpretations of the text. Some, like Stephanie, demonstrated their voice through distinctive approaches to “talking” in the applications. Later in this chapter, the case studies presented further explore this theme.

The Role of Personal Choice in Students’ Expression of Meaning

As noted in the curriculum outlined in Chapter 3, the students and I paused throughout the study to reflect on each application. These reflections asked students to evaluate the positive and negative aspects of each application (in their opinions) as well as consider how using it impacted their experience during the unit. They also reflected on how similar apps might impact them in the future. Figure 14 displays the questions for the Subtext reflection as an example.

Figure 14. Subtext Reflection Questions for Students.

While analyzing the comments made in these reflections, it became apparent to me that a primary reason students either liked or disliked an app revolved around their personal preferences and sometimes even their personality traits. Over and over, students commented on how they liked a particular tool or disliked a certain feature.
Students who identified themselves as avid readers had much to say about using an e-reader versus an actual book. Students who identified as artists were particularly critical of the drawing app’s capabilities (“the lines jump from where I drew them”). Some of the quieter students enjoyed Edmodo because they could participate in a class discussion without speaking aloud in front of their peers (“It’s non-judgy”); others disliked it because they felt their work was too visible to others (“I don’t want everyone to see what I write”). Students who liked setting their own pace and finishing their work during class found fault with discussion groups because they had to wait for others to post (“I want to finish my work. Not wait around for everyone else”). Time and time again, the students’ reflections demonstrated how technology could both support and fail to enhance their experiences based on their personal preferences and individual modes of learning. In this section, I highlight recurring preferences in students’ reflection for Subtext, Draw Free, and Edmodo because my findings suggest that it is important to consider that not every modality is efficient or effective for every student.

More importantly, as noted by Willinsky (1990) in Chapter 2, a new literacy curriculum like the one in this study calls for a different approach to teaching in which the teacher provides a framework, tools, such as the applications employed here, and allows students to take the lead in when, if, or how to use the tools in their learning experience. Such a curriculum provides students with increased agency, an important factor in the research of this study. In order for students to be best prepared for the technologically driven society they will be a part of upon finishing school, we must begin to incorporate experiences in the classroom in which students have the flexibility and agency to select the best tool for strengthening their learning process. In this section, I
highlight those uses of applications recurring most often in students’ reflections for Subtext, Draw Free, and Edmodo that also contributed to an increased sense of agency amongst the students.

Although the students themselves may not have always understood their preferences for particular apps as an issue of building critical thinking skills, they did recognize that certain apps provided them with enhanced tools and flexibility and they recognized that the apps that were more efficient allowed them to better express and develop their ideas.

**Subtext.**

Overall, the majority of students benefitted from using the e-reader app Subtext because it offered several tools to personalize each reader’s experience. Students liked the highlighting tool because it was “helpful to be able to highlight important words and phrases” and “because then I can highlight stuff to help me review for a quiz” (Reflections, 5/29/14). Figure 15 displays a screenshot of the highlighting tool available through Subtext.

![Subtext Highlighter Tool](image)

*Figure 15. Subtext Highlighter Tool.*

When students select text to highlight, they also have the option to comment or ask a question. These comments and questions can be kept private, shared with the instructor, or shared with everyone. Many students found this a useful tool for making
notes about parts of the text they didn’t understand, and during discussion, they referenced these notes. Figure 16 shows an example of a note from one student, Beth, about a passage in Chapter 1.

Figure 16. Beth’s notes in Subtext using highlighter tool.

As shown, Beth used the highlighter tool to select a piece of the text she found disturbing, where the main character described how the local police abandoned their posts to join the protest against the African-American students. Her note expressed her disbelief (noted by the ?! punctuation), and the highlighter tool enabled Beth to recall this comment when we discussed the chapter in class the next day. As Beth continued to read, she also utilized the highlighter tool as a way to interact with the text, recording her impressions and observations of what occurred. Figure 17 displays one of her comments.

Figure 17. A comment from Beth in Subtext.
Here, Beth highlighted text describing what happened when the main character of the text returned to her high school many years after her experience integrating took place. Beth noted how “amazing” it was that they were welcomed by both black and white residents. Her comment was meant sarcastically, as indicated by her final thought of “Awesome” at the end. This type of note-taking demonstrated Beth’s critical interaction with the text as she read, which helped me understand how she was analyzing and synthesizing the information. Many students chose to use the Subtext highlighter tool in this manner, which aided in their ability to critically examine what they read.

Similarly, students’ reflections also revealed a strong liking for the embedded questions in the text. As the instructor, Subtext allowed me the capability of posting questions throughout the text, and a small owl icon served as an indicator of the question to students. Similar to the evidence provided by Beth’s writing, many students’ reflections indicated they appreciated answering these questions while reading for practical reasons, such as knowing “exactly where in the book the question relates to” and saving time “going back and forth between a book and a worksheet” (Reflections, 5/29/14). Many students also cited how answering the questions supported their increased understanding of what they read. One student stated, “It made me understand the story better because it forced me to look back and process what was going on in the story” (Reflection, 5/29/14). Yet another student noted, “It really helped me think in depth about what I was reading and it helped me make connections with what I already knew about the era of segregation.” (Reflection, 5/29/14). The impact the
embedded questions in Subtext had on students’ ability to critical interpret the text is explored later in this chapter through the case studies presented.

**Draw Free.**

Unlike Subtext, the reflections of the drawing app, Draw Free, were more critical. Some students made positive comments about the app, noting “Drawing is fun instead of work” and “Completing small art activities about the book through draw free was a good way to get your point across through art” (Reflections 6/3/14). Many cited Draw Free’s range of tools (“I liked that you could change the size of the brush/pencil/crayon to draw stuff or to fill in stuff”) and intuitive layout (“Everything was easy to figure out”) as positive features for a free art application (Reflections, 6/3/14). One particularly thoughtful student commented, “I loved doing the small assignments throughout the book because it made you think outside of just reading and answering questions. You had to read, draw a representation, and then elaborate on why you drew it which made you think a lot more than answering boring questions,” noting how Draw Free encouraged her to think deeper about the texts (Reflection, 6/3/14). This particular function of Draw Free is explored later in Jennifer’s case study and is a central reason this application was incorporated into the study. It was important to me when designing the study’s curriculum to build in literacy events incorporating multiple modes, such as technology and art. The sketch-to-stretch strategy (Short, Harste, & Burke 1996; Whitin 2002) asked students to “show what a story means to them by sketching lines, colors, shapes, symbols, or pictures.” The Draw Free application enabled students to use this strategy multiple times throughout the study to strengthen and deepen their interpretations of the texts.
However, I had a group of students who identified as artists or drew regularly in their free time who found fault with Draw Free’s capabilities. In their reflections, these students noted, some of the application’s limitations, such as “hard to draw small details,” “no zoom in option,” and what they described as “line jumps” (Reflections, 6/3/14). One student, Kate, became so upset with the application while completing her Character Impressions assignment that she proposed an alternative.

Kate enjoyed creating art in her free time and liked the idea of the drawing app immensely, noting, “because maybe you know how to work your iPad a bit better because you are touching it, and you can create art this way” (Interview 9/4/14). She expressed her distaste with Draw Free shortly after I introduced it to the class, citing several reasons. She felt the lines “jumped,” or changed, once set by the artist in the application’s response system. She also believed every drawing app should allow an artist to undo each move (line, point, shading, etc.) separately, while Draw Free would undo multiple steps or a whole section of a drawing at a time. Last, Kate wanted the ability to zoom in to add fine detail to her artwork, and Draw Free did not possess this capability. Upon airing these grievances to me in class one day, she suggested another app, Ibis Paint X, which was also free. The agency displayed by Kate in advocating for this need to enhance her learning directly related to an objective of the research in this study. Allowing students to adjust the use of their applications or tools to suit their individual learning styles positively impacted their experience during the study. In addition, it created an opportunity for our class to discuss how to be critical in their selection of the best tools for their learning.
After Kate’s request, I downloaded this app for her during the study and asked her to recreate the drawing she made for her Character Impressions assignment in the new app, Ibis Paint X. Both versions of her drawing are pictured below in Figures 18 & 19.

*Figure 18. Kate’s drawing in Draw Free.*

*Figure 19. Kate’s drawing in Ibis Paint X.*

Kate felt her second drawing, completed in her chosen app Ibis Paint X, allowed her to create finer details in the wings of her image as well as in the trench coat, which was crucial to her depiction of the grandmother’s character in the novel we studied. She described her as a “trench coat wearing angel” who was “wise, helpful and encouraging,” and “wearing a trench coat to show that although grandmother is pretty much the great sage, she isn’t always super formal and can be really homely” (Character Impressions, 5/15/14). In the Draw Free version, the background cannot be
filled in after the drawing is made without covering up what is drawn, a noted downfall of the app in many reflections. Because Kate decided to add the background after she drew the initial image, she was again frustrated by Draw Free’s limitations.

I noticed once I downloaded Ibis Paint X and added it to the available tools for students, several others seemed to prefer this app over Draw Free and asked to use it for future assignments involving art in the study. After some reflection, I decided to allow this for several reasons. First, as noted earlier, I believe it’s important to listen to my students, and I encourage them to share their views with me, even when they might be criticizing or questioning an instructional choice I made. I meant for the emphasis to be on the process of their creations and the meaning derived, not on a particular app. Second, I find myself fascinated by the technicality of it. I am not an artist, and when I previewed apps, I did not notice any of the downfalls noted by my students in their reflections. In final consideration, I determined if the app Kate suggested better enabled students to express their thinking about the texts, I did not want my (inept) choice to limit the possibilities.

**Edmodo.**

Like Draw Free, Edmodo received mixed reviews from my students. Their reflections expressed positive comments about Edmodo’s practical features, including having “all the questions...in one place and not on 10 different sheets of paper that I would have to watch” and "it is a good way to stay on top of assignments” (Reflections, 6/8/14). In addition, many of my quieter students who did not enjoy participating in whole class discussions enjoyed posting their interpretations in Edmodo because “it is easier to get your point across in writing rather than saying our discussions out loud.”
(Reflection, 6/8/14). Another student noted, “Edmodo made you think a lot about your questions and responses” (Reflections, 6/8/14). I found these statements particularly interesting, and while analyzing the data from Edmodo, discovered many of my quieter students posted their thoughtful and critical interpretations through the discussion groups on this application. I selected two such students, Amy and Elizabeth, to portray a significant difference in the reflections of some of my quieter students.

In Figure 20, Amy responded to a question posed by one of her group members asking, “Based off of all Melba’s difficulties at Central High do you think she should continue going?” As noted earlier in this chapter, Amy is a quiet student who does not enjoy participating aloud in class discussion and only does so when prompted by me. However, in both Subtext and Edmodo, Amy was comfortable posting extensive replies to prompts from me and her classmates.

I think that Melba should continue going to Central High School despite her difficulties because what pain she suffers now, both mentally and physically, will not have to be endured by future generations if she holds up. Also, if she quits now, the segregationists will think they have won, and therefore believe that if any other African Americans try to do something that the white people don’t like, they can simply step on their heels and elbow them in the ribs to stop the African Americans. Lastly, I think, even if Melba pulls out of Central High, no one will ever truly treat her the way she was treated before. Segregationists will still be angry at her for making the choice to enter Central in the first place, which will make her friends still want to keep their distance from her, making her decision of leaving the school completely pointless, in my opinion. Therefore, I trust that Melba will make the correct choice of staying at Central.

Figure 20. Amy’s Edmodo response.

In this example, she formulated a thorough response, citing three strong reasons why Melba should continue at Central. Her thought process is clear through her use of transitions (first, also,Lastly, therefore), and her opinions were supported with solid examples from the text: “if she quits now, the segregationists will think they have won,
and therefore believe that if any other African Americans try to do something that the white people don’t like, they can simply step on their heels and elbow them in the ribs” (Edmodo, 5/28/14). Amy demonstrated her ability to express critical interpretation of the text through her Edmodo responses and also showed how a quieter student less apt to participate in whole class discussion might find success having discussions in similar applications.

Like Amy, Elizabeth is another quiet student who did not enjoy participating in whole class discussions. Contrary to Amy, she also did not enjoy the visibility of Edmodo, noting in her reflection, “I dislike Edmodo because….I don’t like how other people can see your response when you could be wrong” (Reflection 6/9/14). Despite this discomfort, I noticed Elizabeth’s responses in Edmodo were strong. Each one displayed her thoughtful, critical interpretation of the text. The one pictured in Figure 21 below is one example.

![Figure 21. Elizabeth’s Edmodo response.](image)

In it, Elizabeth responded to the question, “How do you think Melba feels when no one comes to her 16th birthday party but Vince?” Elizabeth’s response attended to the question with solid reasoning in the first sentence (depressed because she had planned this party for years), and it also delved further by making an inference as to
why her friends wouldn’t come (afraid that segregationists would attack them) as well as a personal connection (I would also be depressed because these were her friends she had known her whole life). Despite the reluctance she expressed in her reflection, Elizabeth’s answer exhibited her ability to critically interpret the text and make connections at a higher level through inference and connecting. In a follow up conversation with her briefly this year, I asked Elizabeth about this experience again. She explained to me she may have felt more comfortable if she had chosen her own group, a suggestion made by several other students in their reflections. But, Elizabeth also commented, “It was still a good experience. I mean, we’re not always going to get to choose who we work with, right?” (Conversation, 1/15/15).

As described in this section, students’ personal preferences using each of the applications often played a main role in their experience. Some enjoyed each feature and tool the applications offered while others did not. As the study progressed, I tried to support student agency by allowing them the opportunity to adjust their use of the applications or tools in a way that best suited their individual needs. In addition, one of the objectives of this study was to help students become more critical in how and why they chose a particular technological tool. As participants in a larger, global community, students must begin to understand the context of these choices and advocate for the tools best suited to showcase their strengths. In the case studies presented later in this chapter, several other ways in which personal preference impacted students’ experiences are discussed.

This section also described how students’ critical thinking abilities increased as the unit progressed. As students became more comfortable working with the
technological tools, their responses began to demonstrate more critical thinking, as shown in the examples presented in this section. Another objective of this study was to demonstrate how a curriculum that purposefully layered technological tools enabled students to critically interpret texts and demonstrate complex levels of abstract thinking. Curriculum must begin to incorporate such experiences, and teachers must be taught how to design curriculum with this objective in mind. The case studies presented later in this chapter will show other examples of how students were able to build their critical thinking skills through the applications over the course of the unit.

**Community Connections and Disconnections**

As noted at the beginning of this chapter, another purpose of this study was to show how strategies that incorporate technological and multimodal literacies develop social awareness through dialogic discourse, helping students link their home and school literacies. As the second research questions points out, one intention of this study was to uncover connections students made between their literacies in-school and out-of-school. As I analyzed the data, I found an interesting divide amongst the students’ work. On one hand, some students chose to create user profiles within the applications or use the app’s tools to interact with me and their classmates by making comments as they read. On the other hand, few students engaged in discourse with their small groups in the discussion app, Edmodo. While students’ reflections recognized how these practices are similar to ones they engage with out-of-school, they did not find value in participating in school applications in the same way. That is, students did not see the relevance of the ways in which they used the in-school apps to the ways in which they engaged in literacy practices outside of school.
Students first made a connection between their in-school and out-of-school literacy practices when deciding whether or not to build a profile through the applications' tools. Two of the applications, Subtext and Edmodo, are specifically designed to foster community and collaboration through their tools in ways that are similar to many popular social media applications (e.g. Twitter, Instagram). Subtext allows students to select a visual icon to represent them. In addition, users can choose to allow their notes and highlights of the text to be visible to individuals, small groups, or even a whole class. Similarly, Edmodo prompts students to build a profile upon first logging in, including visual icon, favorite quote, learning style preference, and career goal. It also allows users to post notes, alerts, polls or quizzes to an individual, small group, or whole class. These applications were also chosen because they included a multitude of ways for students to interact within the application. However, the findings here demonstrate many students did not employ the use of the tools outside of answering their required questions. Overall, the findings show students' approaches to connecting in-school and out-of-school literacies differed dramatically.

To begin, the findings show that although I selected applications that mimic those used outside of school, students did not engage in all of the features of the design or tools the applications provided. One example of how this can be shown is by examining students' profiles created in Subtext and Edmodo. During the study, we created profiles in Subtext first, and initially, each student had a generic profile icon, pictured below in Figure 22.
Because Subtext allowed students to build a profile similar to the ones they build in social media applications they use outside of school, I presumed students would be interested in doing so. However, this was not the case, and in fact, only seven students chose to build a profile in Subtext, selecting profile icons reflective of their personalities as they do in social media applications. When I analyzed students’ Subtext reflections, those who created personal profiles in Subtext noted primarily practical reasons for doing so. For example, one student indicated it made her comments “easy to see” as she was scrolling through her class’ answers while another thought it was “fun” to be different from the others in her class (Subtext Reflections, 5/29/2014). Those who did not create a profile cited “not knowing how” or “not caring to” as reasons.

In contrast, many students created profiles in Edmodo, the second discussion application. Here, because Edmodo prompts students through this process upon registering their accounts, a total of forty-six students create profiles to varying degrees. Some completed the entire process, selecting a profile picture, learning style, and career goal while others stopped at selecting a profile picture. Figure 23 displays an example of a completed Edmodo profile.
As I analyzed the Edmodo reflections, I noticed that many students commented on how Edmodo took them directly into the process of creating a profile after setting up an account, unlike Subtext. Only a few students who did not elect to create profiles in Edmodo reference this choice in their reflection; one noted, “It didn’t seem important” while another said “It’s just a school thing” (Edmodo Reflections, 6/8/14). As noted earlier, I chose these two applications in part because they shared many similarities with social media applications students use out-of-school. I presumed students would carry their engagement in similar social practices into the applications used in this study. However, as described, most students did not find value in creating a profile for school purposes. In Chapter 2, I described how my students use social media as a
means for expressing their thinking, sharing ideas with others, and communicating on a daily basis. One goal of the new literacies curriculum presented in this study was to help students make the shift from merely participating in social media forums to understanding how their participation and collaboration within these spaces builds critical and creative thinking as well as collaboration skills.

However, in both their reflections and class discussion, many students expressed the similarities the applications in the study shared with their out-of-school applications contributed to their disconnection and discouraged them from collaborating further. For example, many students’ reflections commented on the fact that I chose their Edmodo groups and cited this as a reason they did not engage in discussion. In fact, much of the data illustrated students tended to access Edmodo only to complete their portion of the assignment and did not engage in further conversation with their small groups. In many cases, even when prompted by me to further explore a comment or question, many students did not respond to further questioning nor did they return to the forum to check to see if anyone had posted anything new. Checking social media forums is a social media practice my students engage in readily throughout the day. However, in this case, despite the similarities, they chose not to. The similarities do not make Edmodo more appealing to them, and in fact, there is a distinct reluctance to treat the experience like those outside of school. This is an important finding of this research because making these types of connections between their in-school and out-of-school literacy practices is a crucial skill for students today. The findings here demonstrate we are not doing enough to provide experiences and demonstrate to students how these practices
will be relevant in their lives beyond the classroom. Later in this chapter in Danielle’s case study, this point is discussed further.

The three themes introduced in this section: Multiple Pathways to Expressing Voice, The Role of Personal Choice in Students’ Expression of Meaning, and Community Connections and Disconnections encompass the main findings of the analysis of the data. Once these themes emerged from the data, I began to sift through the students as individual cases as a means of deeper exploration of these themes. Three students emerged from this process with interesting data points for further analysis.

**Case Studies**

Nick was an efficient, funny student in my fourth hour. His work and reflections throughout the study returned time and time again to the importance of using technology to make our work more efficient and effective. If technological tools were going to be introduced into classroom curriculum, Nick wanted them to make the work of school easier and more fun. This was how he connected his experiences with technology in and out of school. Because he thought the apps were fun, Nick enjoyed writing within them, and I noticed his work contained a lot of voice. He was among the first students to approach writing in the applications conversationally, just as he would if he were speaking during class discussions. The freedom to approach writing in the applications in this manner enhanced Nick’s ability to analyze the texts.

The second student, Danielle, was a serious student who cared very much about her performance in class. Throughout the study, she experienced stress when applications did not function as she felt they should. Her reflections and my
observations of her actions indicate a comfort level with technology, but only when it was on her terms. She repeatedly expressed that only certain applications were best suited to the work of school and hesitated throughout the study to connect her in and out of school literacies. I selected her to examine how this reluctance impacted her experiences in class. I wondered if it inhibited her ability to reach the level of critical thinking the curriculum of the study intended.

Jennifer was a quiet, kind student in my third hour as well. She was completely new to the applications as we began the study, and I was impressed by her progress as I examined her work. I selected her because, as the data will show, she demonstrated tremendous growth throughout the study, both in finding a voice and in using technological applications. Of the three case study students, Jennifer was most willing to connect in-school and out-of-school literacies through the technological tools. In addition, as a quieter student, she found comfort and confidence expressing her voice through the applications that she did not find in class discussion. This pushed Jennifer to higher levels of critical analysis of the text. Overall, the analyses discussed in the three case studies continue to examine and build upon the themes presented thus far in this chapter.

Nick: “That’s just how I am naturally.”

Nick was a thirteen year old Caucasian male, average height, with an athletic build, and dark, wavy hair. He was very much an athlete, playing football, basketball, and baseball on local sports teams year round. Many of his friends were boys who were also part of these teams, although he did enjoy rivalry with classmates on other teams. He was a strong student as a reader and writer, and there were times when this
competitive nature carried over into the classroom as well. Nick set high goals for himself and, upon receiving any grade or feedback from me, often compared his achievement with his classmates. As I learned more about Nick throughout the year, I came to understand he enjoyed using technology both in and out of school.

His family owns both a desktop computer and an iPad, which he primarily used for school work and gaming. Nick also had his own smart phone, and while he used some apps on it, he noted during his post-study interview the only social media application he had was Instagram. When asked if he used any others, such as Twitter, Nick replied, “No, not at the moment. Maybe in a couple of years, I’ll get into it” (Interview 1, 6/23/14). In class, Nick utilized the iPads readily at the beginning of the year, making the transition to using the iPads for all assignments during the study an easy one.

Based on my observations of Nick throughout the study as well as his responses in the interview, two interesting findings emerged regarding his approach to using the technological tools in the classroom. First, Nick’s primary goal in using the apps was to find ways to complete work effectively and efficiently. He liked the iPad and applications because they made the traditional tasks of reading and writing easier. For example, the Subtext search tools allowed him to type in a short phrase recapping an event from the text and find the page where it occurred in the text easily and quickly. In addition, the definer tool allowed Nick to define words he was unfamiliar with by simply tapping the word within the text. For Nick, these were extremely important features of the technology being introduced. He felt if it wasn’t going to enhance his ability to be more efficient and effective, there was no reason to introduce it in class. He believed the
majority of people his age find technology to be fun, stating, “People like going on them [devices]. So I like going on them even it’s for, you know, work….I mean you have all this [sic] things and when you see an electronic you think, oh, this is going to be fun, and then you kinda forget what you’re doing is work” (Interview 1, 6/23/14). Nick felt that if teachers were going to begin to incorporate more technological tools in classroom experiences, it should be with purpose and not for the sake of just doing so. He felt merely incorporating them for the sake of doing so actually detracted from their purpose and only created extra work. Nick’s reflections demonstrate how teachers must begin to find ways to meaningfully integrate technology as a means to impart curriculum and teach twenty-first century skills. Because he found the technological tools employed in the study had purpose and were enjoyable, Nick was able to utilize them effectively to communicate his analysis of the text.

As he progressed through the study, Nick’s ability to critically examine and interpret texts grew as he used the technological tools available. As noted earlier, the more efficient an application made Nick feel, the more comfortable he became within it. For example, in Edmodo, Nick’s critical interpretation of the text increased as the study progressed and his group became more efficient in the application. In the post-study interview, he mentioned that he liked Edmodo because it gave students a place to have a discussion, rather than use up what he viewed as “valuable class time” (Interview 1, 6/23/14). When asked to elaborate, he explained how annoying it can be when other classmates raise their hands during discussion only to repeat what another student already said, rather than adding something new to the conversation. Nick felt Edmodo helped with this because no one wants to type exactly what someone else has, so he
believed this encouraged his classmates to take the time to contribute something new to the discussion. Figure 24 displays responses from Nick’s Edmodo group as a demonstration of the thoughtfulness present in students’ responses within the application as their efficiency grew.

Figure 24. A strand of responses from Nick’s Edmodo group.

As Nick suggested, each student responded to the prompt in a slightly different way. Each answer was thoughtful in its interpretation without overlapping the ideas of others. The first and third students thought it was a good idea, while the second student did not. Each expressed their opinion and supported it with clarifying evidence from the text or by making an inference. All displayed critical thinking, and as Nick noted, because each answer was a slightly different take on the question, the group benefitted from thinking critically about several different perspectives. In Nick’s Edmodo group, this type of responding increased over time as they became more efficient in the application.
Over the course of the study, Nick also increased his ability to consider other perspectives and critically examine the text’s events. One way he demonstrated this was through increasing amounts of voice in his writing. Nick’s writing contained strong ideas and voice from his initial response, shown below in Figure 25 where he described what it means to be a warrior.

Figure 25. Nick’s initial QW in Google Drive.

This response is strong and well thought out. Nick offered a definition that considers several perspectives of warrior, a great indication that he was thinking critically about the topic. This Quick Write was completed in Google Drive, the application most familiar to Nick as he had been utilizing it all year in class. As the study progressed and Nick learned new applications, his writing began to acknowledge other perspectives and question the text, both higher level thinking skills. We see this through the humor and sarcastic tone of his responses, which was very different than how his classmates approach their writing.

For example, in Figure 26 below, Nick responded to a Subtext question about the most surprising part of the main character’s first day of school.
When Nick engaged in the discussion threads, his approach changed; he began to take a more direct, even sarcastic tone, often indicting the events of the text. Unlike some of his classmates, he did not continue to formalize his manner of speaking. This continued throughout his use of Subtext in the study as shown in Figures 27 and 28 below.

As discussions around the text moved into Edmodo later in the study, Nick adopted a similar approach. In a response to a classmate who disagreed about whether the main character being featured in the newspaper was a positive development in the story's plot, Nick assertively offered his opinion, as shown in the latter response in Figure 29 below:
Figure 29. An example of Nick’s use of voice in an Edmodo response.

Nick’s response demonstrated his comfort level in disagreeing with a classmate through the discussion thread. He offered his opinion (“the newspapers are just doing their job”) and supports his ideas (“newspapers try to find juicy stories on whatever where ever, and this Little Rock ordeal is a big story. If I were Melba, I would want people to know I was trying to knock down the segregation wall. In fact, if I were Melba, I would be loving this attention”), again demonstrating comfort within the discussion threads in a second application.

When Nick returned to Google Drive to write his Interior Monologue and creative piece for the Literary Postcard, his written pieces displayed more critical and creative thinking than his previous writing in this application. In his Interior Monologue, Nick was assigned the role of Ernest Green, one of the nine students integrating Central High with Melba, the main character in Warriors Don’t Cry. As he imagined what it must be like to experience integration as Ernest, Nick wrote, “I had always wanted to go to Central, and when my teacher asked who wanted to go, I signed that paper immediately. I thought that I could change the world with my decision” (Google Drive, 6/6/14). His writing continued to chronicle the many attacks Ernest must face, and near
the end, reflected on what this must be like for him, as both a male and the only senior student of the group. Nick wrote:

I’ll bet that I will also be shut out of all social activities. This is sad for me, more than the others, because I’m a senior. At Horace Mann, there were a lot of fun stuff seniors did, like little trips and parties just for us. I’ve also heard of stuff that Central does for its seniors. I probably won’t be able to do or go to most, if not any, of those because white students ‘don’t want a n**** ruining our senior year.’ (Google Drive, 6/6/14).

Nick’s Literary Postcard assignment also possessed great examples of critical and creative thinking in the written piece. For this assignment, Nick chose to create a letter from Gloria, one of the nine, to her cousin who lives in the North. In it, Nick described what integration is really like for Gloria’s cousin, stating, “Let me just start by saying, if I had to define hell, integrating Central high would be it” (Google Drive, 6/10/14). Nick’s letter continued to outline a day in the life of Gloria, inferring examples of what she must endure based on the events of the novel he has read thus far. Nick concluded the letter with this sentiment: “So, Unnamed Cousin from the North, do you think I’m lucky now? Do you think getting nationally famous is worth what I endure everyday [sic]? Think about that” (Google Drive, 6/10/14). These examples demonstrate how Nick was able to build his critical and creative thinking skills through the use of a distinctive and unique voice as he returned to Google Drive from the other applications, and it shows how he began to employ his writing pieces as a place where he could express his personal assessment of the events of the novel through the various perspectives he was assigned to write, another exceptional example of critical and creative thinking.

These examples of Nick’s work in Subtext, Edmodo, and Google Drive all demonstrate how Nick was able to reach higher levels of critical and creative thinking about the text through the different applications layered in the study’s curriculum. The
discussion feature of Subtext and Edmodo allowed him the opportunity to approach writing his responses as they came naturally to him. Nick did not feel stifled or limited; in fact, the discussion feature pushed him to open up his voice. This translated back to Google Drive as he further considered the text in more critical ways as he completed the creative writing pieces, both of which require analytical thought and creative interpretation of characters and events in the novel. When I asked Nick about this approach in our post-study interview, he noted, “…it was just natural. That’s how I am naturally….sometimes, I’d look at other people's responses, and like, [he,] would have a paragraph long answer, and I’d think how could you think like this but act like that in class?” (Interview 1, 6/23/14). Upon further probing, Nick revealed he felt students should represent themselves in the discussion threads in the applications the same way they would in class discussion. He believed students tend to say what they’re thinking without dressing their answers up or down during class discussion. However, Nick noted many of his classmates adopted a more formal tone as they write in the applications because of their concerns about being graded on this work. Nick stated, “If it’s really discussion, it should be, like, how we talk” (Interview 2, 9/10/14). While this approach allowed Nick to showcase a substantial development of voice over the course of the study, it was contrary to how some of the other interviewed participants felt. Multiple Pathways for Expressing Voice emerged as a significant theme, and will be discussed in more detail in Chapter 5.

Jennifer: “I'm worried that I'll always get the answer wrong.”

Thirteen year old Jennifer was a quiet student in class, although I came to know her funny, outgoing personality through our advisory (homeroom) class together. She
had an endless smile and was often caught trying to make classmates laugh. Unlike most students, Jennifer did not readily utilize the class iPads prior to the study, expressing her discomfort with learning the new technology. She was not an active participator in class discussion, finding more comfort in the written expressions of her understanding. Later, I discovered she used an iPod Touch and a Kindle Fire intermittently at home. She used her Kindle Fire primarily for reading and did not have many apps on it, although it has this capability. Jennifer admitted she did not find her iPod very useful because the battery dies quickly. However, as the study progressed, I notice how much Jennifer’s attitude toward technology changed. As her attitude shifted, Jennifer became more comfortable with the technological tools imbedded in the study’s curriculum. Her growing sense of comfort enabled her to find a voice for her critical interpretations of the text.

Jennifer’s experience began in Google Drive. Prior to the memoir unit, she kept a traditional notebook for class and brought it with her every day. For assignments that required typing, she worked as much as she could in her notebook, then finished them at home by typing them on her home computer. In her post-study interview, Jennifer expressed that she initially felt Google Drive seemed too technical for her, and she didn’t want to invest any time in learning how to use it. In retrospect, she agreed Google Drive was pretty easy to use once the study pushed her to learn how to do so.

In Google Drive, Jennifer (as well as the rest of the class) was asked to complete several quick writes about the characters in Warriors Don’t Cry. Her description of Grandmother (Figure 30) was solid but lacked critical thought or analysis. It merely summarized what Jennifer learned from reading the first few chapters of the novel.
I did the bible to represent grandma. I chose this because grandma is extremely religious. She also makes Melba read from it. Grandma is always saying that god will save them and one day he will make them all equal. Grandma also tells Melba if she takes a bath it will wash away the sins the man left on her. She obviously believes in every thing the bible says. Grandma is a very religious figure which is why I chose the bible to be her symbol.

Figure 30. Jennifer’s Quick write from Google Drive.

Her initial experience with Draw Free accompanied this quick write and was similar. Because Jennifer saw the grandmother as religious, she drew a bible to represent her (Figure 31). This was not an incorrect interpretation as indicated in her response in Figure 30, but it was a very straight forward symbol and lacked deep thinking or abstraction.

Figure 31. Jennifer’s Bible image from Draw Free.

Similarly, Jennifer’s initial responses in Subtext were also short and succinct. She answered the question posed and did not delve further. This resembled Jennifer’s participation in whole class discussion. She did not raise her hand readily, and when she did, it was generally for a question requiring a short answer found easily in the text. In Subtext, for example, when asked how the character of Grandmother might be described, Jennifer replied, “Grandmother is a kind and wise lady who likes to teach her grandchild” (Subtext, 5/5/14), a description that is not untrue, but straightforward without
elaboration. As Jennifer progressed through the study, she began to experiment with the tools the application offered. For example, she used the search tool to find passages she wanted to reread, and she discovered the dictionary tool helped her to immediately understand unfamiliar words. I noticed she began to take more time reading, exploring the embedded links I provided to outside information. At the same time, her responses became more critical and analytical of the text. She demonstrated the types of thinking found at the top of Bloom’s Taxonomy (Bloom et al, 1956). Figure 32 below exhibits two responses from Subtext demonstrating Jennifer’s advanced levels of thinking.

![Response 1](image1)

This could be a victory because Minnijean finally showed the whites they can’t push her around. However, Minnijean getting suspended made the mob happy and now they all think they can get all the integrating kids kicked out of central. This will make the white kids angrier and want to get all of them kicked out so central will be an all white school again.

![Response 2](image2)

It would be a victory to make Melba’s struggle worthwhile. She would have helped more blacks be treated as equal and they won’t be hurt like she was. If Melba does this right, she could start a revolution of blacks. She could be as part of making blacks be helped, not hurt. To me, that would be a victory.

**Figure 32. Two Additional Responses of Jennifer’s in Subtext.**

In the first paragraph of Figure 32, Jennifer analyzed a character that was just suspended. Her evaluation of the incident considered both the positive (showed the whites they can’t push her around) and negative (made the mob happy) outcomes of the character’s actions. In the second excerpt, Jennifer evaluated whether the main character’s decision to attend an all white school was worth it. In her response, she
offered several justifications. Both analyzing and evaluating are found at the top of Bloom’s Taxonomy, and the use of the Subtext application pushes Jennifer to become a more critical thinker about the text as she continues to read. As she explored the tools the application offered her in the ways described here, her understanding of the text was enriched by what she learned. As a result, her ability to offer more critical interpretations of the text becomes evident in her responses to the embedded questions, like those shown in Figure 32.

Likewise, when Jennifer returned to the Draw Free app later in the study, her second image, shown in Figure 33 below, possessed more details, some inferred by Jennifer based on her interpretation of what she read. For example, Jennifer drew the scene showing the main character’s sweet sixteen party. Regretfully for this character, only her boyfriend attended the party, and even he left early. In the novel, the character described, “Even though I felt so embarrassed I could die, I kept smiling, trying to pretend to Vince that I wasn’t brokenhearted about the empty room…” (Beals, p. 205, 1995). In Jennifer’s depiction of the scene, she added tears for the narrator, despite the comfort from her boyfriend, shown by his arm draped around her. She also drew a table of party food gone to waste.
When Jennifer returned to Google Drive to write about this image, she justified her choices. She stated, “Melba [main character] is crying because none of her friends would come to her party. Vince has no expression because he was sad for Melba and wanted to confort [sic] her, but he also wanted to go to their friends Christmas party” (Google Drive, 5/29/14). This explanation demonstrated the thought Jennifer put forth when making decisions about how to best represent the characters when creating her drawing. She also wrote a creative piece to accompany the picture, a diary entry from Vince’s point of view. In it, she wrote, “Even when I was at the [Christmas] party, I couldn’t get her out of my head. I kept thinking I should have stayed, I should have been a better boyfriend” (Google Drive, 5/29/14). Here, Jennifer expanded her thinking to consider what it must have been like for Vince to see Melba so upset. She engaged in critical thinking by creating a piece told from his perspective, using Google Drive for a more challenging piece of composition than her previous quick writes.

In addition, this image also demonstrated Jennifer’s increased skill within the application. While Draw Free offered a wide variety of tools for users, its color palette is limited to certain primary colors (red, orange, yellow, green, blue, black, and white).
Students must create other colors, such as flesh tones, by first mixing available colors and creating a custom color. In Jennifer’s first drawing (Figure 31), she depicted her bible in black and white because these colors are available and easy to use. By the time she created her second drawing in Figure 33, she learned how to manipulate colors, as shown by the inclusion of brown flesh tones in her second picture. Despite Jennifer’s initial reluctance to use the iPads and applications, she was learning new tools and skills as she progressed through the study’s curriculum.

During her post-study interview, I asked Jennifer why she thought she might find it easier to give more thoughtful answers in the applications rather than during whole class discussion. She explained that, “It’s more pressure talking out loud to the class. You don’t have time to think it through in your head always, but when you’re writing it down and stuff, you can think about it and edit it later if you need to” (Interview 1, 7/7/14). For Jennifer, the security the application provided to think through a response before sharing it with others enabled her to share more freely than she would in a whole class discussion where she might feel more anxious about her answer. This is further supported by Jennifer’s participation in her Edmodo group.

In her Edmodo group, Jennifer continued to be thoughtful and critical in her examination of the text when responding to the questions posed by group members in Edmodo. For example, one of her classmates asked her Edmodo group how they would react facing the same types of attacks as the main character. One classmate in the group indicated he would do nothing because there is nothing that can be done to fix the situation. In response, Jennifer replied, “If my so called “protectors” wouldn’t do anything I would have to do something! I wouldn’t care if I was suspended, actually I
would be glad to be suspended....” (Edmodo, 5/28/14). Within the security of her discussion group, Jennifer was able to disagree with a classmate, something she did not do during a whole class discussion. Furthermore, when it was her turn to lead her discussion group in Edmodo, she posed a three-part question to her classmates and asked for an explanation of their reasoning as part of their answer. Her question, featured below in Figure 34, demonstrates her use of critical thinking through the creation of a tiered question. In our class discussions, Jennifer rarely contributed answers, much less posed multi-layered questions requiring a justification of one’s thinking to the group. The security the application provided encouraged Jennifer to take this risk and further demonstrates her increased levels of critical thinking through the various applications.

Figure 34. Jennifer’s posted Edmodo question.

When the last app, iMovie, was introduced to the class, I noted how excited Jennifer and the other students were to use this app for their multimodal memoir project. This project asked students to create a memoir of their amazing, seventh grade selves, including the people, places, objects, and experiences that have shaped who they are. They incorporated visual, audio, and written elements to tell a story about themselves.
At a length of 4:38 minutes, Jennifer’s iMovie was one of the best and most detailed in the class. In her reflection, she noted how easy the app was to use. When I asked her to expand on that in her interview, I noticed her response came easily, and as she described all the ways she manipulated the tools in the app to create her memoir, I couldn’t help but smile. At this point in the study, Jennifer had become increasingly comfortable with using the technological tools and devices in class. She was more confident to try a new app and wasn’t as worried about what might happen if she couldn’t figure something out. However, what is important to point out is that it was this confidence in using and manipulating the apps that allowed Jennifer to more fully express and develop her interpretations of the text and her responses to her classmates. Every piece of the project she created demonstrated her increased thinking skills. The transitions were thoughtful and flow easily; the writing was beautiful (Figures 35 & 36), and the song she chose, “A Thousand Years” by Christina Perry, aptly described who she was: “an old soul” (iMovie Reflection, 6/11/14).

Figure 35. Slide from Jennifer’s iMovie about Cocoa Beach.
Start to finish, Jennifer’s progression in the study enacted through the curriculum, which was designed to layer applications to build critical thinking skills, demonstrated success. Although she was reluctant to use technological tools in class initially, her work showcased her ability to use these tools to display increased levels of critical thinking over the six week unit. In addition, her confidence within each application was built over time as she became more comfortable using new tools and trying new techniques. I believe some of this attitude change can be attributed to the receipt of an iPhone on her birthday, which Jennifer celebrated about halfway through the study. I noticed how this gift changed some of her technology habits and impacted how she used some of the applications. As she learned how to use her new device, she became more confident in navigation and trying to figure things out. In class, I noticed she began to access Google Drive on her phone, preferring the smaller screen and ability to type like she’s texting.

In her post-study interview, I asked Jennifer about the changes the iPhone brought to her life. She acknowledged how much more comfortable she began to feel once she used the applications on a daily basis and began to gain confidence in

Figure 36. Slide 2 from Jennifer’s iMovie about her houses.
experimenting with them. Previously, her use of applications was limited to the social media app Instagram on her iPod touch. She described setting her profile up as private so only friends could view her photos, and she expressed how important it was to her that her private life was not on display. While she enjoyed her iPhone and learning how to use the apps on it, she acknowledged how the gift changed the way she communicated with friends and impacted her relationships with them. She stated, “Yeah, like instead of calling each other….like Cathy? She and I live like literally across the street from each other. She's across the street and two houses down. But we barely see each other because we usually just text each other” (Interview 1, 7/7/14). This bothered Jennifer, and she feared she and her peers will lose the art of conversation. She noted, “I like seeing people and their reactions to stuff I say” (Interview 1, 7/7/14). Jennifer mentioned this and several other concerns about technology during her post-study interview.

Jennifer’s primary concern about all of the technology applications introduced during class was expressed in her interview as a fear of forgetting what life was like before technology. She mentioned it at three, separate points when discussing Subtext, Draw Free, and Edmodo. This fear relates specifically to each app’s purpose, and the act she feels it is replacing. For example, Subtext is an e-reader, and such tools may eventually take the place of books. Draw Free, or other art apps like it, may take the place of creating something with papers, pencil, even canvas and brushes. Jennifer described this fear as “technology slowly creeping up way to the top” (Interview 1, 7/7/14). When discussing Subtext, she remarked, “In a couple of generations, people won’t even remember what books are. They won’t get to actually turn a page, they’ll just
swipe. So if they actually saw a book, they wouldn't know what to do….I don't want to forget about books” (Interview 1, 7/7/14). Her fears extended to the other apps, and she felt they may replace an experience we may already take for granted; in Draw Free, the creation of art with real materials, and in Edmodo, the art of talking with a person, face to face. Jennifer's concern was not shared by many in her class; however, it showed the depth of her thinking about how technology has influenced and will continue to influence her education and generation.

In Chapter 2, I introduced a policy brief from National Council for Teachers of English (NCTE) that addressed the need for students to possess a wide range of technological skills and abilities as twenty-first century learners. Among these, is the ability to use devices, such as Jennifer's smart phone, to collaborate and communicate. However, as Jennifer expressed, there is some reluctance to using devices for these purposes. Later in this chapter, the third case study student, Danielle, expressed a similar reluctance. To some extent, this hesitance could be significant in relation to the research presented in Chapter 2, which heralds the necessity of incorporating technological tools into today's classrooms. However, the findings of this study demonstrate it is a concern too weighty to be ignored and this hesitance could be responsible for why students were not making the connection between their in-school and out-of-school literacies more succinctly.

Despite these concerns, Jennifer also noted many more advantages than disadvantages about each application during her interview. She liked using Subtext to read and having the questions embedded in the text for her to answer. She felt this made her stop to process what she was reading and think more critically about the text.
She also enjoyed how Subtext helped her define words with which she was unfamiliar. Jennifer was excited about the drawing app and the possibility of creating art with the swipe of her finger. She benefitted from the discussions about the text on Edmodo, and she thought allowing users to see when each post is made and how much time elapses before responses are recorded was an important feature in an app used for school so that students know they are turning an assignment in on time. She especially appreciated the app iMovie, noting, “You could do anything you wanted with it” (Interview 1, 7/7/14). Jennifer spent a lot of time both in and out of class on her iMovie, and as a result, her finished piece was one of the longer projects, almost four minutes, compared to an average of two minutes for her classmates. When I asked her about this, she noted simply, “I found too much stuff!” (Interview 1, 7/7/14). As we finished talking, I asked Jennifer if she can see herself using more technological tools as she continues her education, and her answer was a resounding yes.

Danielle: “I can't spell a darn thing.”

Part way through the school year, I learned that Danielle was adopted as a little girl from China. She does not remember her birth family, but she had the opportunity to visit her home country twice since she came to live here in the States. She was thirteen, tall and slim, with dark hair and beautiful almond shaped eyes. Danielle played soccer and participated in the school orchestra. She utilized technology often outside of school mainly through her iPod Touch, which possessed all the same capabilities of a smartphone without the expense of a phone plan. It can download apps, allows messaging with others, and connects to Wi-Fi. I rarely saw Danielle without it. In addition, Danielle had a MacBook she used at home for most of her school work. In her
interview, I learned Danielle preferred using her MacBook to access traditional programs, like the Microsoft Office Suite, rather than web based word processors like the one in Google Drive. This point is discussed further below.

As I began to read through her reflections on the applications (Draw Free, Edmodo, and Subtext), Danielle’s journey intrigued me because I thought she was fairly comfortable with technology and would adapt to using it in class easily and readily. When asked to reflect on her experience with Google Drive, she wrote that, “It was a little difficult to use” (Reflection, 5/29/14). This surprised me because, in class, I never noticed Danielle’s struggle to use Google Drive. Her assignments were always on time and complete in the application. When I selected her for a post-study interview, one of the first questions I asked her was about her experience with Google Drive, and she admitted that even when she began assignments in Google Drive at school, she copied and pasted them into Microsoft Word on her MacBook when she completed them at home. Pressed further, she noted Microsoft Word’s program helps her more with correcting her mechanics while she writes than Google Drive does. This is, in fact, true; the only way for Google Drive to catch misspelled words requires the user to turn off their spell checker all together through their device’s settings, not a favorable idea for most people and one of the app’s main weaknesses noted in its many online reviews.

I did not realize how much this particular feature impacted Danielle’s experience. Like many honors students, she pressures herself to earn high grades. A self-described horrible speller, Danielle struggled to maintain high grades on her writing assignments for our class. Using this tactic of translating work from Google Drive to a Microsoft Word document and back again had been her go-to technique for most of the year. When we
began utilizing different applications in class during the study, Danielle panicked. According to the study’s design, many of the applications would be available only in class, and she would not have the luxury of fixing up her work at home before submitting it. In fact, Danielle requested extra time to submit any assignment in Google Drive so that she could revert back to her go-to technique. However, posts in Subtext and Edmodo were completed during class, and I learned they caused her undue stress.

Of the three students interviewed, Danielle was the most conscious of her weakness in writing conventions. She felt the app’s limited capabilities to proofread were a major deterrent and limited the program’s effectiveness. She preferred the freedom to use the approach described above to maximize her ability to catch mistakes and avoid losing points on her grades for written assignments. I also knew from my conversations with her that Danielle felt pressured to perform in front of her classmates. She agreed that when conventions were not part of the grading focus in an assignment, on a quick write for example, or when she had to submit writing in class; she felt the most comfortable utilizing the applications.

In fact, analysis of the data from Danielle’s entries in Subtext and Edmodo indicates Danielle’s ability to think critically and creatively was enhanced when she was unfettered by the constraints of proper conventions. Her writing improved when she was undistracted by the notorious green and red squiggles Microsoft Word uses to identify errors. When encouraged, and sometimes required, to submit unedited written responses and reflections in class, her ability to display increased levels of critical thinking improved.
With the pressure of proper conventions off, Danielle’s ability to critically interpret and examine the events of the text soared. Figure 37 displays a quick write of Danielle’s from a short story unit prior to the unit for this study. In the prior unit, students read the short story “Antaeus” by Borden Deal. In it, Danielle was asked to identify how the main character, TJ, is similar to the giant, Antaeus, whose strength came from his connection to the Earth.

T.J. is like this because he was arguing with the men. He told them that he would not let them touch his land! He wanted to keep it; he quoted “they have no right to touch or move my land!” The men were arguing with T.J., so he didn’t know what was right. The other kids knew that they had no right to fight with the men, and backed out in protecting it. T.J. said that the men had no right to touch their land, so they were going to shovel it off themselves, so that is what they did.

**Figure 37.** Danielle’s Quick Write from the short story unit.

In this response, Danielle summarized the story well but neglected to make a clear connection to Antaeus. This quick write from early in the year is an example of her work during a time when Danielle followed her technique of using Microsoft Word to check her conventions. In this example, she is still focused on standard mechanics and this seemed to take precedence over consideration of the content, sometimes in a detrimental way. Rather than focusing on what she was trying to say, she worried about proper form.

However, once we agreed conventions did not need to be their primary focus in their responses in the study, Danielle’s work began to express more complex and critical thinking. In her responses in both Subtext and Edmodo, Danielle began to simply...
respond, without worrying about the rules of conventions, often neglecting to capitalize proper nouns, punctuate, or even fix words auto-correct incorrectly changed. Figures 38 and 39 below show two of Danielle’s Subtext responses.

Figure 38. One of Danielle’s Subtext responses using improper conventions.

Figure 39. A second of Danielle’s Subtext responses.

Both responses contain multiple errors in spelling, grammar, and punctuation, but these errors do not detract from the content of Danielle’s responses. In both, she
critically interpreted the text and offered evidence to support her ideas. In Figure 38, she interpreted Melba’s behavior outside of school (“normal girl with a bunch of friends goofing around”), but noted it is more important to remain focused on the integration battle (“decide weather [sic] to be free or live under white peoples [sic] control”). In Figure 39, Danielle evaluated Melba’s first day at the integrated school, incorporating both positive (“the teacher she has is concerned for her”) and negative experiences (“she was steppe rated [sic] from the group and she scrapped [sic] her knee”). Despite the lack of conventions, Danielle’s thoughts displayed critical thinking about the text, analyzing the main character’s actions and behavior on multiple levels. When Danielle was freed from the need to correct her writing, the content took precedence over the form, which I believe allowed her to better demonstrate her critical thinking abilities.

In Edmodo, Danielle’s responses continued to be thoughtful and critical of the text but contain multiple grammatical errors. In Figure 40, she made a strong inference about why the main character would want to attend an all-white high school in a time of such racial uproar but showed limited use of conventions.
pulling the 101st out has effected melba and the eight other kids in a dramatic way. the soldiers were always there to pick one of the student up after theu "hit a bipump in the road", but now they have to lewrm how to stay up on their own. they are becoming tougher ans tougher the more days they spend in the highschool. because the soldiers are gone, the want against violence to the children is increasing, and it is wearing the families and children down. this is how taking out the 101 st out is effecting the nine black children.

Figure 40. Danielle’s Edmodo Discussion Thread.

The group member who followed Danielle, as noted by the lion visual icon, does not acknowledge her error, and carried on with the discussion. The lack of formalization in her response does not affect Danielle’s ability to respond critically about the text, nor does it inhibit her classmates’ from responding after her. This freedom to let go of proper conventions is the main reason Danielle embraced the applications during the course of the study; however, it did not encourage her to like them.

As we chatted during our interview, it became clear to me Danielle’s personal use of apps influenced her use of apps in class greatly. This was different than the way I observed Nick and Jennifer approach the apps. For example, Danielle did not like reading on an iPad or tablet because the larger screen hurt her eyes and caused headaches. Throughout the course of the study, she struggled to read in class on her iPad, often using a lot of class time for this purpose. However, she enjoyed reading on
the small screen of her iPod Touch. Unfortunately, only our related readings could be loaded into Subtext and accessed on her personal device. Subtext protected the copyright of novels, and in order for any student to have that on their personal device, they had to purchase it themselves, something I did not encourage for cost reasons. Instead, I offered hard copies of the books as backup, which Danielle took advantage of later in the study.

Furthermore, she disliked the Subtext app because she felt it was “an unattractive app” (Interview 1, 7/7/14) When pressed, she noted it was difficult to figure out many of the tools, such as the search tool for defining unknown words or the note-taking tool. I noted that we covered how to use every tool in the introduction to the app, and Danielle reminded me she was absent that day. I wondered why she didn’t ask for help, and she stated, “It was no big deal; I just didn’t use them” (Interview 1, 7/7/14). I pressed on, noting if she had made me aware, we could have solved the problem. Danielle compared Subtext to iBooks, which she used readily and easily. She believed this e-reader app is intuitive and easy to figure out, a characteristic she felt most apps possessed. She noted if I had chosen iBooks for the study, it would have been better for many students because of their previous exposure to it through their personal devices. While I did not disagree with Danielle’s sentiment, iBooks does not offer the discussion features found in Subtext, one of the main reasons I chose the app. All of Danielle’s comments reinforce why personal preferences are so important when integrating technological tools. I chose the applications for this study with particular features in mind, yet not all of these features were appealing to my students, as noted here by Danielle. Earlier in this chapter, I described how Kate disliked the drawing app, Draw
Free, and advocated for using a different one. This flexibility was important to her experience. Danielle’s comments demonstrate it could have been equally important to allow students flexibility in selecting an e-reader as well.

As we continued talking, Danielle explained why she does not find using Edmodo for class discussions purposeful as well. She described it as a mini-Facebook. When I asked if that was an appealing trait, her expression registered her distaste. Danielle felt the setup of Edmodo discussions, where each group member takes turns posting, required more attention than a traditional assignment because she had to keep checking back to see if anyone else posted anything before she can complete her part of the assignment. She admitted she does not like the responsibility of continuously checking an app for ongoing work and feels, again, apps should be making students’ lives easier, not creating what feels like more work. In addition, she noted she is uncomfortable posting to a place where everyone in her class can see her work. She described this experience as “scary” and too “real world,” and her classmates as “judgy” (Interview 1, 7/7/14). She further explained this as one of the reasons her poor convention skills worried her so much; she did not want others to see this weakness and wonder why she was in an honors class.

Danielle’s experience demonstrates how the public nature of some of the applications utilized in the study impacted students who feared being compared to their peers. Although my intention for choosing Edmodo was to foster discussion, for Danielle and several other students, group discussion through Edmodo made them feel that their answers were being compared to others. I think this an interesting finding because I noticed few of the groups in Edmodo engaged in what I would describe as a back and
forth discussion, a true discussion thread. Most of the time, students took their turns posting and responding without engaging with each other through the application. When I asked Danielle about this in a second interview, she compared it to texting, noting, “Well, yeah, I mean you don’t text people you don’t know as well unless you want to get to know them better. I feel the only reason we answered…is that if we didn’t we would get a poor grade” (Interview 2, 8/12/2014). I asked if this simple alteration to the way groups were created in this app going forward might make it more appealing to students and encourage more discussion, and she agreed readily.

Danielle’s experience in the study was distinct from the other students chosen for case studies. Unlike Jennifer, Danielle did not experience any comfort or confidence in writing in the applications as a way to find her voice. Instead, she found the public nature of the discussion threads a highly pressurized situation, and only when she realized it would not impact her grade, was she able to let her guard down a bit and focus on the content of her responses over the form. Danielle also lacked the confidence to approach the responses with humor and sarcasm, or create a different persona for herself through her responses, like Nick did. Doing so may have helped de-emphasize her lack of proper conventions, but this was not a tactic Danielle found comfortable. While Danielle’s experience may not have been one of the majority, it is an important experience to think about because many students slide easily between formal and informal speech in their writing, and in classrooms today, we must continue pursue conversations that enable us to understand why and when this is acceptable and appropriate.

Summary
This chapter details the findings and experiences of students with the technology utilized throughout the study. The analyzed data revealed three important themes, and each was detailed through the student samples selected. Furthermore, the three case study students, Nick, Jennifer, and Danielle, further support ideas in the research questions. Nick’s use of voice throughout his responses demonstrates the importance of allowing students to express themselves in their school work as they would naturally. Jennifer’s experience shows us that although she may not have been an avid participant during whole class discussions, she is still thinking critically and thoughtfully about each text we read. Students like her, who prefer not to outwardly engage, can find a voice and the security to express their thinking through the application. Danielle’s experience, similar to Nick’s, demonstrates the importance of valuing a student’s thoughts over their grammar in their responses. While Danielle may not have edited her mechanics, her responses demonstrate critical thinking about our texts. All of these experiences highlight the importance of flexibility when using technological applications in the curriculum. The changing nature of literacy demands a perspective striving to incorporate meaningful technological tools in today’s classrooms. As Cope and Kalantzis (2000) note, the incorporation of technological tools encourages transformation, or the application of new meanings, within and across modes, a skill vital in today’s global world.
CHAPTER 5 – DISCUSSION AND IMPLICATIONS

Introduction

One purpose of this study was to examine in what ways the purposeful layering and scaffolding of technological tools in the English language arts curriculum of a seventh grade honors classroom, including multimodal projects, might engage students more deeply in the study of literature while concurrently helping them reach increased levels of abstraction and interpretation. A second purpose was to examine how strategies that incorporate technological and multimodal literacies might develop social awareness through dialogic discourse, helping students link their home and school literacies. The primary research methodologies used in this study were a qualitative research design incorporating participant-observation with me as the teacher-researcher and case study methodology. Artifacts included students' quick writes, assignments, entries in the applications, and reflections as well as transcriptions of class discussions, researcher field notes, and transcriptions of student interviews. Discourse analysis (Gee, 1999) was used to sort, code, and analyze the data. Overall, the data analysis and findings support current theories of multiliteracies (New London Group, 2000; Lankshear and Knobel, 2006; Greenhow and Robelia, 2009), which indicate that allowing students opportunities to express themselves by scaffolding their engagement with technology does indeed build students' capacities for critical and creative thinking. However, the findings of this study also revealed a disconnection between how students used and perceived applications in-school and out-of-school. Chapter 4 included a narrative analysis of the major findings from the data and also presented the experiences of three case study students. The analysis of these case
studies provided a detailed contextual analysis of the themes that addressed the research questions:

1. In what ways can a new literacies curriculum, which purposefully layers and scaffolds technology throughout a literature unit in a seventh grade honors English classroom, enable students to critically interpret texts and demonstrate complexity of levels of abstract thinking?

2. In what ways does this layered curriculum support students in connecting the use of these literacy practices to their lives both in and out of school as participants in the larger, global community?

Student data were analyzed and presented in a narrative form in order to show connections between themes. The data presented was intended to demonstrate how students used the technological tools, scaffolded and layered into the curriculum, to interact with each text and build critical and creative thinking. This chapter presents a summary of the study, beginning with a discussion of the major findings and themes that address the research questions and builds upon the literature reviewed in Chapter 2. The work of the case study students introduced in Chapter 3 is referenced to further develop the themes discussed. Following this discussion, the implications and limitations of the study are addressed, and the chapter closes with recommendations for future research.

Discussion

**Question 1:** In what ways can a new literacies curriculum, which purposefully layers and scaffolds technology throughout a literature unit in a seventh grade honors English classroom, enable students to critically interpret texts and demonstrate complexity of levels of abstract thinking?

The findings presented in this study are indicative of the need for today's English classrooms to continue to incorporate students' knowledge and skills in twenty-first century literacies in order for the classroom to remain relevant and challenging. We
must address how and why using technological tools in a critical manner is crucial to students’ success in today’s global society. As student data were analyzed, several themes emerged in relation to each research question. For Question 1, many of the ways in which a new literacy curriculum enables critical interpretation of texts is directly connected to the flexibility of working within technological tools. The freedom and flexibility to approach the work in various ways, to work at various times, and to adjust the environment to individual preferences strengthened each student’s experience and ability to think more critically. Some students, like Jennifer, needed to develop a sense of ease and familiarity with the tools before they can engage with them in meaningful ways.

In his own research, Vygotsky (1978) discussed the zone of proximal development, which involved the scaffolding of a student’s learning and understanding in a way that allows the individual to progress at his own pace with the support and guidance of a knowledgeable other. He believed schools should allow students to direct the course of their learning. Vygotsky also believed students’ experiences with school are impacted by personal experiences out of school as well as the forms of discourse they encountered throughout school. Similarly, The New London Group (2000) also discussed the importance of allowing students to construct their own time frame for learning through the concept of design. When designing, students can change time frames, revisit ideas, make the educational experience more personal to them, and move fluidly and flexibly throughout the curricular objectives. These approaches allow for the individual to take responsibility for their own learning process, which has a positive effect on the enhanced level of thinking that occurs. Analysis of the data for this
study established how students’ individual designs and personal preferences led to more and deeper critical and creative thinking through the use of technological tools. As discussed in Chapter 4, Jennifer and Danielle preferred to mull over ideas before posting their own responses. Each liked the flexibility of seeing others’ responses in the applications before presenting their own. Nick, on the other hand, loved the immediacy of the discussion tools; he liked to preserve class time for objectives other than whole group discussion. It’s important to point out that students liked particular designs and approaches because these designs allowed for the fuller expression of their ideas and points of view. Furthermore, the design of the new literacies curriculum presented in Chapter 3 demonstrates how each of the applications is layered to specifically build critical thinking skills as the study progresses. The students’ data chronicled here are evidence of the success of this approach.

*The Role of Personal Preferences on Student’s Expressions of Meaning.*

To begin, students’ designs varied in their approach to tools enabled by the applications. Students relied on personal preferences, guided by the teacher (the knowledgeable other), when deciding whether or not to engage in the tools available in applications such as Subtext or Edmodo. For example, students could respond during or outside of class because no time parameters were set. The freedom to edit and respond to texts and discussion questions according to their individual preferences enabled students to implement individual strengths and learning styles and cater the use of the applications to their preferences and skills as learners. In addition, allowing choices about how students used the technological tools presented in the curriculum encouraged students to select tools best suited to their learning styles. An analysis of
the data demonstrated giving this freedom built an increased sense of agency amongst students and assisted in the development of their thinking and understanding about the texts as well as others’ points of view.

For example, Nick liked to finish his work in class, and he used every available moment to do so while Jennifer and Danielle enjoyed the opportunity to work outside of class for different reasons. Jennifer wanted to ponder her responses before posting as well as edit them after she posted. Danielle often used class time for reading, citing this task as the one she struggled with the most. She was grateful not to have to rush through her reading, but this meant she completed many of her responses outside of class. Each of these students also engaged with the apps in specific and unique ways. For example, as the study progressed, Nick’s written responses developed more voice as he became more comfortable expressing himself in the discussions threads of Edmodo and Subtext. Similarly, Jennifer found a voice through the same discussion apps. A quiet student, Jennifer shied away from participation in class discussion, but in the applications, she began to express her thinking about the texts and others’ posts more critically as time progressed.

This flexibility is an important feature of technological tools. The physical classroom is no longer bound by four walls and a door; work does not have to be completed prior to the bell. Allowing students the freedom to approach their work in different ways according to their personal preferences kept them engaged in the technological tools being used. More importantly, given this freedom to approach how to use the technological tools, Nick, Jennifer, and Danielle’s responses grew stronger and more critical as the study continued, as outlined in their case studies in Chapter 4.
Multiple Pathways for Expressing Voice.

The second way students’ designs varied was in their approach to writing throughout the unit. Nick maintained a natural, somewhat humorous and informal voice throughout his writing in Subtext, Edmodo, and Google Drive. For example, in Subtext, he commented, “She learned about segregation when that big fuss was made when she peed in the white’s bathroom” (Subtext, 5/8/14). Nick’s use of words like “big fuss” and “peed” demonstrate the laid back nature of his natural voice, which is full of humor and somewhat sarcastic. As he continued writing throughout the study, this approach supported Nick’s ability to think critically about the story. In Chapter 4, I described Nick’s use of an informal and sarcastic voice throughout his responses in the applications and how, unrestricted, his writing demonstrates more critical and creative thinking as the study progressed. Further in the study, he noted, “Melba’s first day was surprising because of how everyone was treating her. She was called nasty names, kicked, tripped, chased in from the gym field…I knew it would be bad, but that was ridiculous” (Subtext, 5/15/14). Supporting Nick’s choice to write in his natural voice gave him the freedom to be critical of the text.

Likewise, Jennifer also established an approach for engaging with the apps in her writing that proved useful to her understanding. As noted in Chapter 4, Jennifer found it easier to express herself through the applications, rather than as a participant in class discussion. She liked having the time to mull over her responses and the opportunity to edit them. As shown in Figure 41, Jennifer’s initial responses were short and succinct. She answered each question and moved on. However, as the study
continued, as shown in Figures 42 & 43, her voice gained strength while she became more critical of the text.

"My eight friends and I paid for the integration of Central High with our innocence.
-From 1

Geneva Scully modified on May 2  
What do you think the author means by this statement?

responded on May 5  
I think they mean that they went to school for free and were innocent kids

Figure 41. An early response from Jennifer.

responded on May 15  
Melba's friend are trying to ignore her because they think she could bring them trouble. Melba is not allowed to go to the wrestling matches anymore because someone there could recognize her.

Figure 42. One example of a later response from Jennifer.

responded on May 23  
My first impression of Danny was that he took his work very seriously and didn't care who it was he had to protect, he would protect them no matter what. I also thought Danny was very nice and kind to Melba because he wanted her to feel as safe and at home as possible. When Danny and Melba played the game that Melba had to break the world record for the fastest changing time, I realized that Danny was probably one of the best soldiers that Melba could have and he was sort of like a father figure to her because Melba's father moved out.

Figure 43. A second example of a later response from Jennifer.
As discussed in Chapter 4, Jennifer’s confidence in her ability to engage with the text grew as the study progressed as a result of the freedom she was given in her approach to using the apps as scaffolding tools. This was visible in her responses in Subtext and Edmodo (see above responses). She could respond on her own terms, without the inherent fear of being put on the spot in class discussion. Figures 41, 42 & 43 above demonstrate how this helped build her critical thinking abilities about the text over the course of the study.

Last, the analysis of Danielle’s writing also demonstrated the significance of allowing students to navigate their own way into the relevance of the apps. As noted in Chapter 4, Danielle was able to achieve increased levels of critical thinking in the applications once we agreed incorrect grammar or language mechanics would not be factored into her grade. Many of her responses were riddled with incorrect spellings, improperly auto-corrected words, and even some text-talk. Danielle believed these types of errors were “normal” when using apps but feared the negative impact it might have on her grade. Once this concern was addressed, her responses began to demonstrate her ability to think critically about the text. In Figure 44, Danielle critically analyzes the pro and cons of a decision made by the main character to write for her local newspaper. Despite numerous convention errors, Danielle’s response made several strong points for and against the author’s decision.
Figure 44. Danielle’s Subtext response.

In Edmodo, Danielle responded in a similar way in her group's discussion threads. In Figure 45, she wrote several solid reasons why the soldiers were pulled from the school where the main character attends classes.

Figure 45. Sample of Danielle's Edmodo responses.

In her answer, Danielle made several strong inferences (e.g. “to see how well the black children can respond” and “could have been a money issue”), and she incorporated a quote from the text (hit a bump in the road) as part of her analysis of how this change would affect the characters involved. Both of these skills, inference and drawing evidence from an author's work to support an opinion, are higher level thinking
skills. The freedom to write without worrying about how the mistakes in her responses would impact her grade increased Danielle’s confidence and ability to build critical thinking skills throughout the study.

**Question 2: In what ways does this layered curriculum support students in connecting the use of these literacy practices to their lives both in and out of school as participants in the larger, global community?**

The New London Group (2000) asserts classroom pedagogy must begin to reflect new literacy practices, including those students engage with outside of school. New literacies incorporate diverse types of textual forms, which are changing the nature of literacy for our students outside the classroom. Ignoring such practices in the classroom disadvantages students; we must teach them how and why to be critical of new literacy practices. These practices are inherently multimodal and social, and they are changing the way students interact with and construct literacy practices. As The New London Group (2000) suggests, students are already aware of and engaged in new literacy practices upon entering our classrooms, yet their school experiences do not honor these practices. Furthermore, more traditional classroom pedagogy usually does not capitalize on the opportunity to help students learn how to participate in new literacy practices in a meaningful way; often only using digital tools as “fun activities” rather than as tools for critical or creative thinking. Instead, we must help students understand both why this is a necessary literacy practice in today's global world as well as how to engage in new literacies in a critical and purposeful manner.

Jenkins (2006) describes this shift in literacy practices as moving us toward a more participatory culture where the members value the act of creating and support one another’s creations. For example, students who participate in social media regularly
outside of school often create status updates on sites such as Facebook or Twitter, photography on Instagram, or videos on Snapchat. He notes several benefits of a participatory culture, including peer to peer learning and the development of skills valued in modern work places, such as collaboration, problem solving, and networking. Jenkins (2006) believes schools must begin to address these skills in order to better prepare students as citizens of today’s global society. He asserts one way of doing so is by immersing students in technological tools similar to those of social media tools with which they are already familiar. Jenkins (2006) believes when students connect skills valued in their social media practices outside of school with their literacy practices in school, they will begin to understand how to participate in today’s world more effectively.

As Question 2 indicates, the layered curriculum designed for this study sought to teach students how to employ the use of technological tools to convey their understanding of the world around them and how to help them connect their literacy practices in and out of school, thus positively impacting their participation in the applications chosen for the study while encouraging critical and creative thinking. However, the analysis of student data shows that while the use of applications supported students’ ability to think critically and creatively (as described in the narrative analysis of Chapter 4), students did not make the connection between in and out of school literacies.

One way this disconnection can be explained is through the analysis of students’ reflections. These reflections indicate that students’ current classroom experiences (outside of the English classroom that was a part of this study) do not engage technological tools in a consistent manner. More often, students give examples of a
specific assignment or project utilizing a technological tool. For example, one notes, “Mrs. K has us use Edmodo for our journal entries. But we don’t use it for anything else, and we can’t comment on each other’s stuff” (Reflection, 6/8/14). Another student notes, “Mrs. J has us use this one website to watch current event videos, and then we have to answer questions on it. We talk about it in class, but we don’t access it in class. We have to do that on our own” (Reflection, 6/9/14). Other student reflections indicate similar experiences.

One intention of this study was that by fully immersing students in a curriculum that scaffolded applications and made them relevant in every day of class, students would begin to make connections between their in-school and out-of-school literacy practices, and through this process, students would strengthen their critical and creative thinking abilities across both (in and out of school). While the study demonstrates how students improved their critical and creative thinking abilities within the applications used in class over time (as chronicled in the narrative analysis in Chapter 4), the findings do not show a significant impact on students’ critical and creative abilities across in-school and out-of-school literacies. Students continue to use their out-of-school literacies in the same way they had before the study. Based on analysis of students’ reflections, one reason this may be true is the lack of consistent, engaging use of digital tools in students’ everyday classroom experiences. Currently, these experiences are either limited to very controlled engagement in an application or assigned as outside material, such as those mentioned in the examples above. This limits students’ ability to consistently engage in the new literacy practices that would impact their critical and creative thinking abilities most. Until digital tools become part of
the curriculum as necessary, skill building elements, students will continue to have this disconnect.

Utilizing technological tools in classrooms as described above allows teachers to ‘check’ technology off their list of incorporated strategies, but it does not provide purposeful skill building or the expansion of critical or creative thinking. Teachers often confuse building technological tools into their classroom curricula with this type of limited exposure, and that must change. Professional development and teacher preparation courses must address how to incorporate technological tools in more meaningful ways, engaging students in critical and creative thinking beyond the walls of their classroom. Rather than as a one-time activity, technological tools should be chosen and utilized to access skills across curriculum every day.

A second constraint in students’ ability to connect in-school and out-of-school literacies presents itself through the students’ discourse. Question 2 proposes the layered curriculum pursued through the applications might enable students to connect in-school and out-of-school literacies as members of a larger, global community. Both the Subtext and Edmodo applications are designed with discussion features (described in Chapter 4). As discussed in the themes relevant to Question 1, engaging in these tasks encouraged students to think more critically about the text. However, as shown through the examples presented in the narrative analysis of Chapter 4, with few exceptions, students limited their discourse in these applications strictly to answering posed questions without broadening their engagement with others. Generally, the discourse within the application ended after students finished their response to each question. Students’ responses rarely acknowledged ideas similar to those of others, nor
did they connect to each other in any way. Students did not engage in asking each other follow up questions or make comments on each other’s thoughts within the applications.

In contrast, students did partake in discourse with each other during live class discussions. Often, I would use students’ responses within the applications as springboards for class discussions. In this manner of discourse, students engaged with each other by asking follow up questions, responding to each other’s ideas, and offering comments. Below is an excerpt from one such discussion:

**Me:** Ok….you had a lot of great comments about Melba's first day of school. Who wants to start? Amy?

**Amy:** She didn't really even get to go in the school because the people were blocking her way.

**Me:** People?

**Amy:** There's the army, the white people, and lots of people who don't want them in the school.

**SS 1:** Yeah, the mob.

**SS 2:** There's the one Elizabeth girl, who's walking on the steps, and she can't get through and everyone's yelling, and the mom tries to get them out but they yell get them...

**Me:** What does that make you think of?

**SS 3:** A riot, a mob mentality.

**SS 4:** You'd be stupid not to know that. You don't care about anything else but what you want, you have one purpose, you focus on that.

**Me:** What do you mean not to know that?

**SS 4:** Not to realize it's a mob and they don't care about you.

**SS 5:** Except that you're right.
SS 4: Yeah, but they don’t care about that.

SS 6: And, even if you're doing the right thing, you might make someone mad.

Me: Someone?

SS 6: Someone willing to stand in your way.

SS 7: I can’t believe some of them are our age.

SS 6: Yeah, that’s crazy.

SS 2: Can I ask something? Weren't they all supposed to meet at like 8 o'clock like 4 blocks away?

Amy: Yeah, but the governor’s announcement changed the plans the night before, remember?

SS 2: Oh yeah. I forgot.

In this excerpt, students discuss one of the questions from the application in a live class discussion (The question was “Evaluate Melba’s actual first day. What went well? What was surprising?”). As they do so, they play off each other’s comments and respond to each other’s ideas with little interference from me. In this example, students are willing to engage in critical discourse with each other, yet they were reluctant to do so within the discussion applications chosen for this study. While Chapter 4 describes and analyzes significant examples of students’ critical and creative thinking on throughout the study through the use of each application, students did not extend this thinking beyond their responses to create a wider community within the applications. Students willingly engaged in discourse in their out of school use of technological tools, through texting and discussion board applications, such as Instagram or Snapchat. Yet, in school, students do not engage in this practice.
One reason for this may be that students who do not regularly experience the use of discussion tools in their school experience may not know how to make this connection. In addition, if the technological tool is only used for one activity or project, rather than as a consistent addition to the learning environment, students may not find value in engaging in all of its capabilities, unless it’s part of their assessment. In a follow up interview, Danielle noted most students only sign up for and utilize new apps for school when required by a teacher for a class assignment. While she agreed that the design, layout, and tools might be more appealing to students because of its similarities to their social media applications, she did not think these similarities impact how her classmates participate. Furthermore, Danielle reminded me that I chose students’ Edmodo groups, which she believed impacted how much people are willing to engage. She stated, “Well, ya, I mean, you don’t text people you don’t know as well unless you want to get to know them better. I feel the only reason we answered thoughtfully is that if we didn’t, we would get a poor grade” (Interview 2, 8/12/14). As noted earlier, this disconnection between in-school and out-of-school literacies may, in part, be explained by the lack of consistency integrating technological tools in meaningful ways across the curriculum. However, it could also be explained by a lack of knowledge; that is, teachers may not have the necessary knowledge of how to implement technological tools in more meaningful ways or have a deep understanding of the purposes for doing so. Teachers may recognize how a tool like Edmodo is similar to Facebook and may utilize it in their classroom in an attempt to incorporate students’ out-of-school literacies as a means to engage them in the class work, but they may not have a deeper understanding of how or why students use such tools out of school. Teachers must try to mirror these
purposes in how they ask students to engage with technological tools in school in order to build critical and creative thinking skills. Even in this study, where technology was consistently and meaningfully integrated into the curriculum, there was a disconnect between in-school and out-of-school literacies. In reflecting on the analysis of the data presented as well as the curriculum for the unit, I believe that a more fully formed understanding of the knowledge and purposes for which students use technology outside of school may have allowed for a more purposeful connection.

In addition, other students note in their reflections that it is sometimes frustrating to “rehash” what had already been discussed in the applications. One student writes, “We answer the discussion post, then we talk about it in class. Why do we have to do both? Shouldn’t we do the discussion part one way and move on to something else?” This is a valid point; if our purpose in using discussion apps is to enable student discourse, then class time might be better spent furthering the exchange to accomplish a new objective. These findings indicate that students need more opportunities to engage in discourse using technological tools within their school experiences. Without such opportunities, students will not experience the value of learning how to engage collaboratively with others within a network, a skill crucial in today’s global world.

**Implications Introduction**

The findings of this study generated the three implications that will be presented in this section. Each implication draws on one of the themes that emerged from the findings in Chapter 4 and is supported by the literature presented in Chapter 2. The discussion of the findings presented earlier in this chapter demonstrated the importance of encouraging students to approach texts using many technological tools. Students’
success lies in their ability to adapt to new forms of literacy continuously changed by these new technologies (Luke 2000; Damico, 2006; Miler, 2007; Whitin, 2009). The curriculum presented in the study purposefully scaffolded both the technological tools and the ways in which students were asked to engage with the tools, each becoming more complex as the unit progressed in order to encourage increased levels of critical and creative thinking. Such tools are necessary in preparing students for engaging critically in today’s global world. However, as the findings from this study make clear, the tools alone are not sufficient. Nor, on its own, is the careful scaffolding of students’ engagement with the tools. The implications presented here revolve around three key ideas: student agency, the importance of voice, and re-visioning how school should be.

**Student Agency.**

As noted in Chapter 2, reading and writing, as well as other forms of expression, are semiotic processes. The New London Group (2000) described the role of semiotics in this process as the concept of design, which includes both the creation and analysis of text. In design, individuals build relationships between their understandings and new experiences with text conjointly with their cultural experiences in mind. The notion of design suggests students would benefit from learning through other means, such as new literacies, because meaning-making is defined as a unique process ungoverned by rules (The New London Group, 2000). Students must be able to alter the course of their learning as their growth dictates. Similarly, Vygotsky (1978) also believed students should dictate the course of their learning, unfettered by a school’s timeline. The concept of design allows students to change the time frame and revisit ideas, allowing more flexibility in the classroom curriculum and activities. Design was a major factor in
the curriculum presented in this study, and the technological tools were layered into student learning in an effort to build increased levels of critical and creative thinking.

Additionally, as noted by Willinsky (1990) in Chapter 2, a new literacy curriculum like the one in this study calls for a different approach to teaching in which the teacher provides a framework, tools, such as the applications employed here, and allows students to take the lead in when, if, or how to use the tools in their learning experience. This type of curriculum framework provides students with increased agency, an important factor in the findings of this study. In order for students to be best prepared for the technologically driven society they will be a part of upon finishing school, we must begin to incorporate consistent experiences in the classroom in which students have the flexibility to select the best tool for strengthening their learning process.

To further support these ideas, honoring students' personal preferences when it came to using technological tools helped build their critical and creative thinking skills while contributing to their sense of agency as well. Students need the freedom to select the type of device as well as its shape and size. In addition, how the device is set up may impact their comfort when using it. Danielle found the screen on her iPod Touch easier to read from than her school sanctioned iPad. Students must be given flexibility to use technological tools when it makes sense to them, not us, and should be allowed to put them down in favor of more traditional tools when they desire. Artist Kate did not like the art application I chose and asked to use her own to complete assignments involving drawing. Students should be able to change settings to adhere to their personal preferences to make the physical act of using a technological tool more
inviting. Technological tools should be chosen with these ideas in mind, and whenever possible, multiple tools should be offered to help students achieve their goals.

**The Importance of Voice.**

Social media is a key form of expression and communication among students today. In Chapter 2, I discussed how many theorists (Greenhow and Robelia, 2009; Cope and Kalantzis, 2000; Coiro and Kadjer, 2011) believe it constitutes a new form of literacy necessary and crucial in classroom curriculums in today’s schools. It is one of the main forms of literacy students enact outside of school. Jenkins (2006) described this shift as a new participatory culture where participants care about what others think and are encouraged to create more when others compliment and comment on their contributions. When students write contributions in their various social media channels, their voice shines through because they take immediate ownership of their words. In many of these forums, what a person says takes precedence over formality, correctness, and even proper tone. As a result, students are engaging in wider, global communities that honor their authentic voices.

The applications Google Drive, Subtext, and Edmodo were chosen for this study because they incorporated elements and features similar to those found in students’ social media applications. One of the study’s intentions was to encourage students to participate in these applications as they would in applications outside of school. Many students found and displayed voice when using the applications incorporated in the study in different ways. Some students, like Nick and Danielle, found the freedom to write informally, complete with their own sarcastic humor or conventional errors, to best express ideas. Students need opportunities to engage with their classmates in various
ways, rather than face-to-face or whole class discussions. Quiet and shy students like Jennifer found her voice through the applications in the study, which encouraged her to engage in discussion with her classmates. Students also need similar options for choosing who to engage with within school selected technological tools as they have within their personal apps. Danielle expressed discomfort with her Edmodo group and felt it limited her ability to engage in meaningful discussions. Students must have multiple pathways for exploring their voice while working with technological tools.

**Re-visioning How School Should Be.**

Much of the literature presented in Chapter 2 discussed how classroom experiences must change in order to prepare students for today’s global world. The New London Group (2000) asserts pedagogy must begin to incorporate the genres of new literacy into the classroom in order to address the changing nature of literacy. Greenhow and Robelia (2009) insist incorporating new literacies in the classroom on a regular basis helps shape practices that allow students more opportunities to become critical examiners and creators of information. Coiro and Kadjer (2011) note that advances in technology challenge educators to integrate new tools into meaningful and motivational instruction like never before. Yet, this study demonstrated a disconnection between what we educators know must happen to prepare students’ for a more global world and what students’ actual classroom experiences entailed.

There is no question that instructional practice must answer the demands of a new literacies curriculum; however students’ experiences in this study dictated this is not the case thus far. While many students appreciated the continuous use of technological tools throughout our unit, many also noted this was not a prevailing
experience in their educational experience. Teachers often incorporate technology into one lesson or project at a time, rather than using it as a tool throughout the year. Students do not consistently use critical thinking skills, such as collaborating, reflecting, or analyzing through technological tools consistently in schools currently. As a result, when students are given the opportunity to engage in such a tool, they do not fully embrace it. Despite the carefully scaffolded design of the curriculum presented in this study, students did not engage in the digital tools as they do out of school. This implies students must have more experience with such tools on a more consistent basis. School separates the use of their personal apps, and many students like it this way. However, students must be taught how and why digital tools are relevant and important in their educational experiences if we are to prepare them for today’s global world. Teachers must be taught and guided to immerse students in various technological tools in meaningful ways, rather than just as fun activities. Both parties must learn how to use the tools to collaborate and create opportunities to share learning beyond the four walls of the classroom.

Limitations

One limitation for this study was the selection of research participants. When I wrote the grant for the iPads, referenced in Chapter 3, I indicated the memoir unit as one of the possible units that could be enhanced by the incorporation of technology. When the grant was approved, it was expected that I carry through with the research on the memoir unit, which meant I had to select my seventh grade classes because memoir is part of their curriculum. In addition, these classes are honors classes. By selecting the memoir unit and the honors classes, I limited the possibility of
understanding how students in other grade levels or in the traditional course track might be impacted by a curriculum like the one designed for this study.

Another limitation of this study was that I selected all of the technological applications utilized in the study's curriculum, rather than providing students with options. The curriculum designed for this study had very specific goals and objectives in mind to help students increase their levels of critical and creative thinking. I selected applications I thought best to help us reach those goals, but it is possible that there were other applications that may have been better suited to achieving these goals. It is also possible that given a choice of applications, students may have had different results.

A final limitation of this study may have been the time of year. As noted earlier, because this study was run in the spring, I had the opportunity to build rapport with my students to this point in the year. It is possible this rapport influenced students to participate in the study. Similarly, it is also possible that once students agreed to participate, they may have been more serious about their work because of our built rapport and not wanting to disappoint me.

Recommendations for Future Research

Implementing Technological Tools throughout Curriculum.

This study considered how students’ ability to think critically and creatively was impacted by a curriculum that purposefully scaffolded technological tools throughout one unit of study. I recommend that teachers and schools begin to consider how to weave purposeful use of technological tools throughout an entire curriculum, rather than limiting students’ experiences to single activities or units of study. This would require
extensive time to plan and re-vision school curricular objectives within core subject areas. Teachers would need to be guided through this process by professionals with the appropriate background knowledge and experience. Ultimately, this could lead to helping students understand how to use various technological tools in meaningful ways in and out of school.

**Examination of Pre-Service Teacher Preparation in Technological Literacy.**

In this study, a disconnection amongst consistent and valid uses of technological tools was noted by the students. Many students felt teachers reserved technology use for a particular activity or assignment, rather than as a tool used consistently throughout the year. As a result, many students did not connect how their personal use of applications might impact or enhance their use of applications in school. Examining how teachers in pre-service programs are educated, trained, and prepared to incorporate technological tools in their classrooms is one way to bridge this disconnection. Colleges of Education could use this information to redesign teacher preparation programs to include this training.

**Conclusion**

This study was designed to examine how the purposeful layering and scaffolding of technological tools in the English language arts curriculum of a seventh grade honors classroom engaged students more deeply in the study of literature while helping them reach increased levels of abstraction and interpretation and to show how strategies that incorporate technological and multimodal literacies develop social awareness through dialogic discourse, helping students link their home and school literacies. The discussion presented here notes the importance of personal preferences when it comes
to using technological tools in the classroom. It also demonstrates how students discovered multiple ways to build voice through the technological tools included in the study’s curriculum. Both built an increased sense of student agency. Last, it showed how students did not connect their in and out of school literacies as strongly as I had hoped and intended; instead, students revealed their classroom experiences did not consistently incorporate technological tools.

The research presented here calls for several shifts in educators’ thinking. First, students should be given more freedom when choosing which type of device to use, how to use it, when to use it and when not to use it. Students should take the lead in designing their learning, and we educators should simply provide the opportunities and guidance necessary to encourage those paths. Second, we should honor students’ voices when they write in technological spaces, just as we would in traditional ones, even it means letting go of correctness. Students in this study who were given the freedom to approach the work in their own voice demonstrated increased levels of critical and creative thinking. Last, educators must begin to rethink the notion of how school is supposed to be and consider meaningful ways to incorporate technological tools into our curriculums on a grander scale. Technology should not be reserved for fun or one-time activities. Instead, we must begin to design curriculum with these tools in mind so that students are engaged in them on a continuous basis throughout their educational experiences and better prepared for the global society they live in.
APPENDIX A

Semi-Structured Interview Questions

1. Describe advantages and disadvantages of using each of the technology applications during the memoir unit: 1) Google Drive 2) Subtext 3) Edmodo 4) Draw Free or Ibis Paint X 5) iMovie.

2. Do you think you personally benefitted from using the technology applications during the unit? If so, how? If not, why not?

3. How did using the applications in school during the unit impact your use of similar applications outside of school?
APPENDIX B

Parental Supplemental Information Sheet & Option to Decline

Title of Study: Bringing the Outside In: Connecting Literacy Practices in a Layered, Technologically-driven Seventh Grade Honors English Curriculum

Researcher's Name: Geneva Scully, Wayne State University

Purpose:

You are being asked to allow your child to be in a research study at their school that is being conducted by Geneva Scully from Wayne State University to explore how the purposeful use of technological tools and applications in an English class impacts student learning and thinking. Your child has been selected because he/she is enrolled in Mrs. Scully's seventh grade honors English class.

Study Procedures:

The study begins with a unit on memoir. During the unit, students will read a novel entitled Warriors Don’t Cry by Melba Patillo Beals as well as other excerpts of memoirs. As they read, they will study how authors of memoirs build different types of relationships with their topics (e.g. people, places, objects, etc.).

Throughout the unit, five technology applications will be used by students. The five applications are: Google Drive, Subtext, Edmodo, Draw Free for iPad, and iMovie. Each application will highlight and build new literacy skills. Students will use Google Drive for writing and storing quick writes, writing assignments, and notes. They will read the novel through the application Subtext, which functions like an e-reader. Using this application, students will annotate their reading, answer questions posed by Mrs. Scully and keep notes. Students will complete two assignments incorporating drawing using the application Draw Free for iPad. Students will participate in discussion groups through the application Edmodo. Each participant will be taught how to create a discussion and respond to others in their group. Finally, at the end of the unit, students will create an iMovie project focused on their magnificent seventh-grade selves. All students will participate in the unit using the technology tools and applications whether they elect to participate in the research portion or not. Class discussions will be audiotaped for further analysis by Mrs. Scully as the unit progresses. If you or your child likes, you may listen to the audio at any time.

When the study and unit are complete, and all grades have been determined, analysis of the data will begin. As common ideas emerge from the students’ work, similarities will be analyzed for interesting patterns. At this time, 3 or 4 students will be asked to participate in an interview, if allowed to participate in the study. During the interview, questions about the use of the technological tools and applications employed during the unit will be addressed. The questions will focus on the advantages and disadvantages and personal benefits of the technological applications to students as well as the impact their experience using these tools and applications had on their use of similar applications outside of school. Both students and
parents may see the interview questions ahead of time, if desired; please note, supplemental questions for clarification during the interview may be asked as well.

Several steps are being taken to protect students’ identities and ensure their risk is minimal. One of our counselors, Mrs. Anthony, will collect student assent forms, and Mrs. Scully will not be present when they are signed. If you elect to decline participation for your child, please return the bottom tear-off portion of this form directly to Mrs. Anthony.

In addition, Mrs. Anthony will keep all assent forms locked in her office until the study is complete and grades are determined. Interviews will be conducted after the study is complete, grades are determined, and the students are no longer Mrs. Scully’s students of record.

Benefits:

There may be no direct benefits for your child; however, information from this study may benefit students in future classes.

Risks:

There are no known risks at this time to your child for participation in this study.

Costs

There are no costs to you or your child to participate in this study.

Compensation:

You or your child will not be paid for taking part in this study.

Confidentiality:

All information collected about your child during the course of this study will be kept confidential to the extent permitted by law. Your child will be identified in the research records by a code name or number. Information that identifies your child personally will not be released without your written permission. However, the study sponsor (if applicable), the Institutional Review Board (IRB) at Wayne State University or federal agencies with appropriate regulatory oversight (Office for Human Research Protections [OHRP], Office of Civil Rights [OCR], etc.), may review your child’s records.

Voluntary Participation /Withdrawal:

Your child’s participation in this study is voluntary. You are free to withdraw your child at any time. Your decision about enrolling your child in the study will not change any present or future relationships with Wayne State University or its affiliates, your child’s school, your child’s teacher, your child’s grades or other services you or your child are entitled to receive.
Questions:

If you have any questions about this study now or in the future, you may contact Geneva Scully or one of her research team members at the following phone number 313-432-5832. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Participation:

If you do not contact the principal investigator (PI) within a 2-week period, to state that you do not give permission for your child to be enrolled in the research trial, your child will be enrolled into the research. You may contact the PI at (313) 432-5832, geneva.scully@gpschools.org, or by returning the enclosed tear off sheet.

____________________Optional Tear Off_________________________________________

If you do not wish to have your child participant in the study, you may fill out the form and return it directly to Mrs. Anthony, school counselor.

I do not allow my child ________________________________to participate in this research study.

________________________________________
Printed Name of Parent

________________________________________  _____________
Signature of Parent  Date
Behavioral Documentation of Adolescent Assent Form

Title: Bringing the Outside In: Connecting Literacy Practices in a Layered, Technologically-driven Seventh Grade Honors English Curriculum

Study Investigator: Geneva Scully

Why am I here?

This is a research study. Only people who choose to take part are included in research studies. You are being asked to take part in this study because your teacher, Mrs. Scully, is conducting it. Please take time to make your decision. Talk to your family about it and be sure to ask questions about anything you don’t understand.

Why are they doing this study?

This study is being done to find out how using technology tools and applications in the classroom in a purposeful way will impact student learning and thinking.

What will happen to me?

After we complete a unit of study on memoir, three to four students will be selected to participate in an interview. During the interview, I will ask questions about the technology tools and applications we used during the unit.

How long will I be in the study?

The study will last six weeks, the length of the memoir unit.

Will the study help me?

You may benefit from being in this study by learning new technology tools and applications and reflecting on how they affect your learning. Information gained from this study may help other people in the future in designing curriculum for classes like ours.
Will anything bad happen to me?

There are no physical or mental risks expected during this study.

Do my parents or guardians know about this?

This study information has been given to your parents/guardian. You can talk this over with them before you decide.

What about confidentiality?

We will keep your records private unless we are required by law to share any information. The law says we have to tell someone if you might hurt yourself or someone else.

What if I have any questions?

For questions about the study please call Mrs. Scully at 313-432-5832 or email her at geneva.scully@gpschools.org. If you have questions or concerns about your rights as a research participant, the Chair of the Institutional Review Board can be contacted at (313) 577-1628.

Do I have to be in the study?

You don’t have to be in this study if you don’t want to, and you can stop being in the study at any time. Please discuss your decision with your parents and researcher. No one will be angry if you decide to stop being in the study.
AGREEMENT TO BE IN THE STUDY

Your signature below means that you have read the above information about the study and have had a chance to ask questions to help you understand what you will do in this study. Your signature also means that you have been told that you can change your mind later and withdraw if you want to. By signing this assent form you are not giving up any of your legal rights. You will be given a copy of this form.

______________________________________________  ________________
Signature of Participant                              Date

________________________________________________
Printed name of Participant

________________________________________________
**Signature of Witness (When applicable)                Date

___________________________________________
Printed Name of Witness

___________________________________________
Signature of Person who explained this form            Date

___________________________________________
Printed Name of Person who explained form
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ABSTRACT

BRINGING THE OUTSIDE IN: CONNECTING LITERACY PRACTICES IN A LAYERED, TECHNOLOGICALLY-DRIVEN SEVENTH GRADE HONORS ENGLISH CURRICULUM

by

GENEVA L. SCULLY

DECEMBER 2015

Advisor: Dr. Gina DeBlase

Major: Curriculum & Instruction

Degree: Doctor of Philosophy

As technology consumes our society today, it was one intention of this study to examine whether purposeful curriculum design that both scaffolded and layered technological tools into a unit of study in a seventh grade honors English classroom would lead to more critical and creative thinking. Through a qualitative design, case study analysis of three students whose experiences demonstrated how students were able to achieve increased levels of critical thinking was described. Another intention of this study was to examine whether or not students connected their in-school and out-of-school literacies through this experience in a more meaningful way as contributors to a larger, global community. The findings here present a disconnection, despite the study’s efforts, to significantly impact students in making this connection.
AUTOBIOGRAPHICAL STATEMENT

I am an English teacher in the Grosse Pointe Public Schools currently in my sixteenth year of teaching. I am certified to teach grades six through twelve and have done so in my tenure with the GPPS. Currently, I teach seventh and eighth grade English Language Arts, both traditional and honors courses.

I completed my undergraduate degree in English and teaching certificate at the University of Michigan – Dearborn in 2000. I taught for one year in the Redford Union Public Schools before moving to GP in fall of 2001. In 2003, I completed my master’s degree at Eastern Michigan University with a concentration in Reading and a Reading Specialist certification. I pursued a reading degree in an effort to learn more about the struggle secondary students face in reading. In 2006, I began my doctorate at Wayne State University in the Curriculum and Instruction department, with an English Education major.

The idea for my dissertation study came about as I watched my students grow more interested and creative with technological tools and new literacies. In traditional classrooms, we often ask students to disable any personal technology devices before coming into the classroom, but I believe in doing so, we eliminate many strategies for being literate in today’s digital world. The study I designed for the dissertation focuses on the use of technological tools in my middle school classroom. Specifically, I contend that if we purposefully layer technological tools to scaffold skills and encourage students to reflect on this learning and process, we will see advanced levels of critical and creative thinking.